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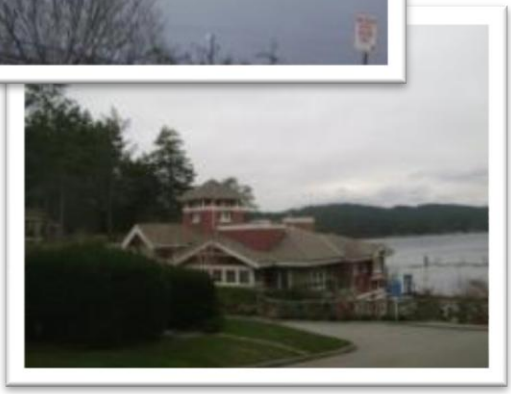
Helping the Fire Community Succeed

Pender Island Fire Rescue, Pender Islands Fire Protection Society Operational and Governance Review

April 2012

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1. Executive Summary

There is no mandated requirement in British Columbia for a community to provide fire service. It is a purely local service where the residents in a specific area decide to create a fire department and determine the level of service they would like and are able to pay for. A fire department is expensive to establish and operate. Once the community decides they want to have a fire department they have a responsibility to provide oversight and accountability to the public, usually through elected officials. On the Pender Islands the elected officials are the Pender Islands Fire Protection Society (PIFPS) Directors and the elected Capital Regional District (CRD) Area Director.

The CRD, PIFPS and the Pender Island Fire Rescue (PIFR) service are then obliged to meet a duty of care and corresponding standard of care. They owe a duty of care to those within the geographical jurisdiction. In simple terms, this means that the PIFPS must take reasonable steps to establish administrative and operational policies and equip and train its fire department and that the firefighters must take reasonable steps when implementing their firefighting, rescue and related duties

The standard of care is measured against what is reasonable in the circumstances based upon standards of training and available resources. With respect to the provision of fire services, this may allow for greater risks to be taken but it will also require heightened vigilance.

Standards for training, equipment and financial accounting must be met. Standards for firefighter training and service levels are set by the local elected officials. These standards typically are recognized National Fire Protection Association standards that have been established for the fire service after much research and study.

Equipment and financial accounting standards are mandatory and enforceable through legislation and by regulation.

PIFPS and PIFR have set high standards for training and are committed to *"excellence in service"*. The residents, visitors and property owners on the Pender Islands receive a high standard of service for a modest cost. The cost to taxpayers to fund this well managed and equipped fire department is more than offset by savings in fire insurance premiums.

An island community is unique. It is apparent from all the community volunteers that contribute to various amenities that make the islands a special place to reside and visit.

PIFR has been very proactive in their approach to fire protection and rescue services. They have to be because the community is heavily forested, there are limited water sources for firefighting, there are dangerous areas which require specialized rescue

techniques to rescue people and other emergency services are limited. The community has to be somewhat self-sufficient because outside aid takes a long time to arrive.

The governing authorities providing oversight to PIFR have ensured it is adequately funded, is well managed and that long term planning has taken place to ensure that is sustainable.

A fire department does not exist for what it does. It exists for what it may have to do.

1.1. Summary of Key Recommendations

5.0.1 Recommendation: That the Job Descriptions are reviewed to ensure there is a process for the Fire Chief, the Deputy Fire Chief, the Assistant Division Manager, and appointed LAFCs to be excused when any real or perceived conflict of interest may arise.

5.0.2 Recommendation: That the wording in the job descriptions is reviewed to improve clarity.

7.1 Recommendation: That the PIFR Policy OSH #0-5.07 is reviewed to reflect the current reality or that a new policy in conjunction with PIFPS be developed which determines the acceptable fire apparatus standard for specific vehicles.

11.1 Recommendation: That the PIFR develop a pre-fire plan to protect the bridge linking the Pender Islands.

12.0.1 Recommendation: That PIFPS work with PIFR to develop a method to create pre-fire plans that can be shared with property owners and occupants of commercial occupancies.

12.0.2 Recommendation: That PIFR discontinue doing formal fire safety inspections but **continue** to do INFORMAL inspections as part of pre-fire plan development.

13.0.1 Recommendation: That the current licensing agreement between CRD and PIFPS is extended beyond the December 31, 2015 expiry date providing circumstances have not drastically changed.

14.0.1 Recommendation: That the PIFPS Directors create an Administrative and Operational policy manual in cooperation with PIFR.

15.0.1 Recommendation: That the CRD establishing Bylaw 2050 is carefully reviewed and updated.

2. Introduction

The Pender Islands are unique communities that are endowed with beautiful natural settings that make these islands a desirable place to live or visit. The development of these islands has attracted people who desire a west coast island lifestyle where they can still enjoy many of the services found in larger communities.

The Pender Islands have several diverse ecosystems and are home to the Coastal Douglas Fir and Garry Oak zones which are the most threatened biogeoclimatic zones in the province. This adds more pressure to the local fire department to ensure that any type of wildfire is extinguished as quickly as possible. The islands are heavily forested and PIFR has been proactive in giving residents and visitors fire prevention information which undoubtedly has prevented many fires from threatening the natural ecosystems, property values and public safety.

The Capital Regional District (CRD) through the ***Local Government Act*** derives authority to deliver specified services as determined by the elected Board members within the District. The CRD Board has chosen to exercise their discretionary power to establish and maintain a fire service within certain areas of the district. The Pender Islands Fire Protection Society by way of a licence agreement known as the "Pender Islands Fire Protection and Emergency Response and Licence Agreement" is duly authorized to be a contractor to the CRD providing fire protection and related services to North and South Pender Islands. Pender Island Fire Rescue (PIFR) Service is the agency that is the delivery component of this contractual licensing agreement from three fire halls strategically located on North and South Pender Islands under the oversight and administration of PIFPS.

CRD Bylaw No. 2050 is the establishing Bylaw that PIFPS/PIFR draws its authority to provide fire protection and related services to the community. This Bylaw was crafted in 1992 as a Local Service Area through enabling legislation found in Section 795 (1) (a) of the Municipal Government Act since replaced with the ***Local Government Act***.

The Pender Islands Fire Protection Society was created in 2004 which resulted in the amalgamation of the North and South Pender Island fire departments that as independent and separate fire departments were providing fire protection to each island.

PIFR is primarily a volunteer fire service that has evolved into a very well organized and equipped organization that enjoys considerable community support. The community support is evidenced by the fact that there are 44 trained fire fighters and, through the efforts of the Fire Chief and his staff, an additional 52 support volunteers have been recruited from the community. There are approximately 110 residents including the Directors of the PIFPS who provide a high level of fire rescue services to the residents and visitors to the Pender Islands.

PIFR provides fire protection, first medical response, and extrication at motor vehicle incidents, specialized technical rescue, fire education and fire prevention programs as authorized in CRD Bylaw 2050.

This report attempts to make comparisons to similar communities with respect to fire service organization and delivery. It also makes some specific recommendations and offers comments relating to the operation of PIFR and the governance provided by PIFPS and the CRD. A separate Inspection and Audit report was prepared to determine the level of compliance of PIFR in comparison to a checklist developed by the Office of the Fire Commissioner as a recommendation from the Chief Coroner of the Province of British Columbia. This recommendation came as result of a Judgment of Inquiry after a line of duty death of a young fire fighter in 2004. Many of the comments and recommendations in this report came from the Inspection and Audit report on PIFR.

A community on a relatively small island poses many challenges for a volunteer fire service. Attracting volunteer firefighters from a small population base with limited employment opportunities is a major challenge which increases as the population ages. Population growth is forecast to be 1% on North Pender Island until 2031 at which time there will be an overall decline in the population due to the aging “baby boomer” demographic. South Pender Island has already experienced a population decline according to the most recent census figures released by the Federal Government.

The sustainability of fire protection on the Pender Islands at a reasonably high level will take careful planning by all stakeholders so that is does not exceed the financial capacity of the property owners and residents to pay for the service.

This review of current levels of service and operational readiness will assist the CRD, PIFPS and PIFR to plan on how to maintain or enhance this valuable community resource.

2.1. Project Scope

2.1.1. Conduct an inspection and audit of the Pender Island Fire Rescue (PIFR) department based on the 2010 Office of the Fire Commissioner and Chief Coroner for British Columbia checklist to determine the extent to which they meet Provincial Fire Service Standards;

2.1.2. Produce a report on the findings of the inspection and audit process stating the current level of operational readiness and make recommendations to address deficiencies identified in this report and,

2.1.3. Review the operation of PIFR in comparison to similar communities. The operational review shall involve a consideration of PIFRs current and planned operational roles. The Fire Department’s performance shall be measured against contemporary standards and requirements. The review

will also take into account current operational challenges, including future development on the islands as indicated by the Official Community Plans;

2.1.4. Review and make recommendations on current job descriptions, remuneration, and division of responsibilities of the paid staff of PIFRS in comparison to similar communities;

2.1.5. Review and make recommendations of the current operations of the department specifically looking at volunteer staffing, training, current apparatus, equipment and long term plans. The intent of this portion of the review would be to determine what options exist regarding the delivery of service by PIFPS and PIFR and long term plans. This review will include an assessment of the current operational model, the fire halls, maintenance programs, fire prevention programs, operational guidelines, and Community Wildfire Protection Plan in the context of managing the current and future risks facing the Southern Gulf Islands;

2.1.6. Review the governance and oversight of PIFR by PIFPS in the context of establishing Bylaws, policies, agreements and other applicable statutory requirements such as the ***Fire Services Act*** of BC, WorkSafe BC regulations, NFPA Standards and Fire Underwriters Survey grading requirements;

2.1.7. Identify other governance or operational deficiencies in the operation of the fire department and make recommendations to address the deficiencies identified;

2.1.8. Produce a printed report of our findings; and

2.1.9. Attend and present our reports to the Pender Islands Fire Protection Society Board of Directors after they have been delivered as required.

2.2. Disclaimer

This report is being submitted for your review and consideration. FireWise Consulting Ltd. (FWC) makes no representation or warranty to the Recipient with respect to the information and shall not be liable for any errors or omissions in the information or the use thereof.

2.3. Background

The Pender Islands Fire Protection Society (PIFPS) requested proposals from qualified consultants to do an inspection and audit review of the Pender Island Fire Rescue (PIFR) to ensure it was meeting the standard set by PIFPS and that it was in compliance with Provincial Fire Service Standards, regulations and best practices. PIFPS also requested a review of PIFR operations, in comparison to similar communities. The intention of this review was to create two reports providing detail to the governing authorities, CRD, PIFPS and the public at large on the operational preparedness of PIFR and to comment on the long term plans for fire protection to the Pender Islands.

3. Methodology

3.1. Meetings

An initial meeting took place at the PIFR Fire Hall Number 1 on February 28, 2012. PIFPS President Gordon Souter; Directors Rodger Hughes and Jane Perch; PIFR Deputy Chief Michael Dine; and Fire Chief Charlie Boyte met with the consultants to discuss the purpose of the review. President Souter gave an overview of the community issues and the relationship of the various parties with PIFPS and PIFR.

Several telephone conversations and face to face meetings also took place. These included CRD Director Dave Howe, Outer Gulf Islands RCMP Cpl Lynn Simpson, CRD Risk Manager Nancy Moore and Fire Chief Charlie Boyte.

3.2. Document Review

PIFPS President and PIFR provided extensive documents to the consultants. These included the CRD establishing Bylaw, the CRD Fire Control and Regulation Bylaw and the formal agreement between the CRD and PIFPS to provide fire protection services to the Pender Islands. In addition, agreements with Parks Canada, the Provincial Wildfire Management Branch, and the British Columbia Ambulance Service were provided.

PIFR gave the consultants access to the PIFR website so they could read the Operational Guidelines and Policies established by PIFPS and PIFR. Other documents provided by PIFR gave detail on the training standards, the training program, the annual firefighter skills maintenance program, maintenance schedules,

public building inspection forms and reports, budgets, historical call records, fire officer training requirements and records for vehicle equipment lists, pre-trip and post-trip reports to name a few.

One of the most interesting documents we were given was the PIFR Strategic Planning and Service Delivery Recommendations 2012 report. This document provided valuable insight into the plans of PIFR as it strives to improve PIFR and its service delivery to the residents, visitors and property owners of the Pender Islands.

Other documents referenced were the ***Fire Services Act of British Columbia***, WorkSafe BC Regulation, NFPA Standard 1720, NFPA Standard 1001, and Fire Underwriter's Survey, WorkSafe BC Section 31, and numerous other NFPA Standards

3.3. Site Visits

FWC made a site visit on February 28, 2012. PIFR Fire Chief Boyte gave the consultants a tour of the community so they could have an understanding of the fire protection issues PIFR has on the Pender Islands. The consultants visited the three fire halls and the fire apparatus and equipment were noted and randomly checked.

3.4. Draft Report

FWC prepared a draft report for the PIFPS and PIFR for discussion purposes and prepared a final report for presentation to the public at the PIFPS Annual General Meeting.

4. Review of PIFR Operation in Comparison to Similar Communities

One of the objectives of this engagement was to do a review of the operation of PIFR in comparison to similar communities. A comparison to other communities with similar population or geographical size might be possible but we do not believe it would be a fair comparison based solely on those criteria.

Pender Islands are unique and we do not believe a similar community exists in British Columbia to do a true and fair comparison. That fact that there are two islands joined by a small bridge makes it truly unique. The fact that there is a relatively large developed subdivision on North Pender Island also makes it unique. Many of the islands' important amenities such as the school, the shopping area, the health centre, the ambulance station, and the police station are located on North Pender Island.

The islands also have substantial homes that may not be occupied year round owned by absentee property owners who are comforted by the fact there is a well-equipped, staffed and professionally operated fire service protecting their investment.

Another reason a true and fair comparison community may not be found is that Pender Islands are in an unorganized area; i.e., not within a municipality. Bowen Island may be similar in several ways but it is a Municipality and therefore mandated under the ***Fire Services Act*** to do certain things with respect to fire protection. The most notable mandated function a municipality within British Columbia must do is inspect the public buildings within its boundaries for Fire Safety Code compliance. Regional Districts are not mandated to conduct inspections of their public buildings. Another mandated function a municipality has is emergency planning. This function often falls to the Fire Chief and fire department.

5. Job Descriptions

Job descriptions are prescriptive in nature. The trend today is to create Job Profiles that provide some flexibility. A prescriptive document may not anticipate some functions an emergency services professional is expected to do, especially in a volunteer fire service for a small community.

The Fire Chief's job description prescribes what the Fire Chief is responsible for and that he/she must meet the PIFR "Codes of Conduct" while on and off duty. Essentially the responsibilities the Fire Chief has are for everything PIFR does in terms of operations, administration, and planning. Fortunately, there are other staff members to whom he can delegate some of these responsibilities to.

There is no prescribed responsibility in the Fire Chief's Job Description for the following:

- Apparatus specifications and purchasing
- Authority to discipline, reduce in rank or dismiss a member
- Maintaining order and discipline (as per the Deputy Chiefs' Job Description with respect to the volunteers)
- Emergency planning
- Strategic and long term master planning
- Role as a Local Assistant to the Fire Commissioner
- Fire Investigation
- Risk Management

Suggested amendment to the Job Description of Fire Chief/Employment Agreement:

In the section dealing with "Planning, organizing, coordinating, and directing all fire prevention, fire suppression, first responder and related emergency services", add the words "as defined in the Establishing Bylaw for Pender Island Fire Rescue".

There is no definition in the Employment Agreement of the "work week". It is suggested that some reference be made to the expectations of what the Fire Chiefs' basic work week is together with expectations of his role as "Duty Officer" and the compensation entitlement for the hours required to perform these duties.

With respect to the Qualifications and Experience sections of the Job Descriptions a comparison of fire chief job descriptions in departments with similar responsibilities suggests the following be considered:

- The Qualifications section and the Desirable Training and Experience contents be switched.
- The Qualifications section might then include a "required section" which would include formal certification, experience, etc.
- The "Desirable Training and Experience" section could be re-named "Skills and Abilities"
- The Fire Chief, the Deputy Fire Chief, the Assistant Division Manager should be NFPA Fire Service Instructors.

The four Job Descriptions/Employment Agreements appear to cover all of the key functions required to be performed to ensure the management, administration and operation of the PIFR is carried out in an efficient and effective manner.

Having said that, and as alluded to previously, the Job Description/Employment Agreement language for the Fire Chief's position could be strengthened with respect to accountabilities; e.g. "develops departmental policies, procedures and operational guidelines for the department while maintaining a safe working environment." The PIFPS expects the Fire Chief would be directly involved in these functions and Chief Boyte is performing these functions but they should be specified in the employment agreement.

It is noted that there is no provision in the Job Descriptions for the Fire Chief or the Deputy Fire Chief specifically dealing with a conflict of interest. The Fire Chief and the Deputy, as an appointed LAFC, have powers through the ***Fire Services Act*** Sections 21 and 22 and in Section 24 during emergencies [1].

All appointed LAFCs should abide by a conflict of interest policy and procedure.

In a small community such as Pender Island, the Fire Chief and other LAFCs for the community will encounter many constituents. At some point they may be seen or perceived to be seen in a conflict of interest either personally or professionally as a property owner or business owner in the community.

[1] **FIRE SERVICES ACT**, [RSBC 1996] CHAPTER 144

5.1.1. **Recommendation**:

That the Job Descriptions are reviewed to ensure there is a process for the Fire Chief, the Deputy Fire Chief, the Assistant Division Manager, and appointed LAFCs to be excused when any real or perceived conflict of interest may arise.

5.1.2. **Recommendation**:

That the wording in the job descriptions be reviewed to improve clarity.

The consultants completed a comparison of job profiles from seven other fire departments.

The departments which provided documents were Central Saanich, Sooke, Saltspring Island, Parksville, Courtenay, Comox and Salmon Arm

These departments were selected because they have a similar mix of career staff and volunteers.

A true comparison of the four PIFR positions was not found as most local authorities have unique demands and expectations of their fire department personnel. Six of the departments surveyed belong to municipalities; an Improvement District runs the other department. The recommendations provided in this section of the Review are based on "best practices" identified in one or more of the job profiles received. Some of the responsibilities assigned to fire chiefs in these other jurisdictions, which are not applicable to PIFR, were dispatch service coordination, emergency preparedness and administration of collective agreements.

Table 1

Key Function	PIFR	1	2	3	4	5	6	7
Accountability (Incl. Reporting, Supervision, Delegation of Authority)	Partial	Yes	Partial	Yes	Partial	Yes	Yes	Yes
Budget-related Functions (Incl. Recommendations, Administration, Purchasing Authority)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dispatch Service Coordination						Yes		
Duty Officer Responsibilities			Yes		Yes			
Emergency Preparedness (responsible for community preparedness for all emergencies not just fire-related)		Yes	Yes		Yes			Yes
Emergency Response Coordination (Plan, Direct, Supervise, Dispatch)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Equipment Maintenance (Incl. Facilities, Firefighting & Rescue, Tools, Supplies)		Yes	Yes	Yes	Yes	Yes		Yes
Equipment Replacement (Planning & Recommending)				Yes		Yes		
Fire Investigation (Expectations re suspicious fires)			Yes		Partial	Yes		Yes
Fire Prevention (Coordination of Inspections)		Yes	Yes	Inferred	Yes	Yes		Yes
LAFC Responsibilities/Bylaw Enforcement		Yes	Yes	Yes		Yes		Yes
Other Duties	Yes	Yes	Yes		Yes	Yes		
Performance Management (incl. Discipline, Administration of Collective Agreements)	Partial	Yes	Yes	Yes		Yes	Yes	
Personal Development (Expectations in currency, awareness, liaisons,)	Partial		Yes	Yes	Yes	Yes	Yes	

Key Function	PIFR	1	2	3	4	5	6	7
Personnel Management (incl. Recruitment & Retention, Coaching, Mentoring)	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Key Function	**PIFR**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Planning (incl.Strategic Planning, Succession Planning, Use of Technology)		Yes		Yes		Yes	Yes	Yes
Policies & Procedures (Drafting, Recommending, Administration,)		Yes	Yes	Yes	Yes	Yes		
Public Education		Yes	Yes	Yes	Yes	Yes		Yes
Public Relations (Incl. Complaint handling)			Yes	Yes		Yes	Yes	
Records Management (Training, Equipment, Safety, Personnel)	Yes	Yes	Yes	Yes	Yes			Yes
Risk Management (Water Supplies, Needs of community)		Yes	Yes	Yes	Yes	Yes		
Safety (Firefighters, Community, WorkSafe compliance)		Inferred	Yes	Yes		Yes		
Training (incl. Administration of Training Standard, Coordination)	Yes	Yes	Yes	Inferred	Yes	Yes		Yes

1. **Central Saanich**
2. **Comox**
3. **Courtenay**
5. **Salmon Arm**
6. **Salt Spring Island**
7. **Sooke (Based on JDs of Deputy Chief and Training Coordinator)**

5.1.3. Compensation

A review of seven fire departments was completed with respect to a comparison of compensation paid to full-time fire chiefs who have responsibility for a combination of career staff and either paid-on-call or volunteer firefighters.

The departments which provided documents were Central Saanich, Sooke, Saltspring Island, Parksville, Courtenay, Comox, and Salmon Arm.

The basis for the compensation levels was also compared.

As discussed previously in this report, the true comparison of Pender Island Fire Rescue to other fire departments is problematic from a number of perspectives. These issues, in no particular order of importance, include:

- A fire service, operated by a registered society, serving a fire protection district that is defined by shorelines.
- A fire department whose career firefighters are not members of the International Association of Fire Fighters (IAFF).
- A community that is not a municipality therefore has no legislated responsibility to have either an Emergency Program or a program that conducts a regular fire safety inspection program.

The comparison of salaries, for the fire departments surveyed, indicated the salary ranges were determined by one or more of the following factors:

- The IAFF contract in place for firefighters on the department
- The management salaries of other employees of the municipality
- A survey of the compensation packages provided to Fire Chiefs in neighbouring or similar communities

The approach taken by the PIFPS is therefore consistent with this comparison.

The term ``industry standard `` was not evident in any of the results of the comparison survey.

The comparison survey did not include the Office Administrator position. The rationale provided by PIFPS/PIFR to determine a fair and equitable salary for that position is deemed appropriate.

Comparison with other fire departments assessed the size of the department from a composition of staff and number of fire halls perspective. These findings coupled with the unique emergency service demands of the Pender Islands suggest that reasonable salaries for staff would be the average of the 10-year union firefighter compensation paid to International Association of

Fire Fighters (IAFF) across BC. The most current public information found for this position in British Columbia shows an annual base salary of $77,710.

PIFPS can then determine a differential to that base which factors in the various positions they have agreed to fund in their fire department.

Based on the comparisons received, a range for the Fire Chief position would be 135% - 145% of the base amount; the Deputy Fire Chief position would be 120% - 135% (on a full-time basis); and the Firefighter/Assistant Division Manager position could be established with a range of 95% - 105% of the base amount. The current agreement would suggest the compensation for the Firefighter/Assistant Division Manager position is below what is currently being paid in other communities with similar duties and responsibilities.

Information obtained with respect to compensation paid for fire department staff in the Southern Gulf Islands region suggests that the approach taken by PIFPS, with respect to the remuneration rates they have determined, limits staff salaries to a maximum of 85% of the above schedule, phased in by 2016, is in line with other island jurisdictions.

Specific Employment agreement notes:

In the Letter(s) of Understanding Agreement (employment agreements) with Fire Chief Boyte and Deputy Chief Dine the word *"parody"* is used. We believe the intended word is *"parity"*. This grammatical error can be easily corrected.

There is no mention of indemnification for the Firefighter/Assistant Division Manager.

It is noted that the Fire Chief and Deputy Fire Chief are required to have a Class 3 drivers licence but the Firefighter/Assistant Division Manager is only required to have a Class 5 Drivers Licence.

All employment contracts should mention the Public Officials Errors and Omissions (commonly referred to as "Liability" insurance) agreement PIFPS has with the CRD. Many fire department establishing bylaws include a statement saying that the Authority Having Jurisdiction (AHJ) has agreed to indemnify the Fire Chief and all members of the department, which is linked to the comprehensive general liability insurance carried by the AHJ.

6. Staffing

PIFR is a 'paid-on-call' service consisting of a Chief, Deputy Chief (Training Officer), Assistant Division Manager, 7 Captains, 2 Lieutenants, and 32 volunteers who are firefighters, first responders, communications, and engineers. The current complement of trained responders is 44 in total. PIFR would like to recruit more firefighters to ensure the service is sustainable and so they can maintain service levels. The annual call volume for the PIFR has averaged 194 over the last three years. In reviewing call statistics it is apparent that there are sufficient firefighters turning out for emergency incidents. However, even the largest fire department can be overwhelmed when a large incident exceeds their response capability. Although these occurrences are rare PIFR is not immune to such an event. PIFR has limited resources and mutual aid is a long time coming due to logistics. The high training standards and the department's devotion to safety will dictate that any incident will be mitigated as safely as possible, reducing the possibility of injury or death to a firefighter.

PIFR is not like many other communities with volunteer firefighters who must travel outside of the fire service response area for their employment. Most PIFR firefighters work in the community so the number of firefighters turning out to calls is consistent regardless of the time of day or day of the week.

With the population of South Pender Island being smaller, it is undoubtedly difficult to recruit volunteers that can respond to PIFR #3 hall. The other fire halls on North Pender provide backup with resources as the situation warrants.

Fire departments are generally formed to create the ability and capacity to respond to and mitigate emergencies. As communities grow there is usually a corresponding increase in fire risk. At some point demands and/or expectations increase and communities must decide the model with which they wish to deliver the service. There is a wide spectrum of models from having no fire protection whatsoever to having an entirely full-time career staff. As they grow, they may transition from a strictly 'volunteer' service to a 'paid-on-call' service. Next steps may see a further change to a composite model with limited full-time staff augmented by paid-on-call members. At some point, the fire risk situation may justify having more, or indeed exclusively, full-time career staff. Any decision regarding the desired fire service delivery model is entirely one for elected officials to make. There is no legislation requiring any community, incorporated or not, to have a fire department.

The obvious vital function performed by the Fire Chief in a community of this size is to respond to, and assume command at incidents. However, the most time consuming activities performed by a Fire Chief are often away from the fire ground. These include managing ongoing firefighter training, along with the various necessary administrative tasks such as purchasing vehicles and equipment, and ensuring compliance with policies, operating guidelines, and legislation. These are all tasks that must be performed regardless of call volume.

The paid on call system of staffing the PIFR is working well and is the preferred way to provide fire protection services in a cost efficient way for the immediate future. PIFR is like most fire departments in North America that rely on paid on call or volunteers to deliver the service in that recruiting and retaining members is a universal concern. PIFR offers an exceptionally solid training program that is critical in retaining members. Firefighters need to be challenged with respect to their personal growth and skill development. The training program is also essential to develop the skills required to mitigate dangerous and life threatening situations that are low in frequency but high in risk and consequences.

A study done in 2007 by Caitlin Myers, Jeffery Carpenter of Middlebury College, Vermont and the Institute for the Study of Labor, IZA of Bonn, Germany determined that people will volunteer as firefighters for three main reasons. They are, Altruism, Reputation and Incentives, in that order[2]. Our experience would bear this out as well.

In the application of Psychometrics[3] we have found that the main reason people want to be involved in any emergency service discipline is to simply help people. The Myers, Carpenter, IZA study concluded that *"volunteer labor supply is determined more by tastes for prosocial activities than by income and costs. In addition, government spending appears to at least partially crowd out volunteering, suggesting that volunteers care both about the level of provision of their product as well as about the act of giving itself".* In other words firefighters put a significant amount of importance on the quality of service they provide.

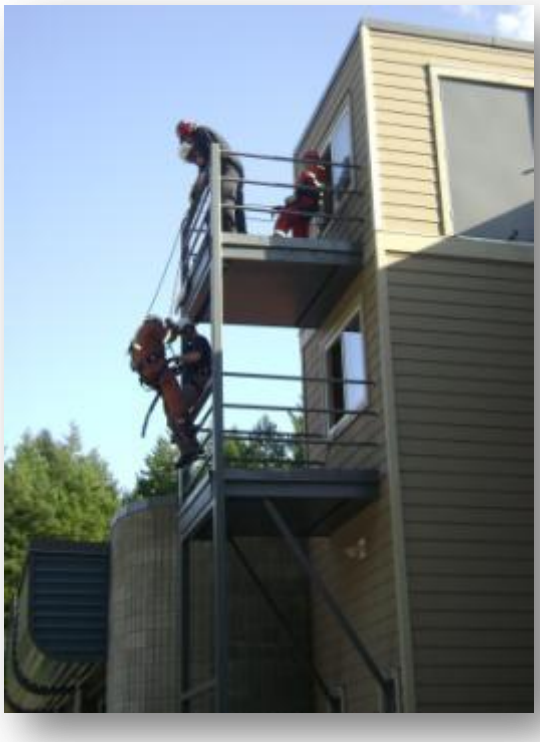
[2] Why Volunteer? Evidence on the Role of Altruism, Reputation and Incentives, IZA DP No. 3021 Jeffery Carpenter, Caitlin Knowles Myers, September 2007, Middlebury College, VT and IZA, Bonn, Germany

[3] **Psychometrics** is the field of study concerned with the theory and technique of psychological measurement, which includes the measurement of knowledge, abilities, attitudes, personality traits, and educational measurement, Psychometric Society, University of North Carolina-Greensboro, Greensboro, NC 27402-6170, USA

The reputation firefighters enjoy in society is another reason that a person would want to be a firefighter. Firefighting will provide opportunities for a person to realize the "idealized persona bias"; i.e., through the training and operational responses they will start to become the person they would like to be.

Incentives are not always monetary and are not usually a reason that a person will volunteer. Incentives in a volunteer or paid on call fire department can be training opportunities where personal growth and job satisfaction are sought. Recognition is also a strong incentive where years of service, special awards and other personal goals are attained with respect to their individual effort.

Most volunteer fire departments rely on their officers and members to do more than emergency responses and training. They expect members to be involved in new truck committees, equipment purchases, maintenance, truck checks, membership interviews, fire hall janitorial duties, and other team building or social events for example. If too much is demanded of the members beyond the critical training, they burn out and tend to move on.



The fire cadet camp is an innovative approach to recruiting new firefighters. This camp has proven its worth since five new firefighters have graduated and gone on to become regular members of the department.

The cadet program has drawn national attention and ways to enhance this program should be sought.

As alluded to earlier, the high training standards, the recognition and the esprit de corps all contribute to the retention of PIFR members. Engaging the community through the Support Crew has contributed to the retention of members by spreading out the work of "supporting" the organization, allowing the firefighters to concentrate on their training and incident response.

There is a succession plan in place for the PIFR Chief Officers. The age differences of the Fire Chief, the Deputy Chief, and the Firefighter/Assistant Division Manager ensure that these positions can be filled from within the ranks if the plan is followed through and implemented. Future officers from within the ranks should be identified and encouraged to become qualified so they may advance and thereby aid in the sustainability of the department.

7. PIFR Fire Apparatus

PIFR has three Type I fire engines that are located in each fire hall. It also has a smaller vehicle in each hall that is referred to as a "rescue" but in reality, the rescue vehicles all have dual or multi-purpose functions. There is also one 1,650-gallon water tender at the number one fire hall. The department has a compact utility vehicle to allow the fire department staff to respond rapidly to emergency incidents and for daily routine functions like public education, investigation of complaints, pre-fire planning, etc. There is also the original North Pender Fire Department 1972 fire engine that is still being used for fire prevention activities.

Table 2 shows the PIFR fleet specifics.

UNIT #	TYPE	YEAR	MANUFACTURER	PUMP SIZE	TANK SIZE	ULC
E17	Engine	1995	Freightliner 80/Superior	1050	1200	Y
R18	Rescue/Bush	2002	Ford/Profire/CAFS	250/120	250	N/A
T1	Tender	2008	Freightliner/Midwest	450	1650	N
E27	Engine	1998	Superior	1050	1200	Y
R28	Rescue	2003	Ford SUV	N/A		N/A
E37	Engine	2005	Freightliner/Hub/ALF	1050/CAFS	750	Y
R38	Rescue/Bush	1999	Ford	Forestry	100	N/A
E32	Engine	1972	GMC (parade truck)	625	500	Y 1972
Utility 1	Utility/Command	2007	Nissan Frontier 4 Dr P/U	N/A		N/A

The PIFR fleet is well maintained and inventory checks are conducted weekly. The fire apparatus are also well equipped for firefighting, rescue, motor vehicle incidents and first medical response.

The PIFR –Strategic Planning and Service Delivery Recommendations – 2012 indicates that 7 ½% of the overall budget is allocated for apparatus replacement and is accrued in restricted funds to support the timely replacement of fire apparatus. This document also indicates how and when new apparatus will be purchased and how older apparatus will be re-purposed or re-deployed.

Appendix "D" attached is information provided by Fire Underwriters Survey on Insurance Grading of Used or Rebuilt Fire Apparatus. Appendix "D", Table 1 attached to this document shows that in order to receive a grading for a pumper a fire engine must be less than 20 years of age. The service life of an engine may exceed 20 years when the apparatus condition is acceptable and it passes required annual testing.

A conflict with PIFR Policy OSH #0-5.07 is noted with regard to setting a standard for fire apparatus. PIFR T1 is a 2008 Midwest Fire Apparatus water tender. This apparatus does not meet the referenced ULC S515 Standard.

There are two important standards to be considered when purchasing mobile fire apparatus. One is the S515 and the other is NFPA 1901. Most fire apparatus manufacturers of pumpers (engines) meet both standards. At the discretion of the AHJ, a water tender may not be required to meet this ULC standard because it will not require annual water pump performance testing.

ULC S515 for fire engines is the standard that Fire Underwriters Survey look for when grading a community. It defines the minimum performance standards for automobile fire apparatus and ensures that the apparatus has been properly engineered and built using quality workmanship and materials. It also ensures the apparatus has been tested and complies with the standard. More information on this standard can be found at www.ulc_s515_04

Apparatus built to NFPA 1901 Standard 2009 Edition ensures that the apparatus complies with the latest safety features such as data recorders, emergency lighting, seat belt monitors, tire pressure monitors, roll over stability, acceleration and braking to name a few. NFPA does not do third party testing with regard to performance that ULC does. More information on this standard may be found at http://www.nfpa.org/assets/files/PDF/CodesStandards/TIAErrataFI/TIA1901-09-1.PDF

7.1. **Recommendation**:

That the PIFR Policy OSH #0-5.07 be reviewed to reflect the current reality or that a new policy in conjunction with PIFPS is developed which determines the acceptable fire apparatus standard for specific vehicles.

8. Facilities

PIFR operates out of 3 fire halls which are owned by the CRD and by a formal agreement granted a licence to use these facilities for the purpose of providing fire protection to the Pender Islands.

8.1. Fire Hall #1

Hall #1 is a three bay facility with large wide bays that are adequate for housing large fire apparatus. It was built in 2002 and takes advantage of the rise in elevation of the property. The apparatus bays require the trucks to be backed into the hall. The

administration offices, training/room and galley are on an upper floor with easy access from a ground level parking lot.

At the time of this report, the final occupancy permit for this facility has not been granted due to deficiencies in the fire separation between the apparatus floor and upper rooms. There is fitness equipment on the apparatus floor between Engine 17 and Tender 1. This is not an ideal situation but there is no other space available in the fire hall for this type of equipment. There are safety concerns with this equipment in close proximity to the apparatus that reduces access to the vehicles. Having fitness equipment in the same room as vehicles that produce carbon monoxide and other gasses will have long term health effects on firefighters who, when using the equipment, will be breathing deeper thereby inhaling contaminants deeper into their lungs. Additionally, turn out gear and other equipment that may have been used in a fire is also kept in the apparatus bays and on the vehicles where the contaminants from a fire may be emitting noxious odors and gases.

Physical fitness is important for firefighters and PIFR has an annual fitness testing requirement as noted in O.G. 3.1.04. Fitness training is typically done outside of the scheduled training but still requires a time commitment from the member to keep fit for fire rescue activities. A long term solution should be sought to improve this important training activity.

The PIFR Strategic Planning and Service Delivery Recommendations – 2012, makes specific recommendations to address some of the identified deficiencies with Hall #1. They are as follows:

- *Continue the funding levels for annual upgrading and maintenance.*
- *Complete fire separation and increase occupancy classification to A2 to accommodate the increased use of upstairs area.*
- *Complete work required for final occupancy permit.*

- *Install a divider between kitchen and training room area. This could be used to separate training groups or to isolate kitchen area for major events, to facilitate training meal preparation, for use as a separate training area, and to make the kitchen available for members during meetings and classroom training.*
- *Consider addition to the south of the main entrance to accommodate needs for office space. This addition could take the form of a reception area and office for the Administrator which would free up office space for the Chief and Deputy.*
- *Install a sprinkler system to protect the community's investment in apparatus and equipment.*
- *Consider an expansion to the east side of the training room and bay. Expansion should consider storage needs, incorporating the existing generator shed, future requirements for dorm rooms, expanded training space and garage space for small truck or ATV.*

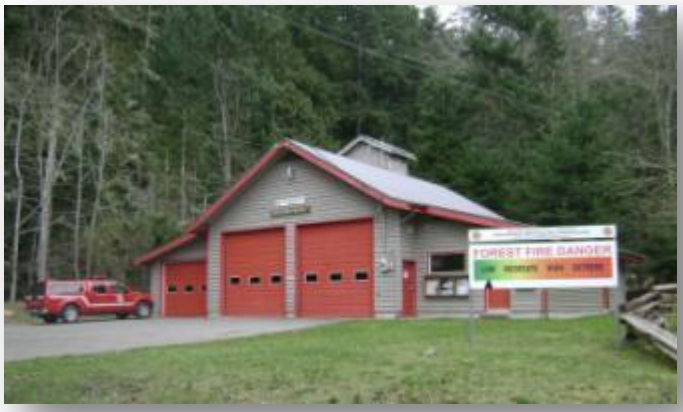
8.2. Fire Hall #2

PIFR fire hall #2 is a two bay insulated metal building that was built in 1991. The bays are only 16' X 36'. There is storage on the apparatus floor behind Rescue 28 with a mezzanine floor above that is utilized by the Southern Gulf Islands Search and Rescue. Space is at a premium in this hall and with the vehicles parked inside there are clearance and safety concerns and very little room for any other type of activity.

The Strategic Plan and Service Delivery Recommendations for PIFR #2 fire hall are as follows:

- *Continue the funding levels for annual upgrading and maintenance.*
- *Complete proposed addition to address WorkSafe BC requirements for access around apparatus and pinch hazards created due to apparatus size. The bathroom and turnout areas should also be improved to meet the requirements for increased staffing at this location.*
- *Coordinate the addition with CRD water (Magic Lake) to ensure possible economies through joint use are maximized.*
- *Consider improvements to heating and ventilation systems and insulation to improve energy efficiency.*
- *Install fire sprinkler and alarm system.*

8.3. Fire Hall #3

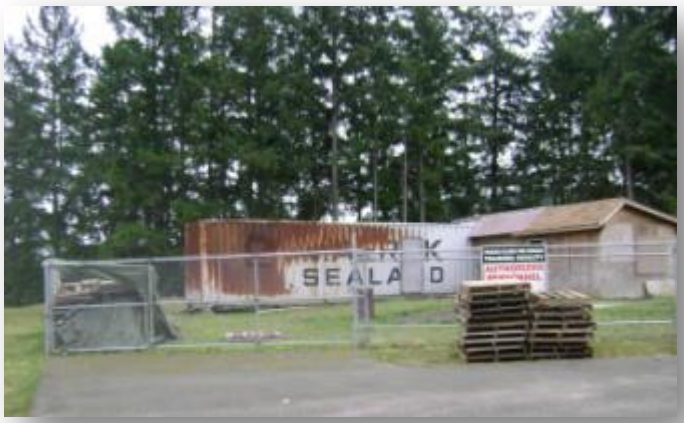


PIFR fire hall #3 was previously the South Pender Island Fire Department fire hall. It was a 2 bay wood frame building built in 1988 with a third bay added in 2000. The third bay that was added in 2000 has a low ceiling which restricts the size of vehicle that can be parked in this bay with respect to height and length. There have been interior modifications made in the main apparatus bays for storage and a mezzanine floor which also serves as a station office poses clearance issues around Engine 37. There is also a meeting room with small galley on the south side that is used by the community and so has limited options for PIFR with respect to permanent office or training functions. This is part of the licencing agreement with the CRD.

The Strategic Plan and Service Delivery Recommendations for PIFR #3 fire hall are as follows:

- *This facility currently meets current and expected needs for the area served however apparatus design will be limited due to bay size.*
- *Continue the funding levels for annual upgrading and maintenance.*
- *Relocate E32 to storage location or partner society to free up space for storage of equipment.*
- *Maintenance and upgrades of existing systems should be considered due to the age of the building which is now approaching 25 years.*
- *Consideration should be given to the installation of an automatic transfer switch to ensure operations are not impeded due to power failures.*
- *Install fire sprinklers and alarm.*

8.4. Training Facility



The training facility is a work in progress. Live fire training props are maintenance intensive but also provide considerable benefit to fire departments who own and operate them. The PIFR training prop consists of a modified shipping container with a small wood frame building added on to

one end of the shipping container. Wood pallets are used to create live fire conditions inside the structure that provide firefighters with the real experience of fire and heat conditions they can expect in an interior attack.

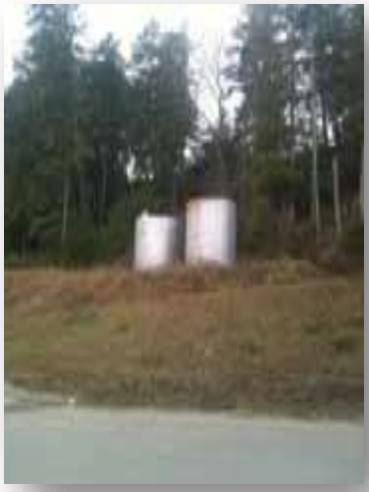
There are many benefits of having this training facility. There are obvious financial benefits to having this facility on the island. PIFR firefighters can obtain this training locally which minimizes time commitments and travel costs by not having to leave the island. This facility also provides a small revenue stream which helps offset the cost of maintaining and improving the facility.

PIFR trains to NFPA 1403 Standard on Live Fire Training Evolutions. The latest 2012 edition provides critical safety information for live fire training evolutions that must be complied with. PIFR has certified live fire training instructors. It is essential that qualified live fire instructors are used for these evolutions as live fire training can be exceptionally dangerous.

The AHJ must understand the risk involved and ensure they are comfortable with the live fire training program and the level of training achieved. They should also encourage development of this resource so it is a recognized live fire training facility.

9. Water Supply

There is an above ground tank farm situated uphill from the number 1 fire hall that has supplied water for firefighting purposes. It is our understanding that this tank farm will be decommissioned, as part of the strategic and financial plans and that a holding pond will be built that would hold more water for firefighting. Water supply issues are discussed in the 2010 Pender Islands Community Wildfire Protection Plan.[4]



Dry hydrants into ponds and lakes are also an option for alternative water supplies and some have been constructed. The CRD is committed to mapping water supplies that are capable of supplying more than 24,000 imperial gallons of water even during the dry summer months.

The strategic plan also calls for re-configuring Engine 17 so it will be able to operate as a small engine/tender to transport water for firefighting purposes. Reconfiguring this unit is logical so it will have many more years of service as tender and a backup or reserve engine. With only one actual tender, PIFR is somewhat

[4] 2010 The Pender Islands Community Wildfire Protection Plan; Fireweed Consulting, Matthew Tutsch

vulnerable if the tender is out of service when required to transport water for any fire event.

CRD Water and PIFR should continue to work together to enhance the water system and have fire hydrants color coded to identify their fire flow capacity as found in NFPA Standard Color Code Fire Hydrant Flow 291, chapter 3.

10. Training Standard

PIFR Policy #21 states the level of training for firefighters and references NFPA 1001 Firefighter Level I & II and uses the Justice Institute Fire & Safety Division delegated authority to certify its firefighters.

By Ministerial Order, effective January 1, 2003, the National Fire Protection Association training standards have replaced the British Columbia Fire Service Training Standards[5] .

This Ministerial Order is a policy statement and not a mandatory requirement. It is not enforceable because the fire service is purely a local government service and the AHJ having responsibility for a fire department is obligated to establish standards for training and service levels through policy from its elected officials. There is no mandatory requirement to have a fire department. However, once the decision is made to establish a fire department, a Standard of Care and a corresponding Duty of Care must be met.

The Officer Equivalency section of PIFR Policy 21 states that, *"Officers shall be certified by the Office of the Fire Commissioner of B.C. as having met the equivalency requirements for Fire Officer Level 1 or higher standard"*.

The OFC does not certify training or possess accreditation authority. The OFC is able to state that some training such as LAFC training from other agencies may meet the OFC requirements for LAFC responsibilities on approval of training curriculum.

The NFPA 1001 training standard set by PIFR should be confirmed in policy by PIFPS and it should be understood that this standard is acceptable to PIFPS along with appropriate training standards for all the services that PIFR provides.

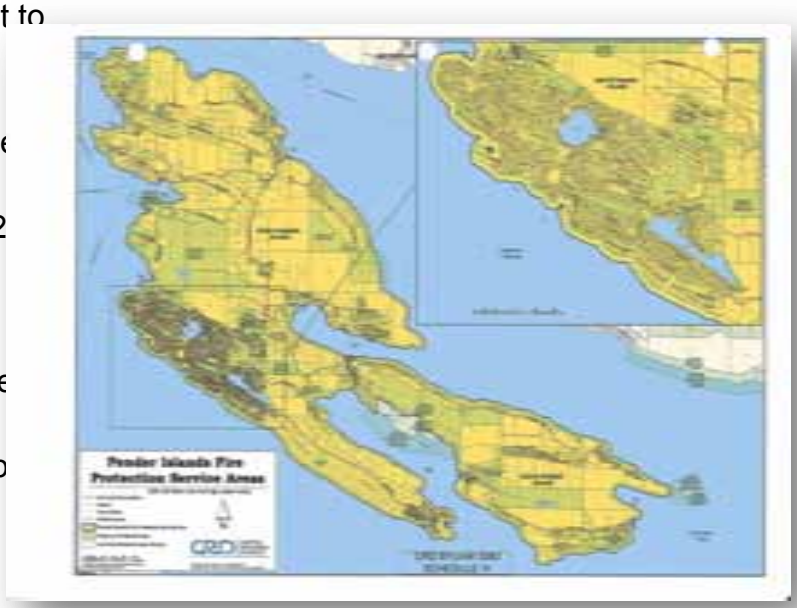
The residents and visitors to the Pender Islands receive a high level of service due to the training standards PIFR has adopted. These high standards also contribute to a high retention level of PIFR volunteer firefighters due to the professional training and personal satisfaction members attain.

The AHJ should embrace and enhance training to these high standards at every opportunity.

[5] http://www.pssg.gov.bc.ca/firecom/index.htm#legislation

11. Response Time and Travel

Emergency incident dispatching for the CRD including PIFR is contracted out to the Langford Fire Dispatch. For the purposes of this report, it is assumed that the Langford dispatch centre mee an emergency call management and dispatch standard such as NFPA 122 and that the standard of service is acceptable to the CRD board.



Response distance has historically be a determining factor rather than response time, due to the large numb of unmanned fire halls. FUS has accepted travel distance as a determining factor for grade classifications. In reality, overall response time is a better measure for a responding fire department. Overall response time is an important consideration when a fire is in its incipient phase and small in size. In a paid on call staffing model like PIFR uses, response by the firefighters to the fire hall must be factored into the equation. The time it takes the firefighters to respond from home or work to the fire hall will add several minutes to the overall response time.

Information supplied to us by PIFR indicates that the department with a few exceptions does not exceed the 8 km travel distance to a residence established by FUS.

A response protocol should be developed to manage resources during emergency incidents so one part of the protection area is not left unprotected in case of a second incident, which would result in a delayed response. Part of the FUS grading criteria takes into consideration the work force requirements for simultaneous incidents.

Appendix “B” attached provides more detail on FUS requirements.

NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments is the standard that may apply to PIFR. PIFPS and the CRD should very carefully examine this standard to see if any or all of it may apply to PIFR. In particular, Section A.1.2.3 of NFPA 1720 should be referenced by

the AHJ for information on their responsibilities as found in Appendix "A" attached to this report.

The bridge linking the Pender Islands is a critical component of public safety and more attention should be paid to this structure with regard to protecting it. A fire safety plan should be developed for this critical piece of community infrastructure.

11.1. **Recommendation**:

That the PIFR develop a pre-fire plan to protect the bridge linking the Pender Islands.

12. Fire Inspections

It was noted that Pender Island Fire Rescue has an extensive fire safety inspection program of public occupancies. A review of three files indicated that the inspections serve three primary purposes:

- To enhance public safety for all residents of, and visitors to, the Pender Islands.
- Fire preplanning is completed in a number of instances to help the fire department ensure it has the capacity to maintain their level of service and to meet the expectations of the property owners at those locations.
- The inspections provide feedback to the building owners based on observations of situations which may not be in compliance with current provincial legislation, codes and regulations. The file reviewed indicated that a written report identifying the issues is prepared and a copy provided to the building owner or their representative.

In the files reviewed there was no evidence of PIFR enforcing the ***Fire Services Act*** or the British Columbia Fire Code. Enforcement is generally done through writing orders to bring non-compliance Fire Safety violation issues in a building or occupancy into compliance in a given period of time. Continuous non-compliance can result in an appeal process through the Office of the Fire Commissioner and ultimately may result in legal action being taken against the occupant or owner through the courts.

Information observed in one file that had been inspected suggested that PIFR had created a Fire Safety Plan for the business. It is our opinion that such a practise places the PIFR in a situation where liability may occur. It is the responsibility of the building owner to complete a Fire Safety Plan and if they are unable to do so themselves it is recommended that an appropriate professional be engaged to complete these important documents. Qualified fire protection engineers typically do this type of work and this is not a typical service provided by a fire department.

Developing fire safety plans for a business may appear to be a “value added service” that PIFR provides, but it in the interest of risk management, it is our opinion that this value added service be discontinued.

12.1. **Recommendation**:

That PIFPS work with PIFR to develop a method to create pre-fire plans that can be shared with property owners and occupants of commercial occupancies.

It was also noted through documents obtained from PIFR and through our discussions with them that there is no regular system or frequency of Fire Code Inspections. PIFR Policy #6 again states in the Procedure for Inspections that *“Designated LAFCs will conduct inspections as time permits under the authority granted under the **Fire Services Act**.”*

Section 26 (1) of the ***Fire Services Act*** states that, *“A municipal council must provide for a regular system of inspection of hotels and public buildings in the municipality”.*

Pender Islands are not a municipality and are not required to perform a regular system of inspections. However, fire prevention and inspections initiatives save lives and property from fire and are a best practice that should be performed in the interest of the community.

PIFR, PIFPS and the CRD may be attracting liability if all the public buildings are not inspected since it could be deemed that some buildings have received an unfair advantage and as a result have benefited with respect to preventing a fire. This may become a real concern if a fire occurs in a public building that has never been inspected.

In consideration of the PIFR operational requirements, certain fire prevention functions cannot be overlooked or overstated concerning their importance. Creating pre-fire plans provide valuable information to firefighters responding to properties with respect to access, water supply, known hazards, exposures, property contact information, and built-in fire protection systems, and public education. All of these activities help the fire department respond to an emergency in a safe and efficient manner and are considered best practices within the fire service. Pre-fire planning is also an excellent way to build rapport and ‘sell’ your department to the community. The scope of these activities must, however, be matched to the available resources and the authority granted through a Bylaw.

The vital information required for a pre-plan is time consuming to compile and maintain over time as buildings and/or their use changes. Several computer based pre-fire plan programs available can make this task easier. In our opinion, the benefits of having comprehensive pre-fire plans outweigh the time and labour involved in producing them.

Given the time, template to work with and direction from the Fire Chief regarding priority and degree of complexity, pre-fire plans could be completed relatively quickly. It would then be incumbent upon the Fire Chief to ensure the plans remain current. As alluded to earlier, the ongoing maintenance of pre-plans is as important as their initial preparation. In the absence of an official inspection program this presents an excellent opportunity to ensure the department can address the specific challenges it faces while imparting fire safety knowledge and awareness to the community.

There is no mandated requirement for the LAFC to conduct fire inspections except on complaint. ***The Fire Services Act*** states in section 21, Inspection of fire hazards, that:

"On complaint of a person interested or, if believed advisable, without complaint, the fire commissioner and the commissioner's inspectors may at all reasonable hours enter any premises anywhere in British Columbia to inspect them and ascertain whether or not any of the following conditions exist:

a) the premises are in a state of disrepair that a fire starting in them might spread rapidly to endanger life or other property;

(b) the premises are so used or occupied that fire would endanger life or property;

(c) combustible or explosive material is kept or other flammable conditions exist on the premises so as to endanger life or property;

(d) a fire hazard exists on the premises."

PFIR Policy # 6 states in part, " The Pender Island Fire Chief and designated members have been *"duly appointed as Local Assistants to the Fire Commissioner to assist the OFC to maintain fire safety in our community, conduct investigations, inspections and other duties of Local Assistants to the Fire Commissioner as stated in the Fire Services Act. Under the legislation, building owners are responsible to maintain buildings in compliance with the BC Fire Code. The role of Local Assistants to the Fire Commissioner is to assist owners in; understanding their responsibilities, identifying areas of non-compliance, and following up to insure compliance is achieved. In undertaking the roles of LAFC the fire department limits the risk of fires occurring, protects life safety in the community and minimizes the risk to firefighters from preventable hazards".*

12.2. **Recommendation**:

That PIFR discontinue doing formal fire safety inspections but continue to do INFORMAL inspections as part of pre-fire plan development

13. Financial

PIFS is obliged under the Fire Protection and Emergency Services Response License Agreement with the CRD to submit annual budgets and five year operating and capital plans. PIFPS utilizes sound financial accounting practices and its financial statements are audited in a "Notice to Reader" format by a professional accounting firm.

There is long term financial planning for equipment replacement. In cooperation with the fire department a long-term strategic plan has been developed that is updated annually. The PIFPS and PIFR have considered all aspects of the operation in this plan and it is a useful document for planning for future financial expenditures.

CRD Bylaw 2050 Section 5 (b) specifically restricts the amount raised by taxes to support the fire service on the Pender Islands to be no more than $0.92 per thousand dollars of assessed value of lands and improvements. Information provided to us by the CRD indicates that the current cost for fire protection on the Pender Islands is below that amount. Therefore, in comparison to other rural British Columbia communities, PIFPS and PIFR provide good value to the residents and property owners. This statement is especially true when the level of service provided by PIFR is taken into consideration

13.1. **Recommendation**:

That the licensing agreement between CRD and PIFPS be extended beyond the December 31, 2015 expiry date providing circumstances have not drastically changed.

14. Pender Islands Fire Protection Society

The Pender Islands Fire Protection Society (PIFPS) was incorporated under the ***Society Act of British Columbia*** in 2004. The Constitution of the Society lists the purposes of the Society to be:

(a) to create, organize, establish and maintain a volunteer Fire Department on North and South Pender Island;

(b) to provide fire protection and emergency response services to the residents and property owners of North and South Pender Island; and

(c) to appoint from time to time and to remove from office a head of such Department known as the Fire Chief, and to appoint a Deputy Fire Chief and such numbers of Assistant Fire Chiefs, Captains and other officers and members as may be deemed necessary by the Directors.

It is therefore apparent that the overarching purpose of the Society is to establish and provide oversight of PIFR as a contractor to the CRD.

There are nine PIFPS Directors. The directors are elected and appointed. For example, the CRD Southern Gulf Islands Area Director is automatically appointed to sit on the PIFPS as a director. There is also a representative from PIFR who is appointed to serve as a director.

Membership in the Society is open to every owner of real property within the boundaries of North or South Pender Island, British Columbia, and every other person who is domiciled on North or South Pender Island, each of whom must agree to become a member, and not others shall be eligible for membership in the Society.

Being a member of PIFPS allows people better representation in running the affairs of PIFR than the general electorate. Membership in the Society is open to people who are "domiciled" on Pender Islands. Societies are not a recommended form of authority being responsible for and providing oversight to a fire department. This is because the society directors may find themselves in a position of liability concerning the fire department. Many societies that had responsibility for a fire department have ceased to exist because they had difficulty getting comprehensive general liability insurance. The CRD has been innovative in this regard and have realized a method to provide for this coverage in a mutually beneficial way.

With PIFPS as the locally elected authority having oversight for PIFR this form of oversight appears to be working very well in this situation. The residents and property owners on the Pender Islands must understand however, that for major expenditures such as a new fire hall, a referendum may be required to obtain voter assent. The ***Election Act – BC*** has different eligibility requirements about who may vote in a referendum than a Society does. These voter eligibility requirements may exclude some PIFPS members and residents on the Pender Islands from voting in a referendum depending on their status as occupants in rented properties, land tenure, and primary residence status in British Columbia.

An alternative to this form of local oversight would be to have a commission that would advise the CRD Area Director on fire department matters. The PIFPS has been very engaged in all governance aspects of PIFR and there is an outstanding working relationship with PIFR. The advantage of a commission over a society is that the commission would enjoy greater immunity from liability than the directors of a society would.

14.1. **Recommendation**:

That the PIFPS Directors create an Administrative and Operational policy manual in cooperation with PIFR.

15. Establishing Bylaw

CRD Bylaw No 2050 specifically grants authority for PIFR to provide Fire Protection Emergency Response to the residents of North and South Pender Islands through

an agreement with the PIFPS who provides local oversight from an elected board of directors.

Section 1 of Bylaw No. 2050 states the services that can be provided. They are:

a) Fire prevention;

(b) Fire suppression; and

(c) Assistance in response to:

(i) requests from the Provincial Ambulance Service from extrication from damaged motor vehicles;

(ii) requests for assistance in the extrication of persons from damaged buildings, structures or from situations involving natural hazards;

(iii) emergencies where police or ambulance personnel are unavailable or unable to respond adequately and the equipment and personnel of the department is required to respond to the situation; in situations where the Fire Chief determines that the personnel and equipment resources of the Fire department are capable of responding to the emergency.

There is no specific mention of fire investigation being authorized in this Bylaw. Certain members of PIFR are appointed as Local Assistants to the Fire Commissioner and as such they are obliged under the ***Fire Services Act*** Section 9 (1) *"to ascertain whether a fire was due to accident, negligence or design, a local assistant must, within 3 days after the fire, excluding holidays, investigate or have investigated in a general way the cause, origin and circumstances of each fire".*

A policy from PIFPS should be created stating to what extent a fire investigation shall be undertaken and what level of fire investigation training of a LAFC is acceptable to them.

Section 1 (c) (ii) of Bylaw 2050 authorizes PIFR to offer "extrication from damaged buildings, structures or from situations involving natural hazards".

This type of a rescue will require specialized training to assess the structural integrity of a building and may require additional equipment and training other than what PIFR currently has. A policy from PIFPS should be created regarding the level of training that is acceptable for this type of work.

Section 1 (c) (iii) should be carefully considered to determine what is actually being authorized. The current chief fire officers may fully understand the intent of this statement but policies and definitions should be attached to give more clear direction as to what "situations" PIFR would respond to and what "situations" they would not respond to. For example, a break and enter in progress, a domestic disturbance or a suicide threat would not be something PIFR would be expected to attend. An automobile accident which the RCMP would not be able to attend due to a higher

priority call or a call for a missing child may be something PIFR would reasonably attend.

Firefighters are not law enforcement officers and should not be used in situations when the RCMP cannot attend, due to higher priority incidents that require all their available resources. However, the PIFR providing assistance to the ambulance service would be acceptable since there are very limited ambulance resources on Pender Island. PIFR is trained and equipped to deal with first medical response providing the scene is safe and does not require police attendance to keep the peace.

15.1. **Recommendation**:

That the CRD establishing Bylaw 2050 is carefully reviewed and updated.

16. Bill C-45

There has been much confusion surrounding Bill C-45 which was passed by the House of Commons and Senate on October 30, 2003. The confusion on how this legislation may have implications for a local fire service has been a source of concern. A Legal opinion we have solicited indicates that Bill C-45 primarily concerns for profit corporations. The legal opinion we sought also said however, that under certain extreme circumstances it might apply to a fire department and the AHJ.

Appendix “E” attached to this report is a summary of Bill C-45 and provides more information regarding this legislation.

17. Conclusions

As a result of this review of the PIFPS/PIFR we have concluded the following:

- PIFR provides excellent value to the community for the taxes paid to fund the service.
- PIFPS provides excellent oversight to PIFR.
- PIFPS and PIFR are well-organized and managed well..
- PIFR training standard is at a high level and contributes to firefighter recruitment and retention.
- The level of training for PIFR is appropriate for the community risks.
- Compensation rates of the PIFR Chief Officers are comparable to other chief officers with similar responsibilities from other communities.
- Remuneration of the PIFR firefighters is in alignment to other communities with paid on call firefighters trained to the same level.

- PIFR adds value to the community through its inspection program but should restrict the inspections to informal inspections with emphasis placed on pre-fire planning.

- PIFPS/PIFR receive broad community support as evidenced by the 52 person Support Crew.

- The Cadet Camp is a valuable training tool and adds social value to the greater community through youth training opportunities.

- There is no other comparable community in British Columbia due to the fact there are two Pender Islands joined by a single lane bridge, it is surrounded by water, there is limited mutual aid, there is a substantial residential subdivision, and it is outside of a municipality.

18. Summary

Our review of the PIFR has determined that the residents, property owners and visitors to the Pender Islands enjoy a high level of fire protection at a reasonable cost. The governance and oversight provided by PIFPS and the CRD ensure that a reasonable standard of care is attained. PIFPS and PIFR have an outstanding working relationship. There is a real sense of mutual respect and appreciation of their individual responsibilities.

PIFPS must be fiscally responsible and yet ensure that PIFR has the financial means to deliver the service. By working closely with PIFPS, PIFR through a careful planning process has created a fire service that is committed to excellence. It is also committed to managing and delivering services to the community within the financial capacity of the community and the limits set in CRD Bylaw 2050.

It is important for the stakeholders to realize their responsibilities and obligations. As the Authorities Having Jurisdiction (AHJ), the CRD and PIFPS are responsible for granting authority for PIFR to exist by means of a properly crafted Bylaw that provides a list of the services PIFR may offer and deliver to the Pender Islands community. They must also create policies for PIFR that establishes the level of service that will be provided and the level of training PIFR will train to for each service offered.

As stated numerous times through this report, there is no mandated requirement to have a fire department. The residents of a community come together and decide that they would like some type of fire protection for their community.

People choose to live where they do for a variety of reasons. Some choose to escape a busy metropolitan lifestyle and enjoy the beauty of the Southern Gulf Islands for family or economic reasons. Land and property tax may be cheaper but there are also fewer services. In many cases, however residents want fire services for the protection of their homes and to reduce their fire insurance premiums.

Fire protection services are expensive to create and to maintain. Fire departments sometimes become targets for budget cutting or neglect when economic times get tight. Many constituents do not understand the complexity of fire service operations and the obligation to meet acceptable standards and question the annual operating and capital cost budgets when the service is not used often. Operating a fire department is also labour intensive. Firefighters spend countless hours in organization, training, and maintaining equipment in a constant state of preparedness for a few hours of actual work.

Creating a fire department is purely a local government decision, which is supported by the community. This community support first is monetary. The community decides if they want to pay to have a fire department. Once this decision has been made, it is a long-term ongoing financial commitment.

Fortunately, there is also community support in the form of volunteers who are willing to learn the skills required for the services that a fire department provide. These volunteers are the only way most fire departments in North America survive. Without the volunteer labour of firefighters, most small communities would not enjoy any of the benefits that a fire department can provide. PIFR has been very innovative with attracting volunteers who are not trained firefighters but contribute to the community as the Support Crew. This level of community support is rare in the Province of British Columbia. Information provided to us by PIFR indicates that for every hour of paid staff time there is 10 hours of volunteered time.

It takes a lot of administration time to manage over 100 people who are motivated to make their community better.

A volunteer firefighting workforce is subject to the same WorkSafeBC regulations as any employer or worker. Bill C45, a federal government bill on the protection of workers could have implications for a local government if workers (volunteer firefighters) are ordered to do work with unsafe, substandard equipment or wanton neglect for safety.

The vast majority of people live their whole lives and never experience the effects of a devastating fire. Most fires are accidental in origin. New construction materials and building codes that are now common to most communities have resulted in the decline of fires. Fire safety programs are also proving effective in preventing fires. A working smoke alarm has proven to be the first line of defense in saving lives and reducing property damage.

The elected officials of a community with constituent input determine the level of service their local fire department will provide. Some fire departments only provide firefighting services. Over time there has been considerable “service creep” and fire departments now respond to motor vehicle incidents for extrication, other rescue type, and hazardous material incidents such as spilled chemicals, propane leaks or clandestine drug labs and grow ops. Many fire departments have also taken on pre-hospital care to assist the BCAS which has a provincially mandated responsibility for

first medical aid response. The public has high expectations that their local fire department will come to help them in their time of need for all types of personal emergencies.

Congratulations go to the CRD, PIFPS and Chief Boyte and his officers, administrative support person, all the firefighters, and the Support Crew, for organizing and managing this excellent community service. The residents and visitors to Pender Island are well served by PIFR.

Living on a relatively small island offers a unique lifestyle but it also presents formidable challenges with respect to community services. The 52-member support crew provides ample evidence that PIFPS and PIFR enjoy broad community support. There will always be detractors in a community who will criticize the local fire department generally due to a lack of understanding and appreciation for having this service available to them. These same detractors often ask for the fire department to hurry when they have an emergency that requires a fire/rescue department response.

It was our pleasure to have this opportunity to look at the operation of PIFR and to offer comments, suggestions and recommendations on this service.

We sincerely appreciate the time PIFPS President Souter, his fellow directors, Chief Charlie Boyte, Deputy Chief Dine and the staff of the CRD that spent time with us in the completion of this report.

Respectfully,

Glen Sanders,

Consultant

Dave Ferguson,

Consultant

Glossary

AHJ	Authority Having Jurisdiction
CRD	Capital Regional District
DPG	Dwelling Protection Grade
FSA	Fire Services Act
FUS	Fire Underwriters Survey
FWC	FireWise Consulting Ltd.
GPM	Gallons per minute
IAFF	International Association of Fire Fighters
LAFC	Local Assistant to the Fire Commissioner
NPFA	National Fire Protection Association
OFC	Office of the Fire Commissioner
OG	Operational Guideline
OH&S	Occupational Health and Safety
PEP	Provincial Emergency Program
PFPC	Public Fire Protection Class
PIFPS	Pender Islands Fire Protection Society
PIFR	Pender Island Fire Rescue
PSI	Pounds per square inch
SAR	Search and Rescue
TO	Training Officer
ULC	Underwriters Laboratory Canada

APPENDIX "A"NFPA 1720 STANDARDS FOR VOLUNTEER FIRE DEPARTMENTS

CHAPTER 1 – ADMINISTRATION

Scope:

- Minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations
- Address functions and outcomes of response capabilities and outcomes
- Minimum requirements for managing resources and systems
- Addresses the strategic and system issues but not tactical operations
- Does not address fire prevention, community education, fire investigations, support services, personnel management, and budgeting

Purpose:

- Specify the minimum criteria addressing the effectiveness and efficiency of the volunteer emergency response delivery in protecting the citizens in the jurisdiction
- This standard does not restrict any jurisdiction from exceeding these minimum requirements
- Authority having jurisdiction (AHJ) shall determine if this standard is applicable to their fire department

Equivalency:

- This standard does not prohibit use of systems, methods or approaches of equivalent or superior performance
- Technical documentation shall be submitted to the AHJ to demonstrate the equivalency

Annex "A" Explanatory Material for Chapter 1:

- In addition to fire duties, FD's should be prepared to perform rescue work and perform medical care for those injured in connection with incidents such as traffic accidents, train wrecks, aircraft crashes, floods, windstorms, terrorism, and earthquakes – unless specifically excluded from involvement
- AHJ has the responsibility to determine the following – scope and level of service, necessary level of funding , and necessary level of personnel and resources (including facilities)
- By a law conveyed by a local jurisdiction, the AHJ can have the power to levy taxes, solicit funding, own property and equipment, and cover personnel costs

- Governing body should also monitor the achievement of the FD management goals such as fire prevention, community life safety education, fire suppression, employee training, communications, maintenance, and department administration
- Like any other government agency the parameters of the fire department authority will be outlined by a governing body

Annex "A" Explanatory Material for Chapter 3:

- Automatic aid is accomplished through simultaneous dispatch, is documented in writing, and part of the communication centre's dispatch protocols
- Mutual aid is part of the written deployment criteria for response as dispatched by communication centre
- A "company" in this standard means company unit, response team, crew, and response group rather than a FD
- This standard wants to ensure that a minimum of 4 personnel respond to an incident
- Standard also wants to ensure that 2 (or more) pieces of apparatus would always be dispatched and respond as a single company. To assure this the response can include any of the following:
    - Engine and tanker/tender
    - Engine with a pumper and a hose wagon
    - Engine with a vehicle personnel carrier
    - Engine with an ambulance or rescue unit
    - Engine and members who respond with their personal vehicles
- A hazard includes the characteristics of facilities, equipment systems, property, hardware, or other objects, and the actions and inactions of people that create such hazards
- The purpose of supervisory chief officers responding to incidents is to assume command to allow company officers to directly supervise their assigned crew members

CHAPTER 4 - ORGANIZATION, OPERATION, and DEPLOYMENT

Fire Suppression Organization:

Fire suppression operations shall be organized to ensure the fire department's fire suppression capability includes sufficient personnel, equipment, and other resources to efficiently, effectively, and safely deploy fire suppressions resources

- AHJ shall make known the procedures by issuing written administrative regulations, standard operating procedures, and departmental orders

- FD will be part of developing a community risk management plan for hazardous materials with respect to storage, use, and transportation
- FD policies shall clearly state the succession of command responsibility
- Fire responders shall be organized into company units or response teams, and shall have appropriate apparatus and equipment
- FD shall identify minimum staffing requirements to ensure adequate response levels for safe and effective operations
- FD shall maintain standard reports for each response, and each report will include location, type of emergency, operations performed, and responding members
- Standard response assignments and procedures for all emergency response types shall be predetermined by location and nature of incident to regulate the dispatch of all responding resources
- Risk analysis and/or pre-fire planning shall predetermine the number and type of units to respond to various incidents

Fire Suppression Operations:

Incident Commander

- One responder shall be assigned as the Incident Commander (IC)
- Assuming and identifying the IC shall be made to all incoming responders for the involved response
- IC shall be responsible for the overall coordination and direction of incident activities
- IC shall ensure that a Personnel Accountability System is quickly initiated and used for the duration of the event
- Company officer, or crew leader, shall maintain accountability of the members assigned to their company
- Company members shall know the identity of their company officer
- Communications shall be transmitted between IC and company officers

Initial Attack

- Once the necessary responders have arrived at a scene, a FD shall have the capabilities to initiate an initial attack within 2 minutes, 90% of the time
- FD shall ensure that 4 members are on scene before initiating interior fire suppression operations
- 2 responders shall work together in the hazardous area
- Outside the hazardous area, 2 members shall be ready to assist the team operating within the hazardous area – one of these exterior responders is permitted to be engaged in other activities

- IC shall not assign any company or individual if abandoning the task they are performing will affect the safety of other responders
- If, upon arrival, there are less than 4 members, but immediate action could prevent the loss of life for someone in a life-threatening situation, it shall be permitted as long as conducted in accordance of NFPA 1500
- FD shall have the capability of continuing and maintaining all fire ground operations that extend beyond the initial attack phase

Intercommunity Organization

- Mutual aid, automatic aid, and fire protection agreements shall be in writing and shall address liability for injuries and deaths, disability retirements, cost of service, authorization to respond, staffing, equipment, resources to made available, and designation of the IC
- All FD's involved in above-mentioned agreements shall have all-inclusive procedures and training to provide and ensure effective and uniform operations
- Communications equipment allowing communications between IC and officers at mutual aid responses shall be provided

Emergency Medical Services (EMS)

Purpose

- EMS shall ensure that the FD's emergency medical capabilities are present to deploy all arriving company assignments
- FD shall use mutual aid or agreements to comply with the requirements of this section
- The points in this section shall only apply to FD's involved in the delivery of EMS
- FD shall clearly document its role, responsibilities, functions, and objectives for EMS delivery

System Components

- EMS treatment levels, and the patient treatment capabilities associated with each level, shall be categorized as first responder, basic life support (BLS), and advanced life support (ALS)
- The patient treatment capabilities at each EMS level will be determined by the AHJ for the approval and licensing providers of EMS in each province

EMS System Functions

- The following shall be considered the 5 basic functions within an EMS system – first responder, BLS, ALS, patient transport in an ambulance or alternative vehicle, and to provide uninterrupted patient care, assurance of response and medical care through quality management program
- FD shall be involved in any or all of the aforementioned functions

Quality Management

- FD shall institute a Quality Management Program (QMP)

- FD shall review and document all first responder and BLS medical care provided
- FD's with ALS shall have a medical director to oversee and ensure delivery of quality medical care in accordance with provincial laws and regulations. This shall be documented
- FD's providing ALS services shall be able to communicate immediately with EMS supervision and medical oversight

Special Operations Response

- FD shall be organized for their capabilities to be able employ sufficient initial resources, provide support for, and to efficiently and effectively deploy. Automatic mutual aid and agreements are permitted
- This chapter applies to FD's involved in the delivery of special operation responses
- FD shall have a special operation response plan and standard operating procedures specifying the role of the FD and its responding members to hazardous materials emergency events
- FD members expected to respond beyond the first responder level shall be trained to meet NFPA 472
- FD shall have the capacity to implement a RIC for when firefighters are subject to immediate danger of injury, for equipment failure, or other sudden events as per NFPA 1500
- If FD requires response levels beyond their capabilities they shall have procedures for initiating the response of available outside resources. FD will be limited to the specific operation functions their members have been trained for

<u>Annex "A" Explanatory material for Chapter 4:</u>

- Suppression capability is an expression of how much firefighting power can be put into action by a FD by reviewing all facets of the FD from manpower, apparatus, training, policies, etc…
- FD policies, developed to ensure uniformity and effectiveness in department actions and operations should be published, and circulated to the members with a requirement that they are read and understood
- A Comprehensive Emergency Management Plan (CEMP) should be developed by the local emergency planning committee, coordinated with community and private sector processes to meet legal requirements, and shall be exercised annually
- The CEMP should identify clearly the authority having jurisdiction for command responsibility for hazardous materials incidents
- Disaster planning should be coordinated at all levels of government in anticipation of large scale emergencies. NFPA 1600 assists in mitigating disasters

- FD reports are not only an accurate record of FD activities, but also assist in determining fire trends for establishing FD needs
- Dispatchers should have the authority to use judgment when they encounter situations that demand modification of normal assignments (as per FD guidelines)
- Where appropriate, mutual aid agreements should include predetermined automatic apparatus and personnel responses on first alarms
- Mutual aid concepts should be considered on a regional basis, noting that traditionally, and legally, the IC will be a senior officer from the jurisdiction having the emergency
- Special operations incidents can include:
  Rope rescue (including high angle)
  Water rescue
  Trench/collapse rescue
  Confined space rescue
  Extrication rescue
  Air/sea rescue
  Urban search and rescue (USAR)
  SWAT (special weapons and tactical team operations)
- The scope of FD activities and responsibilities assigned to the FD incidents requiring special operations should be outlined in the community's EMP
- For responses to unanticipated emergencies, the IC will evaluate the situation, the involved risks, the capabilities of the available resources, and consider the operational risk management guidelines before determining an action plan

CHAPTER 5 - SYSTEMS

Safety and Health System

- Regardless of the size of the FD, an occupational safety and health program as per NFPA 1500 shall be provided to protect the health and safety of the firefighters

Incident Management System (IMS)

- A FD, regardless of their size, shall provide an IMS as per NFPA 1561 to form the basic structure of all FD emergency operations
- The IMS shall be designed to manage all the different types of incidents a FD will handle

Training Systems

- FD shall have training policy and programs to train and maintain competency levels of their firefighters to efficiently, effectively, and safely execute the deployment requirements of the FD

Communication Systems

- FD shall have a reliable communications system to facilitate the delivery of all fire responsibilities and operations
- Communications equipment, facility, staffing and operating procedures shall with NFPA 1221
- Operating procedures shall provide standard protocols and terminology for all the different types of incidents the FD responds to
- Standard terminology as per NFPA 1561 shall be established to transit information while conducting emergency operations

Pre-Incident Planning

- FD shall develop operational requirements to conduct pre-incident planning with attention paid to target hazards

Annex "A" Explanatory Materials for Chapter 5:

- This standard serves as an umbrella for all specific fire service occupational health and safety documents
- The IMS is designed to effectively and efficiently manage all types and sizes of incidents and structures of varying complexity and scale by providing common terminology and an organizational structure capable of performing and controlling all essential functions within the IMS
- A regional fire communications system can serve individual or multiple jurisdictions, and be effective in reducing costs for involved FD's and allow communications between FD's at mutual aid responses
- NFPA 1620 outlines pre-fire planning standards

Appendix "B"

FIRE UNDERWRITERS SURVEY FIRE DEPARTMENT & GRADING REQUIREMENTS

Since there are so many variables in the FUS Grading System and since individual insurance companies determine rates on many factors, the FUS requirement should be referred to for information and not a reason to establish or enhance a fire department.

Fire Underwriters Survey

- Is a national organization directed by an independent private company
- Organization provides data on public fire protection for fire insurance statistics and underwriting purposes
- Advises municipalities of their community fire protection deficiencies and recommends improvements
- Qualified surveyors conduct full field surveys of fire risks and protection which are used to assess and establish the Public Fire Protection Classification (PFPC) for all communities, in particular those applying to commercial, industrial, multiple-dwelling, and institutional occupancies
- The FUS also uses the PFPC information to develop the Dwelling Protection Grade (DPG) which applies to one and two-family residential structures
- The overall intent of the grading systems is to provide a measure of the fire protection capabilities of a community to prevent and control major fires considering the fire risks present in that community
- The fire protection conditions for each community are measured against a recognized standard of fire protection

Public Fire Protection Classification (PFPC)

- The objective of the PFPC is to provide a national standard to help communities evaluate their public fire protection service for commercial risks
- This grading indicates how well communities are equipped to manage major fires that are not single-family dwellings
- Expressed on a scale from 1 to 10, with 1 being the best
- Normally, communities with a better classification benefit from lower insurance rates

- Many insurance companies group these grades into three categories – Protected, Semi-Protected, and Unprotected
- The grade is achieved by analyzing all relevant data from a comprehensive survey and review using various FUS survey forms for following areas:

Fire Risk

- forms the base of the evaluation as it determines the community's fire protection needs, building groups and zones, required fire flows for these buildings

Fire Department

- review of apparatus, equipment, staffing, training, operations, manpower distribution
- Valued at 40% of total PFPC grade

Water Supply System

- ability to access water for firefighting efforts
- 30% of total PFPC grade

Fire Prevention & Fire Safety Control

- programs, bylaws, managing the level of risk throughout their community
- 20% of total PFPC grade

Emergency Communications

- Systems, and ability to receive and dispatch
- 10% of total PFPC grade

Dwelling Protection Grade (DPG)

- The DPG is a fire insurance classification provided by FUS that reflects the ability (approximate measure) of a community's fire protection service to manage fires in one and two family dwellings
- The classification scale is numerical with a 1 to 5 grading scale, where 1 is the highest (best designation)
- In ***general***, the better the DPG designation, the lower the insurance premium
- This gathered information is then analyzed, evaluated, and then a grade designation is determined for the respective levels of fire protection service within each community

It is important to note that insurance companies have different fire-loss experiences and underwriting guidelines which means there is no consistency in premiums to the consumer

Typical Detached Dwelling Guidelines

- Effective square area of dwelling is not exceeding 334 sq. m. (3600 sq. ft.) excluding basement
- No unusual risks such as wood shake roofs
- No structural exposure exceeding 9.3 sq m. (100 sq. ft.) within 30 m.

Minimum Fire Station requirements for each DPG

- Recognized response areas are limited to 8 kms by continuously accessible roads
- Response times are expected to be delayed due to increases turn-out times for auxiliary firefighters as compared to on-duty firefighters
- FD's desiring fire insurance grading should be organized on a sound financial basis such as a tax levy
- Areas organized as a society will not be recognized because of difficulty of identifying and maintaining society members, and the lack of guaranteed funds to finance a year-round fire service
- These main factors are reviewed for a DPG designation based on - water works system, fire department (apparatus and firefighters as individuals sub-sections), and the PFPC minimum requirements
- The PFPC is only considered for DPG levels 1 and 2
- A DPG designation of 5 is for communities who do not meet 1 to 4, and have no fire protection

MINIMUM FIRE STATION REQUIREMENTS FOR A DPG of 3B

- In-ground water system with fire hydrants not required
- FD must be able to provide equipment, apparatus, training, and have access to water to deliver standard shuttle service in a timely manner, and in accordance with NFPA 1142
- Require 2 units – one a triple combination pumper, plus a mobile water supply with a combined water carrying capacity of not less than 6820 litres (1500 Imp Gallons)
- 15 auxiliary firefighters
- No PFPC required

More Minimum Criteria for each Fire Station with a DPG of 3B
Alternative water supply requirements

- To be recognized it must meet minimum criteria specified in NFPA 1142
- A formal plan for use of the water supplies must be in place detailing the points and characteristics

- Refill capacity using drafting techniques requires a pump with a capacity of 450 LPM (100 Igpm) at 275-415 (40-60 psi)

FD Apparatus

- Each fire hall with a DPG of 3B must include the following apparatus
- One triple combination pumper rated at not less than 3000 LPM (625 Igpm at 150 psi)
- One mobile water supply apparatus with a minimum carrying capacity of 4000 L (880 Imp. gals.), AND a permanently mounted pump with a minimum rated capacity of 1000 LPM at 1000 kPa (210 Igpm at 150 psi) net pump pressure
- Apparatus must be designed in accordance with ULC S515, or NFPA 1901
- The combined water carrying capacity of the two above units must be at least 6800 L (1500 Imp. Gals.), and a transfer system capable of supplying the pumper as needed
- Can accomplish by pumping or dumping into a portable tank with a minimum capacity of 4550 L (1000 Imp. Gals.)
- Apparatus must be stored in inside a suitably constructed and arranged fire hall

FD responding manpower

- 1 fire chief to respond
- 15 auxiliary FF scheduled to respond in addition to the number of personnel required to conduct mobile water supply operations

Emergency Communications

- must have an adequate and reliable system to receive calls and dispatch firefighters

Fire Protection Service Area

- must be clearly established and registered with the Provincial governments

MINIMUM FIRE STATION REQUIREMENTS FOR A DPG of 4

- Same as 3B, except may be allowed any one exception from 3B requirements
- This grade is reserved for communities who contract fire protection services from a FD with a DPG of 3B
- Any exception must be accompanied with a letter of intent to bring the exception to meet the 3B level within 12 months
- If more than one exception is found not to meet the minimum requirement for 3B, then a DPG of 5 is applied

<u>NOTE:</u> The absolute minimum number of auxiliary firefighters considered within the fire insurance grading is 10, and that the maximum age of apparatus that can be considered is 30 (as long as successfully pass annual tests)

More Minimum Criteria for a DPG of 4

- This grade level is reserved for communities that contract fire protection services from agencies with a DPG of 3B
- **Standpipes** are not eligible for insurance grading recognition
- Private water systems may be recognized with FUS documentation
- To receive full credit an auxiliary FF must live and work within 8 kms of fire hall – if can only meet this criteria for a portion of the year, it will be pro-rated for credit
- FF not required to pass CPAT, but must be medically evaluated and qualified for duty
- **Societies** may be recognized for fire insurance purposes where stability and reliability of the society can be verified by FUS

STANDARD TANKER SHUTTLE SERVICE

- If the shuttle service does not meet the minimum benchmarks as outlined in NFPA 1142 it will NOT be recognized
- To have a Standard Shuttle Service recognized a FD must have adequate equipment, training, continuous access to approved alternative water supplies, and the ability to deliver water in accordance with NFPA 1142
- A formal plan must be in place and available for review detailing the alternative water supplies and their characteristics
- Water supplies must be continuously accessible 24 hours per day and 365 days per year
- Refill capacity from alternative water supplies using drafting techniques requires a pump with a minimum capacity of 450 LPM (100 lgpm) at 275-415 kPa (40-60 psi)

Appendix “C”

FIRE UNDERWRITERS SURVEY

A SERVICE TO INSURERS AND MUNICIPALITIES

c/o FSS Information Systems and Management Consultants

Insurance Grading Recognition of Used or Rebuilt Fire Apparatus

The performance ability and overall acceptability of older apparatus has been debated between municipal administrations, the public fire service and many others for years. Fire Underwriters Survey (F.U.S.) has reviewed experiences across Canada and in other countries and has developed a standard for acceptance of apparatus as the apparatus becomes less reliable with age and use.

The public fire service is unique compared to other emergency services in that fire apparatus vehicles are not continuously in use. However, when in use, the apparatus is subject to considerable mechanical stress due to the nature of its function. This stress does not normally manifest itself on the exterior of the equipment. It is effectively masked in most departments by a higher standard of aesthetic care and maintenance. Lack of replacement parts further complicates long term use of apparatus. Truck and pump manufacturers maintain a parts inventory for each model year for a finite time. After that period, obtaining necessary parts may be difficult. This parts shortage is particularly acute with fire apparatus due to the narrow market for these devices.

F.U.S.'s lengthy experience in evaluating fire apparatus indicates that apparatus should be designed to an acceptable standard. The standard that is accepted throughout Canada by Fire Underwriters Survey is the Underwriters' Laboratories of Canada (ULC) Standard S515-04 titled, "Automobile Fire Fighting Apparatus," which was adopted as a National Standard of Canada in September 2004. Fire apparatus should be built by recognized manufacturers.

Fire apparatus should respond to first alarms for the first fifteen years of service. During this period it has reasonably been shown that apparatus effectively responds and performs as designed without failure at least 95% of the time. For the next five years, it should be held in reserve status for use at major fires or used as a temporary replacement for out-of-service first line apparatus. Apparatus should be retired from service at twenty years of age. Present practice indicates the recommended service periods and protocols are usually followed by the first purchaser. However, at the end of that period, the apparatus is either traded in on new apparatus or sold to another fire department. At this juncture, the unit may have one or more faults which preclude effective use for emergency service. These deficiencies include:

a. Inadequate braking system
b. Slow pick-up and acceleration
c. Structurally weakened chassis due to constant load bearing and/or overloading
d. Pump wear

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F.U.S. has modified its application of the age requirement for used or rebuilt apparatus. Due to municipal budget constraints within small communities we have continued to recognize apparatus over twenty years of age, provided the truck successfully meets the recommended annual tests and has been deemed to be in excellent condition. The specified service tests are outlined below under the heading "Recommended Service Tests for Used or Modified Fire Apparatus". Testing and apparatus maintenance should only be completed by a technician who is certified to an appropriate level in accordance with NFPA 1071, *Standard for Emergency Vehicle Technician Professional Qualifications*.

Insurance grading recognition may be extended for a limited period of time if we receive documentation verifying that the apparatus has successfully passed the specified tests. If the apparatus does not pass the required tests or experiences long periods of "downtime" we may request the municipal authority to replace the equipment with new or newer apparatus. If replacement does not occur, fire insurance grading recognition may be revoked for the specific apparatus which may adversely affect the Fire Underwriters Survey grades of the community. This can also affect the rates of insurance for property owners throughout the community.

Table 1 Service Schedule for Listed Fire Apparatus
For
Fire Insurance Grading Purposes

Apparatus Age	Major Cities	Medium Sized Cities or Communities Where Risk is Significant	Small Communities and Rural Centres
0 – 15 Years	First Line	First Line	First Line
16 – 20 Years	Reserve	2nd Line	First Line
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading *Reserve* [2]	No Credit in Grading *2nd Line* [2]
26 – 29 Years [1]	No Credit in Grading	No Credit in Grading *Reserve* [2]	No Credit in Grading *Reserve* [2]
30 Years and Older	No Credit in Grading	No Credit in Grading	No Credit in Grading

[1] *All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)*
[2] *Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.*

Table 2 Frequency of Listed Fire Apparatus Acceptance and Service Tests
For
Fire Insurance Grading Purposes

	Frequency of Test					
	@ Time of Purchase New or Used	**Annual Basis**	**@ 15 Years**	**@ 20 Years** *See Note 4*	**20 to 25 Years (annually)**	**After Extensive Repairs**
Recommended For Fire Insurance Purposes	Acceptance Test if new; Service Test if used & < 20 Years	Service Test	Acceptance Test	Yes	Yes	Acceptance or Service Test depending on extent of repair
Required For Fire Insurance Purposes	Acceptance Test if new; Service Test if used & < 20 Years	No	No	Acceptance Test	Acceptance Test	Acceptance or Service Test depending on extent of repair
Factor in FUS Grading	Yes	Service Test	Yes	Yes	Yes	Yes
Required By Listing Agency	Acceptance Test	No	No	No	N/A	Acceptance Test
Required By NFPA	Acceptance Test	Service Test	No	N/A	N/A	Acceptance Test

Note 1: See: 'Service Tests for Used or Rebuilt Fire Apparatus' for description of applicable tests
Note 2: Acceptance Tests consist of 60 minute capacity and 30 minute pressure tests
Note 3: Service Tests consist of 20 minute capacity test and 10 minute pressure test in addition to other listed tests

Note 4: Apparatus exceeding 20 years of age may not be considered to be eligible for insurance grading purposes regardless of testing. Application must be made in writing to Fire Underwriters Survey for an extension of the grade-able life of the apparatus.

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SERVICE TESTS FOR USED OR MODIFIED FIRE APPARATUS

The intent of this document is to ensure that all used or modified fire apparatus, equipped with a pump or used for tanker service, essentially meet the requirements of Underwriters' Laboratories of Canada (ULC) "Standard for Automobile Fire Fighting Apparatus" S515-04 or subsequent (current) editions of the Standard. Full adherence with the following specified tests is recommended when purchasing used apparatus.

1) **Weight Tests**

1.1) Load Balance Test: When fully laden (including a 460kg (1000 lbs) personnel weight, full fuel and water tanks, specified load of hose and miscellaneous equipment), the vehicle shall have a load balance of 22% to 50% of total vehicle mass on the front axle and 50% to 78% of this mass on the rear axle.

Distribution of mass of 33% and 67% respectively on the front and rear axles is preferable for a vehicle having dual rear tires or tandem rear axels.

For a vehicle having tandem rear axels and dual tires on each axle, a loading of between 18% and 25% on the front axle with the balance of mass on the rear axles is permissible.

2) **Road Tests**

2.1) Acceleration Tests:

2.1.1) From a standing start, the apparatus shall attain a true speed of 55 km/h (35 mph) within 25 seconds for Pumpers carrying up to 3,150 litres (700 gallons) of water.

For apparatus carrying in excess of 3,150 litres (700 gallons) or apparatus equipped with aerial ladders or elevating platforms, a true speed of 55 km/h (35 mph) in 30 seconds should be attained.

2.1.2) The vehicle should attain a top speed of at least 80 km/h (50mph).

2.2) Braking Test: The service brakes shall be capable of bringing the fully laden apparatus to a complete stop from an initial speed of 30 km/h (20 mph) in a distance not exceeding 9 metres (30 feet) by actual measurement. The test should be conducted on a dry, hard surfaced road that is free of loose material, oil and grease.

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3) **Pump Performance Tests**

3.1) Hydrostatic Test – Recent evidence of hydrostatic testing of the pump for 10 minutes at a minimum pressure of 3,400 kPa (500 psi). APPLICABLE TO NEW OR REBUILT PUMPS ONLY (see 3.3).

3.2) Priming and Suction Capability Tests

3.2.1) Vacuum Test: The pump priming device, with a capped suction at least 6 metres (20 feet) long, shall develop –75 kPa (22 inches of mercury) at altitudes up to 300 metres (1000 feet) and hold the vacuum with a drop of not in excess of 34 kPa (10 inches of mercury) in 10 minutes.

For every 300 metres (1000 feet) of elevation, the required vacuum shall be reduced 3.4 kPa (1 inch mercury).

The primer shall not be used after the 10-minute test period has been started. The test shall be made with discharge outlets uncapped.

3.2.2) Suction Capability Test: The pump (in parallel or series) when dry, shall be capable of taking suction and discharging water with a lift of not more than 3 metres (10 feet) through 6 metres (20 feet) of suction hose of appropriate size, in not more than 30 seconds and not over 45 seconds for 6000 L/min (1320 Igpm) or larger capacity pumps. Where front or rear suction is provided on midship pumps, an additional 10 seconds priming time will be allowed. The test shall be conducted with all discharge caps removed.

3.3 Pump Performance

3.3.1) Capacity Test: Consists of drafting water (preferably with a 10 feet lift) and pumping the rated capacity at 1000 kPa (150 psi) net pump pressure for a continuous period of at least 1 hour.

3.3.2) Pressure Test: Under the same conditions as in 3.3.1 above pumping 50% of the rated capacity at 1700 kPa (250 psi) net pump pressure for at least ½ hour.

For additional information on the above noted tests and test procedures, the following documents provide useful data:

(1) Underwriters Laboratories of Canada (ULC) Standard S515-04 "Standard for Automobile Fire Fighting Apparatus, latest edition.

(2) Fire Underwriters Survey (FUS) publication titled "Fire Stream Tables and Testing Data" latest edition.

(3) International Fire Service Training Association (IFSTA) publication title "Fire Department Pumping Apparatus", latest edition.

(4) National Fire Protection Association (NFPA) 1901 Standard title "Pumper Fire Apparatus", latest edition.

(5) National Fire Protection Association (NFPA 1911 Standard titled "Service Tests of Pumps on Fire Department Apparatus" latest edition.

For further information regarding the acceptability of fire apparatus for insurance grading purposes, please contact:

Michael Currie, AScT.
Public Fire Protection Specialist

Fire Underwriters Survey
CGI Information Systems and Management Consultants
3999 Henning Drive, Suite 101
Burnaby, BC, V5C 6P9

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Appendix “D” NFPA 1901

NFPA 1901

Annex D
Guidelines for First Line and Reserve Apparatus

D.1 Brief Summary: In order to maximize firefighter capabilities and minimize their risk of injuries, it is most important that fire apparatus be equipped with the latest safety features and operating capabilities. In the last 10-15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus built prior to 1991 might have a few of the safety upgrades required by the 1991 and subsequent editions of the NFPA fire department apparatus standard or the equivalent Underwriters' Laboratories of Canada (ULC) standards. Because the changes, upgrades and fine tuning to NFPA 1901 since 1991 have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to firefighters by keeping pre-1991 fire apparatus in first line service.

The 1991 edition of the NFPA fire department apparatus standards included among many other things, requirements for fully enclosed riding areas, stronger aerial ladders, auxiliary braking systems, reflective striping, improved warning lights and no roof mounted audible warning devices. This edition has been recognized as the current "benchmark" from which the new, improved apparatus have evolved. It is recommended that only apparatus that meets the 1991 or later editions of NFPA apparatus standards or that is refurbished in accordance with NFPA 1912, be permitted to operate in first line service to ensure that the latest improvements and upgrades are available for the firefighters.

It is recommended that apparatus built to meet the 1979 or 1985 editions of NFPA 1901 (or equivalent ULC Standards) be placed in reserve status and upgraded to incorporate as many features of the post 1991 fire apparatus as possible (see Section D.3 of this Annex). Apparatus not built to NFPA apparatus standards or manufactured prior to 1979 (over 24 years old) should be considered for upgrading or replacement.

D.2 Discussion: It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. How long that is depends on many factors. Some of those are mileage, quality of the preventative maintenance program, quality of the driver training program and rules enforcement, quality of the original builder and components, availability of parts, and custom or commercial chassis to name a few. In the fire service there are fire apparatus with 8-10 years service that are just plain worn out. There are also fire apparatus that were built with quality components, that had excellent maintenance and that have responded to a minimum number of runs that are still serviceable after 20 years. Most would agree that the quality and timeliness of maintenance are perhaps the most significant factors in determining how well a fire apparatus ages.

Prior to 1991, the fire department apparatus standards were basically "reactive standards." That is to say, if something proved out in field use for a few years, it might have been suggested for inclusion in NFPA 1901. It was a very basic standard. After forming a Safety Task Group within the Fire Department Apparatus Committee in the late 1980's and looking at the current status of the standard, the Committee decided to become pro-active and to greatly enhance the value of the standard for the fire service.

The completely revised 1991 edition was the result of the efforts of many task groups and the full committee's strong desire to make the automotive fire apparatus standards more "safety oriented and user friendly." In 1991, actually four standards were issued; they were Pumper Fire Apparatus (NFPA 1901), Initial Attack Fire Apparatus (NFPA 1902), Mobile Water Supply Fire Apparatus (NFPA 1903) and Aerial Ladder and Elevating Platform Fire Apparatus (NFPA 1904).

Contained within the 1991 editions of the fire department apparatus standards were requirements for such items as: increased battery capacity to ensure starting under most conditions, intersection lights for increased visibility, removal of all roof mounted audible warning devices to reduce hearing problems, a flashing light in cab to warn if a cab or body door is open, a back up alarm, an automatic transmission to make it easier to drive (unless the purchaser had a specific reason for a manual transmission), fully enclosed riding areas with reduced noise (dba) levels to keep the crew members safe, warm (or cool) and informed as to what is happening, seat belts and seats for all crew members riding on the apparatus, fail safe door handles so the sleeve of a coat will not inadvertently catch a handle and open a door, and signs requiring everyone to be seated and belted.

In the pump area, the standard specified that 3" or larger valves be "slow close", caps be tested to 500 psi, an intake relief valve be provided to help manage incoming pressure, 30 degree sweep elbows be provided on the discharges to eliminate hose kinking, and all 3" and larger discharges be eliminated from the pump panel to reduce the possibility of injuries to the pump operator.

In the body area, the minimum step surface size and load carrying capabilities were increased, handrails were required to be slip resistant and reflective striping was required on all four sides of the apparatus. Electrical system requirements for line voltage were upgraded to require the use of "listed" components that are grounded.

Many requirements were added to increase the operating capabilities of all aerial devices. For aerial ladders, the minimum design strength of the rungs was increased, a height requirement for the hand rails was specified, a minimum load carrying requirement for folding steps was specified and the aerial ladder had to have a minimum carrying capacity of 250 pounds at the tip at 0 degrees elevation at maximum extension. Where a water tower was equipped with a ladder, the same requirements as applied to an aerial ladder were required of the ladder on the water tower.

The carrying capacity of elevating platforms at 0 degrees full extension was raised to 750 pounds. Elevating platforms were also required to have handrails, breathing air available in the platform (with low air warning capability) for at least two firefighters, and a water curtain cooling system under the platform.

All aerial devices had to be capable of supporting a static load of 1½ times their rated capacity in any position. A requirement for a stabilizer movement alarm and reflective striping with

warning lights was added. Interlocks to prevent inadvertent movement to an unsupported side and to prevent raising the aerial device prior to the stabilizers being deployed were specified. 100% non-destructive tests became a requirement with increased safety and strength of materials being required.

And all this happened in just the 1991 editions of the NFPA apparatus standards. Subsequent revisions in 1996 and 1999 further enhanced the safety and operating characteristics of all of the apparatus. As an example the 1999 edition included chapters on "Quints" and mobile foam apparatus, further defined slip resistance of stepping and walking surfaces, called for better mounting of equipment in the driving and crew compartment, required pre-delivery testing of foam systems and specified that fill stations for breathing air cylinders be designed to totally contain a rupturing cylinder.

D.3 Upgrading or Refurbishing Fire Apparatus: Any apparatus, whether in first line or reserve service, should be upgraded as necessary to ensure the following features are included as a minimum:

1. **Fully enclosed seating is provided for all members riding on the fire apparatus**
2. **Warning lights meet the current standard**
3. **Reflective striping meets the current standard**
4. **Slip resistance of walking surfaces and handrails meets the current standard**
5. **A low voltage electrical system load manager is installed if the total continuous load exceeds the alternator output**
6. **Where the GVWR is 36,000 pounds or more, an auxiliary braking system is installed and operating correctly**
7. **Ground and step lights meet the current standard**
8. **Noise levels in the driving and crew compartment(s) meet the current standard** *(See NFPA 1500)*
9. **Engine belts, fuel lines, and filters have been replaced in accordance with the manufacturers maintenance schedule(s)**
10. **Brakes, brake lines and wheel seals have been replaced or serviced in accordance with the manufacturers' maintenance schedule**
11. **Tires and suspension are in serviceable condition**
12. **All horns and sirens are relocated from the roof to a position as low and far forward as possible**
13. **Seat belts are available for every seat and are new or in serviceable condition**
14. **Sign plates are present stating no riding on open areas**
15. **A complete weight analysis shows the fire apparatus is not over individual axle or total GVW ratings**
16. **The fire pump meets or exceeds its original pump rating**
17. **Alternator output meets its rating**
18. **Water tank and baffles are not corroded or distorted**
19. **A transmission shift pump interlock is present and working properly on vehicles equipped with an automatic transmission**
20. **All loose equipment in the driving and crew areas is securely mounted to prevent its movement in case of an accident**
21. **The radiator has been serviced in accordance with the manufacturers' maintenance schedule and all cooling system hoses are new or in serviceable condition**
22. **If so equipped, the generator and line voltage accessories have been tested and meet the current standard**
23. **If equipped with an aerial device, a complete test to original specifications has been conducted and certified by a certified testing laboratory**

Fire department administrators and fire chiefs should exercise special care when evaluating the cost of refurbishing or updating an apparatus verses the cost of a new fire apparatus. A thorough cost/benefit analysis of the "value" of upgrading or refurbishing a fire apparatus should be conducted. In many instances it will be found that refurbishing costs will greatly exceed the current value of similar apparatus.

Apparatus not built to NFPA apparatus standards or manufactured prior to 1979 (over 24 years old) should be considered for upgrading or replacement.

Appendix “E” Clearing the Smoke on Standards

A **ULC** plate with this mark, affixed to the apparatus is nationally recognized as *your guarantee* that it has been thoroughly tested and complies with applicable Canadian standards.

Correct ULC References

"ULC Listed" or "ULC Listed to Canadian safety standards."
"Listed by Underwriters' Laboratories of Canada".
"This product is Listed to applicable Canadian National Standards and requirements by Underwriters' Laboratories of Canada"
"This product is Listed by Underwriters' Laboratories of Canada. Representative samples of this product have been evaluated by ULC and meet applicable safety standards."

Incorrect References

"ULC Approved" or "ULC Approved for Canada"
"ULC Certified"
"This mark has earned the ULC Listing Mark."
"ULC Listing pending."

Don't be fooled!

Don't be fooled by incorrect references. Check the exact wording and the correct **ULC** mark. If in doubt, search the **ULC's** online directory at www.ulc.ca, or contact **ULC** directly to verify the manufacturer's claims.

Firefighting apparatus – Is it certified to the right Canadian standard?

by Jack Robertson

A fire truck is one of the single largest capital investments a fire department will make. To protect that investment, purchasers should take every precaution to ensure they are not only getting value for their money, but also getting what they wanted in the first place. No matter what process is used, the piece of equipment that arrives at the fire hall should be exactly what was ordered. There are two ways to get that level of confidence: first, the equipment should be certified by an accredited certification organization; and second, the certification of the equipment should be in full conformance with the appropriate standard.

Equipment "certified" by an accredited certification organization is not necessarily the same thing as equipment that "conforms to" or "meets" a certain standard. There is a difference.

Being certified by an accredited product certification body communicates to prospective buyers that the supplier is committed to safety. It also shows that the manufacturer has met the requirements for performance, safety and/or quality, as described by a nationally recognized standard. This process includes an audit of the facility and testing of the product. A product that meets the necessary criteria may be "listed," and a description of the supplier, along with a list of products and services, is displayed on a certified product list. The online version of this list is accessible to all, including purchasers, government, corporations, retailers and the public.

Even if equipment has been certified, purchasers still need to consider what organization certified it. Any company can say that a firefighting apparatus meets a standard, but is the company actually qualified to make this statement? If so, by whom? However, if that piece of firefighting apparatus is certified by an independent third-party organization accredited in Canada by the Standards Council of Canada (SCC), it has been done so by a qualified body.

How can this all be verified? Simple – a piece of firefighting apparatus that has been certified by Underwriters' Laboratories of Canada (ULC) will have a label complete with a certification mark. Furthermore, the purchaser can always request a copy of the report from the manufacturer.

ULC has published a completely revised standard for firefighting apparatus, CAN/ULC-S515, Automobile Fire Fighting Apparatus. This Standard defines the minimum performance requirements for new automobile firefighting apparatus, such as pumpers, water tank trucks, ladder trucks and aerial devices used for structural firefighting in a municipal fire service. With input from key stakeholders, including manufacturers, fire authorities, insurance industry, regulators and the general public, the Standard reflects the needs of Canadian fire departments. It includes unique Canadian requirements, such as road performance test requirements that specify balance and weight distribution, for the safety of both firefighters and the general public. A new requirement is that automatic or manual engine shutdown is no longer mandatory. This is left as an option for the purchaser. However, some local regulatory authorities and insurance groups may take steps to make this requirement mandatory.

The preface of the Standard also recommends that firefighting apparatus "be certified by an independent third-party certification organization accredited by the Standards Council of Canada," thereby reinforcing earlier statements.

(originally published by Underwriters' Laboratories, The Fire & Security Authority, Issue 1, 2006)

Why ULC?

Why is **Underwriters' Laboratories of Canada** the authority on fire fighting apparatus? For all of these reasons, and more.

1. **Underwriters' Laboratories of Canada (ULC) is an independent, not-for-profit product safety testing and certification organization.**
2. **ULC** has tested products for public safety for more than 80 years.
3. **ULC is accredited by the Standards Council of Canada as a Certification Body, Testing Organization, Inspection Body and Standards Development Organization.**
4. **ULC** is recognized by the American National Standards Institute and more than ten other organizations around the world for various aspects of their work.
5. **ULC is the only laboratory accredited by Standards Council of Canada for the testing of Automobile Fire Fighting Apparatus.**
6. The **ULC** certification means that a product, or system, has been evaluated, tested and complies with applicable **Canadian** standards.
7. **As an independent and reputable third-party safety testing and certification organization, ULC provides a thorough and unbiased product evaluation.**
8. Certification also means that manufacturers will receive on-going auditing through the **ULC** follow-up services program.
9. **ULC is accredited by the Standards Council of Canada, under the National Standards System.**
10. A **CAN/ULC-S515-04** inspection is done in person by a representative of ULC and includes a review of construction methods, operator and passenger safety, electrical performance tests, road tests, pump performance, weight full and empty, and acceleration and braking tests. ***An apparatus must pass all tests at the factory before a ULC plate is issued.***

For more information about **ULC** visit www.ulc.ca.

What about NFPA?

While the U.S. based **National Fire Protection Association (NFPA)** has and continues to make valuable contributions to the protection of society, the standards they recommend are based **on a consensus of opinion, and not necessarily on sound research.** In addition, this association **"does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its Codes and Standards."***

NFPA does not verify the methods by which apparatus are made by any particular manufacturer. **They do not "list, certify, test or inspect products, designs, or installations for compliance with NFPA Codes and Standards."*** Any claims made by a manufacturer in regard to compliance with **NFPA** codes or standards are **"solely the responsibility of the certifier or maker of the statement."***

As a result, the NFPA cannot attest to the quality of any product, device, or apparatus.

In contrast, **ULC** standards are not set simply because they have been agreed upon by many different people, but are based on the findings of actual testing. **Manufacturers cannot claim to be in compliance with ULC standards, but are subject to on-going audits.** Before any apparatus receives a **ULC** plate, it is thoroughly and objectively inspected and evaluated in person by a representative of **ULC**.

*NFPA Notice and Disclaimer from www.nfpa.org.

ULC provides a thorough and unbiased product evaluation that guarantees the quality of materials, workmanship, and performance of every apparatus that receives their approval.

Appendix "F" Summary of Bill C-45

Summary of Bill C-45

May 2004

An Act to Amend the Criminal Code (Criminal Liability of Corporations)

Legislative History

Bill C-45 was passed by the House of Commons and Senate on October 30, 2003 and given Royal Assent on November 7, 2003. The amendments became law on March 31, 2004.

The Bill was referred to the Standing Committee on Justice and Human Rights after Third Reading for Committee review as is the customary practice. CCA had requested an opportunity to make submissions to the Committee as part of that review prior to Third Reading. The Committee, however, decided not to hold public hearings and immediately sent the Bill back to the House for swift passage.

Background: Rationale for the Proposed Amendments

The *Criminal Code* amendments outlined in Bill C-45 are in part a response to the findings of the Westray mining disaster public inquiry. On May 9, 1992, 26 miners died after an explosion at the Westray coal mine in Plymouth, Nova Scotia. A subsequent inquiry laid blame on Westray management and two provincial government departments.

The Westray experience brought attention to the current difficulty in finding criminal liability on the part of *corporations*, (see explanation below). It also contributed to a perceived need for a clear statement in the *Criminal Code* that wanton or reckless disregard for the safety of workers and the public at large in a workplace setting is a criminal offence.

Bill C-45 introduces amendments to the Criminal Code that amend the definition of "everyone" and "person" to include "an organization". It also establishes rules for attributing criminal liability to organizations, including corporations, for the acts of their representatives and also creates a legal duty for all persons directing work to take "reasonable steps" to ensure the safety of workers and the public.

Criminal Liability of Corporations

A corporation can only be convicted of a crime by attributing culpability to the corporation for the misconduct of individuals. The basic question becomes how high up, at what level of the corporate ladder, must individuals be before their actions or omissions and intentions can be said to be those of the corporation. Currently Canadian Courts employ an "identification" theory as the basis for determining the existence of corporate liability. This theory assigns criminal liability to a company when certain senior employees, namely the "directing minds" of the corporation, commit a crime. Case law has held that the only persons who can become a directing mind of the corporation are those individuals who exercise decision-making authority in matters of corporate policy.

The two necessary elements for a crime are the criminal act (*actus reus)* and the necessary mental intent (*mens rea*). Both must be present. However, rarely in modern corporations, especially large ones, do high-level corporate officials personally engage in the specific conduct or make the specific decisions that result in criminal acts such as criminal negligence (i.e. wanton or reckless disregard for the safety of others that results in bodily injury or death). As a result the two necessary elements rarely exist in the same "directing mind". They may,

however, create or contribute to a corporate environment where subordinate managers, supervisors and employees feel encouraged or even compelled to cut corners on health and safety, even in the face of legal prohibitions or official corporate policy.

The amendments seek, where the crime is one of criminal negligence, to base corporate criminal liability on the actions and the moral fault of the corporation as a whole. This would include the failure of managerial officers who reasonably ought to have known what was happening or who were not reasonably diligent in establishing or monitoring mechanisms for compliance with corporate policies.

The amendments also are intended to expand the class of persons capable of engaging the liability of the corporation to include individuals who exercise delegated, operational authority.

In summary, the Bill C-45 amendments respecting organizational criminal culpability have the following intent:

- To ensure that the attribution of criminal liability to corporations and other organizations is no longer dependent upon a senior member of the organization with policy-making authority (i.e. a "directing mind" of the organization), having committed the offence.

- In order to attribute the physical and mental elements of criminal offences to corporations and other organizations, **it will no longer be necessary to demonstrate both elements in the same individual**.

- The class of personnel whose acts or omissions can supply the physical element of a crime (i.e. *actus reus*) attributable to a corporation or other organization is expanded to include <u>all</u> employees, agents and contractors.

- For negligence-based crimes, the mental element of the offence (i.e. *mens rea*) will be attributable to corporations and other organizations through the aggregate fault of the organization's "senior officers" (which include those members of management with operational, as well as policy-making authority).

- For crimes of intent or recklessness, criminal intent will be attributable to a corporation or other organization where a senior officer is a party to the offence, or where a senior officer has knowledge of the commission of the offence by other members of the organization and fails to take all reasonable steps to prevent or stop the commission of the offence. Where a subjective intent is required, the amendments make it a requirement that in order to prove that a "directing mind" or a person exercising operational authority formed the requisite intent for the commission of the crime and had the intention, at least in part, of benefiting the corporation.

<u>Workplace Safety and the Criminal Code</u>

With the Federal Government's 11th hour passage in November of Bill C-45, some in the construction industry began predicting doom and gloom for construction company executives and managers. Their dire warnings remain that the effect of these amendments is to create a new criminal liability for workplace safety that could inflict severe criminal penalties on construction corporate executives and managers for workplace safety breaches.

The fact is that there is only one new provision dealing with workplace safety. It arguably does not introduce a new criminal offence related to workplace safety but simply clarifies that there is a legal duty on the part of those who direct the work of another to do so in a manner that is not criminally negligent.

The *Criminal Code* currently has the following provisions:

Criminal negligence	**219.** (1) Every one is criminally negligent who (a) in doing anything, or (b) in omitting to do anything that is his duty to do, shows wanton or reckless disregard for the lives or safety of other persons.
Definition of "duty"	(2) For the purposes of this section, "duty" means a duty imposed by law.
Duty of persons	**217.** Every one who undertakes to do an act is under a legal duty to do it if an undertaking acts omission to do the act is or may be dangerous to life.

Bill C-45 introduces new Section 217.1 as follows:

Duty of persons	**2.17.1** Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.

Section 217.1 creates an express legal duty for those who direct others in their work to take reasonable steps to prevent bodily harm to that person or any other person, arising from that work.

There is some confusion as to whether or not this provision clarifies an existing legal duty or in fact has the effect of introducing a new legal duty. In addition, there is some question as to whether or not it introduces a standard of expected care that is more akin to civil negligence, (i.e. **"reasonable steps"**), than criminal negligence, (i.e. **wanton or reckless disregard**).

The Federal Government in its November 2002 response to the report of the Standing Committee clearly states that it is not the intent to codify a new offence that is subject to a civil rather than criminal standard:

> "The Government does not intend to use the federal criminal law power to supplant or interfere with the provincial regulatory role in workplace health and safety. At the same time, the Government believes that the criminal law can provide an important additional level of deterrence if effectively targeted at – and enforced against – companies and individuals that show a reckless disregard for the safety of workers and the public."
>
> *(Government Response to the Fifteenth Report of the Standing Committee on Justice and Human Rights, November 2002)*

Furthermore, Mr. Macklin, the Parliamentary Secretary to the Minister of Justice, said this about the new Section 217.1:

> "The importance of having such a duty in the Criminal Code is that if there is a breach of that duty, wanton and reckless disregard for the life or safety of people, and injury or death results from that breach, a person can be convicted of criminal negligence causing death which is

> punishable by up to life imprisonment, or criminal negligence causing bodily harm, which is punishable by up to 10 years imprisonment." (underlining added)

In short, the legislative intent would appear to be to make it clear that the criminal negligence provisions in the *Criminal Code* do in fact apply to a workplace setting. In addition, the intent would appear to be to hold this new/clarified legal duty to the same criminal negligence standard, i.e. wanton or reckless disregard, and not simply some provincial due diligence standard.

Penalties

Organizations cannot be imprisoned and so the *Criminal Code* provides for fines. The proposed legislation increases the maximum fine on an organization for a summary conviction from
$25,000 to $100,000. There are no maximum fines established for indictable offences. The Bill proposes no change.

CCA's Response

Due to concerns expressed by some that the amendments created a *new* criminal liability which simply duplicated provincial workplace safety legislation, CCA wrote to the Minister of Justice seeking assurances as to the intent and effect of these amendments. In short, CCA wanted to make sure that failure to achieve provincial due diligence standards with respect to provincial workplace safety legislation would not become a criminal act under the new amendments.

A response was received from the Minister of Justice in a letter dated April 8, 2004. It clearly states that the amendments are not intended to create new offences or to make breaches of provincial workplace safety laws a criminal offence. A crime results only where the person responsible is criminally negligent, i.e. has demonstrated a wanton and reckless disregard for the lives and safety of others.

This was the response CCA had anticipated based upon its initial review of the amendments.