



Alberni-Clayoquot Regional District
Fire Strategic Plan
Alberni Valley and Bamfield

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Executive Summary

The Alberni Valley and Bamfield are protected by five fire departments. These are the Bamfield Volunteer Fire Department, the Beaver Creek Volunteer Fire Department, the Cherry Creek Fire Department, the Port Alberni Fire Department and the Sproat Lake Volunteer Fire Department. Of these, Bamfield, Beaver Creek and Sproat Lake are Alberni Clayoquot Regional District (ACRD) fire departments. Cherry Creek is controlled by the Cherry Creek Water Works District and the Port Alberni Fire Department by the City of Port Alberni. There are two other fire departments within the ACRD at Tofino and Ucluelet however they were not part of this review.

With the exception of Bamfield, the remaining four fire departments are contiguous and located at the head of the Alberni Canal. As a result they regularly interoperate under an existing mutual aid agreement and are each dispatched by the North Island 9-1-1 Corporation in Campbell River. In terms of staffing, the Port Alberni Fire Department is a fully career department while every other fire department in the ACRD is a volunteer department. Three of the fire chiefs receive an honorarium; one receives a half salary while the chief in Port Alberni is fully paid.

There is a considerable disparity in the number of calls responded to by each department. Out of a total of 4,300 incidents between 2007 and 2009 the call volume ranged from Port Alberni with 82.9% of all calls, Beaver Creek with 7.4%, Sproat Lake with 4.9%, Cherry Creek with 4.6% to Bamfield with 0.2%.

The review of the fire departments and the development of a strategic plan for the regional departments focused on a number of key issues, principally related to safe and timely response to the public. Without exception, each chief and deputy understood the importance of training and safe operation and in every case the chiefs expend a great number of hours to this end.

At the same time the fire chiefs concurred with regard to a number of major initiatives that would enhance their ability to safely manage their departments. These included the need for a fire services coordination role at a minimum for the three ACRD fire departments. The position of fire services coordinator within many regional districts in BC is well established and those individuals provide focus and support with regard to training, procurement, budgets and record management. Implementation of a fire services coordinator on a half time basis is one recommendation of this report and there are options whether this is a new position, or defined as additional duties for a member of one of the participating fire departments.

One key role a fire services coordinator would play would be in support of proper record keeping, especially with regard to fire fighter training. The requirement not only to train fire fighters, but to also to completely record that training including signoff by the student

is not an option. For the most part systems to provide this are not present in the ACRD fire departments and it is strongly recommended that a fire record management system (RMS) be implemented, probably as a regional district service.

Issues related to training itself were well canvassed in discussions with the fire chiefs and the regional district staff and the further development of the existing regional training site is recommended. The regional training site has the potential to meet most if not all of the training requirements for fire fighters in each of the departments. The existing shared approach to this facility should be encouraged and expanded to ensure that the smallest fire department (Bamfield) can regularly receive training at an appropriate site, with competent trainers.

The present organizational model for the three regional district fire departments is consistent in principle with similar departments in other parts of BC however in the case of the ACRD departments the various bylaws are very out of date and require updating. In some cases they do not properly describe the services being provided, in others they adopt standards that cannot possibly be met. The review of the bylaws should also consider the ways in which existing interoperability can be enhanced between Port Alberni, Beaver Creek, Cherry Creek and Sproat Lake.

At the present time there is a mutual aid agreement however a better solution will be the implementation of an automatic mutual aid agreement. The latter will require some further degree of discussion and agreement as one of the players would be Cherry Creek, which is not an ACRD fire department. There will also be a requirement to work with the dispatch provider to revise the dispatch protocols to ensure that the map-based system appropriately responds all units to calls correctly, regardless of the location. Automatic mutual aid will also require an additional focus with regard to training and certification to ensure that when crews from more than one department are assembled at the scene of a fire that there is complete concurrence with regard to their competence, especially for an interior attack.

In summary it should be noted that all aspects of this review were positive in terms of the information received, the feedback to questions and the willingness to work cooperatively to improve fire safety to the public. The meetings with the fire chiefs, the professional staff from the ACRD and the discussions with the Cherry Creek Water Works officials were all conducted at a very high level and there should be a good level of support for the recommendations going forward.

Background

The Alberni Clayoquot Regional District (ACRD) is currently directly responsible for the management and operation of three rural volunteer fire departments. In addition, there are two other fire departments in the Alberni Valley – the Port Alberni Fire Department governed by the City of Port Alberni, and the Cherry Creek Fire Department, governed by the Cherry Creek Water Works District. The governance structure, however, has evolved autonomously over the years, and there is no central, coordinating function for the various fire services. Given the current standards applicable to risk management, occupational health and safety and litigation, and the need to ensure both efficiency and effectiveness, a review of fire service operations is warranted.

Scope of Work

The goal in conducting the review was to modernize the structure as required, to ensure that the ACRD can continue to provide cost-effective, competent fire services in the areas for which it is responsible. This project includes the following:

1. Review of the current structure, including how it is viewed by the interested parties (the Fire Chiefs and Deputy Chiefs, the ACRD Board and Regional Staff);
2. Development of recommendations to clarify and improve governance functions and reporting lines and authorities, including the potential creation of a Fire Services Coordinator position;
3. Development of recommendations as to the potential streamlining of service areas and responsibilities;
4. Development of recommendations as to proficiency criteria and remuneration standards for Fire Chiefs and Deputy Fire Chiefs for departments operated by the ACRD; and
5. Review of the current fire prevention / fire education function and the development of recommendations as to potential changes in the way it operates.

Methodology

To meet the terms of the RFP, the fire services strategic plan was designed to include the following steps.

1. Conduct a thorough analysis of the existing structure, including:
 - a. Review existing establishment and related bylaws;
 - b. Review the governance and operating structures used in other jurisdictions in BC; consider additionally, the models utilized in other Provinces; and
 - c. Review the existing fire prevention and training functions and make recommendations related to possible synergies and improvements.
2. Meet with the following interested parties to review the current structure's strengths and weaknesses, as well as various related issues (chiefs' proficiency requirements, operating guidelines, implementation of a fire prevention / education function):
 - a. The Fire Chiefs & Deputy Chiefs;
 - b. Regional Staff;
 - c. The Board (or a committee of the Board); and
 - d. Other groups or individuals as may be identified in consultation with the ACRD.

The schedule and number of meetings to be developed in consultation with the ACRD.

3. Review the existing fire prevention / education function based on input from the meetings and develop recommendations on revising the function as may be required.
4. Review the existing service delivery areas in terms response times to all fire department incidents and identify potential improvements in response to the public.
5. Develop and recommend criteria establishing minimum proficiency requirements for Chiefs, including any grandfathering or similar provisions.

6. Develop draft recommendations on structure, reporting lines and authorities for managing the regional fire departments in the most efficacious manner (including direction as to what bylaw changes will be required).
7. Present draft report to the ACRD (or a committee thereof). Subject to the ACRD's view, a copy of the draft could also be provided to the participants in the meetings for their feedback as well.
8. Finalize report.
9. Present final report to the ACRD.

Fire Service Core Functions

One of the principal requirements for a fire department is to provide timely response to emergency fire, rescue and medical assist events. This is in addition to the non-emergency responses such as fire inspections, public education, pre-planning and other less visible activities. The former activities are the ones with the highest profile, and the ones with the largest degree of risk to residents, property owners and responding fire fighters; for all of these, the NFPA 1221¹ standard applies in terms of emergency call handling and dispatch.

In every sense of the expression, fire, rescue and medical responses are 'mission critical' and it is useful to understand the series of steps that must take place between the call for assistance by a resident and the arrival on scene of a fire department crew. Each of the steps that will be described can in most cases be analyzed to understand the total time until arrival of fire fighters using real-time data from existing systems². Where this data is non-existent in a computer aided dispatch (CAD) system, it can be measured by direct observation.

Figure 1 that follows summarizes the processes from the point at which an incident occurs and a call for help is placed. This illustrates how the communication steps (the 9-1-1 process is shown in light blue/green, the fire dispatch is shown in orange) are gating items for the completion of response and arrival activities of the fire service (shown in red).

¹ NFPA 1221: Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2010 edition, ©National Fire Protection Association. The National Fire Protection Association is an international collaborative organization that establishes peer-reviewed standards for various aspects of the fire services and other emergency agencies.

² This data would be found in computer aided dispatch or record management systems; The North Island 9-1-1 Corporation has data suitable for analysis from their CAD system.

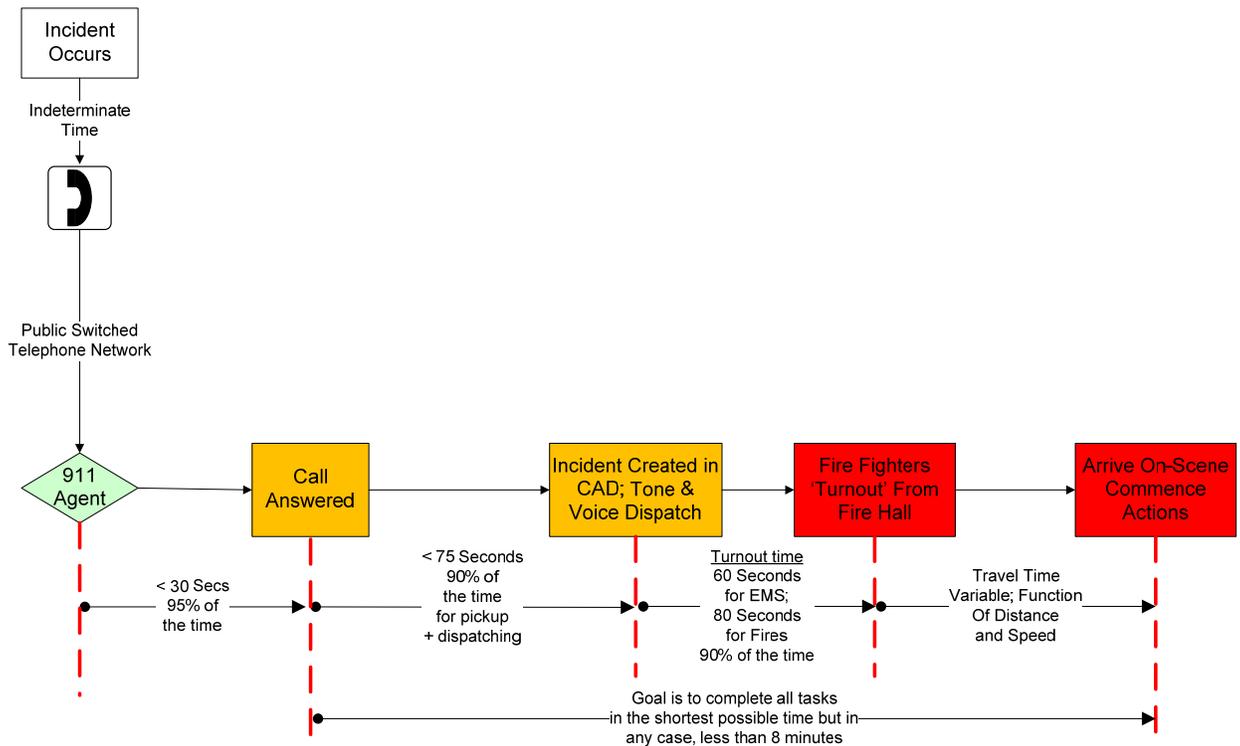


Figure 1: Event Sequence for Emergency Call Handling, Response and Arrival

Each of these steps from the time the caller reaches the 9-1-1 centre, until the arrival of the fire apparatus at the scene is part of a sequence for which peer reviewed response time objectives have been identified. The standards of service for emergency communications in the fire service are described in the NFPA Standard 1221 as noted. This standard provides an analysis model for key steps involved with emergency call taking and dispatch and prescribes time milestones in which these should occur³. It should also be noted that the call management response time objectives in NFPA 1221 apply equally to the career, composite and volunteer fire services.

Figure 2 is taken from the NFPA 1221 standard, and identifies four key processes with time milestones.

1. The time to place a call to 9-1-1 and to have it successfully 'down-streamed' to the fire department (30 seconds).
2. The time to pick up, or answer the call reporting an emergency (15 seconds).

³ NFPA 1221 additionally defines a standard with regard to business continuity, security, power and other system redundancy, CAD system operation, etc

3. The time to interrogate the caller, determine the emergency, create a 'dispatchable' event in the CAD system and alert crews (60 seconds).
4. The time for responders to 'turnout' from the fire hall and begin their response to the scene (60 seconds for EMS calls, 80 seconds for fires)⁴.

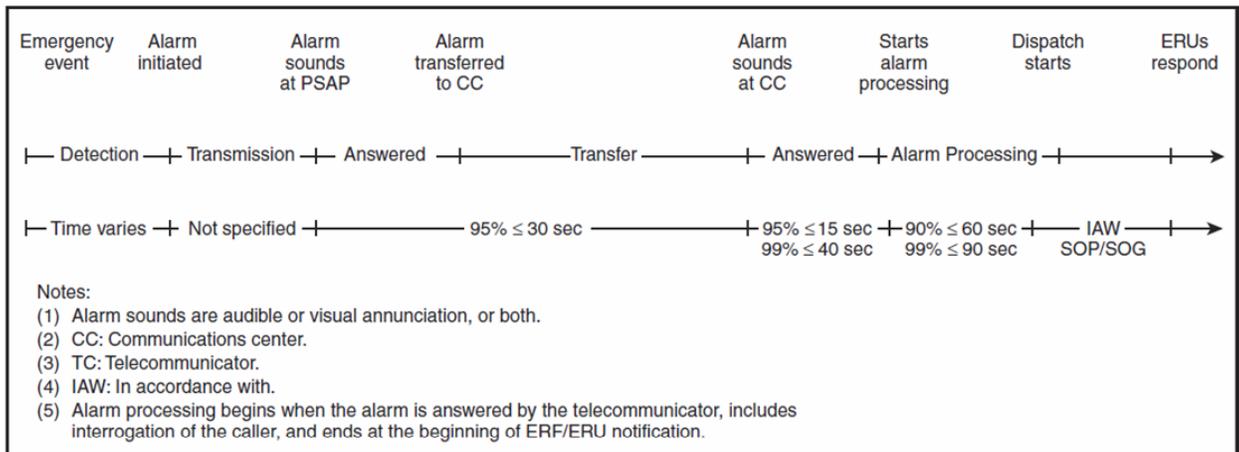


Figure 2: NFPA 1221: Emergency Call Management Analysis

In the Figure 2 there are two timelines. The upper line describes the steps which occur from the moment at which the emergency event occurs, until the units respond to the incident. The lower line identifies the elapsed time at which these are expected to occur.

The overall process described above, with response time objectives can be described in the following manner.

- Emergency Event.
 - An emergency occurs (this can be either a fire or medical incident⁵).
 - Until emergency services are notified in the following steps, this emergency has not yet been noticed or reported.

⁴ This standard to turn out from the fire hall applies only to career units, i.e., ones that have their staffing complement 'on duty' at the time call is received. This standard would apply to a department like the Port Alberni Fire Department. Response standards for volunteer and composite departments such as Bamfield, Beaver Creek, Cherry Creek and Sproat Lake have been developed but take account of longer times for volunteer fire fighters to leave home or their place of work and travel to the fire hall. The standard for volunteer departments is NFPA 1720.

⁵ This model also applies to Police and EMS events however there are no specific defined call management metrics for these.

- Detection.
 - The emergency event has been 'detected' leading to notification of emergency services.
- Alarm Initiated.
 - At this point a call to an emergency service is placed by dialling 9-1-1, or another 10 digit number and is transferred to the PSAP⁶ by the Public Switched Telephone Network (PSTN).
- Transmission.
 - In this step the PSTN makes the routing decisions and 'presents' the emergency call to the 9-1-1 primary call agent(s) at the PSAP.
 - The time for this to occur is indeterminate, though it may be measured by the telephone company; to this point emergency services have yet to be notified of the emergency.
- Alarm Sounds at PSAP.
 - This is the point at which the emergency call first begins to ring at the 9-1-1 call centre.
- Alarm Transferred to CC.⁷
 - The 9-1-1 agent at the PSAP queries the caller to determine which emergency service they require and then transfers them to the call taker for that class of service.
- Alarm Sounds at CC.
 - This is the point at which the emergency call first begins to ring at the communications centre.
 - This is normally the first point at which the communications centre has the ability to begin measuring the elapsed times for call management.
- Answered.
 - This is the time frame which measures the interval between when the emergency call first begins ringing, until the call taker has begun speaking with the caller reporting the emergency.
 - The expectation is that all calls will be 'answered' within 15 second 95% of the time; and within 40 seconds 99% of the time.
 - This measurement equates to the time taken until the phone is 'picked up' by the fire call taker.

⁶ Public Safety Answering Point, another term for a 9-1-1 call centre.

⁷ Communications Centre.

- Notification of TC.⁸
 - This is the point at which the call taker begins taking information from the caller reporting the emergency and this period of time ends when the dispatcher has completed the dispatching process.
 - The expectation is that all calls will be processed to the point at which the call has been dispatched, within 60 seconds 90% of the time and within 90 seconds 99% of the time.
 - This measurement equates to the total time taken until fire crews have been alerted and the information transferred to them.
- Alarms Retransmitted to ERF's⁹ and Response Units.
 - This marks the completion of the dispatch process and the commencement of the 'turnout phase' for the fire service. This is the interval between when dispatching has been completed and when the Fire/EMS service leaves the fire hall.
 - The expectation is that turnout from the fire hall will occur within 60 seconds for medical calls and within 80 seconds for fire calls.¹⁰
- Response Units Respond
 - This marks the completion of the turnout phase, and the commencement of the travel time which is completed when the unit or units have arrived at scene.

In summary, the expectation is that all emergency calls for service will be answered, the caller will be interrogated, the 'call' will be created on paper or in a computer aided dispatch system, and the tones and information will be sent to the responding fire fighters within 60 seconds, 90% of the time.

The time for this measurement begins when the phone first starts to ring in the fire dispatch office, and lasts until the response information has been gathered and transferred to the emergency responders. Where an agency uses a CAD system these times are normally recorded as time stamps and thus can provide the basis for analysis.

The reason for the focus on the time required to create a call and dispatch it, is well founded in the notion that emergency calls being reported to the Fire and EMS services are serious when they occur and have the capacity to significantly deteriorate in a very short space of time. This in turn requires that the initial phases—9-1-1 call taking, call

⁸ In this document TC stands for Telecommunicator; in this context it equates to the fire call taker/dispatcher employed by the North Island 9-1-1 Corporation.

⁹ Emergency Response Facility, in this case a Fire Hall.

¹⁰ The timeframe for turnout is described in an associated NFPA Standard 1710 which describes the operation of a Career Fire Department; the turnout and assembly of fire crews is different for volunteer fire departments and this is detailed in a parallel standard, NFPA 1720.

assessment and dispatch—occur in the shortest possible time to insure the earliest possible intervention by emergency services personnel.

A primary mandate of any fire department is to provide for a timely response to fire and medical emergencies, as well as hazardous materials, technical rescue and other public safety interventions. In the vast majority of these, crews respond from a fire hall and travel some distance to the incident. Because these responses must occur within a relatively short time frame to minimize fire damage and save lives, effective call management is crucial. This is because emergency call management is the precursor or 'gating' item for Fire and EMS response to the scene.

The NFPA has developed response time objectives for the North American fire service over many years and these provide applicable benchmarks. The NFPA standards are international peer-reviewed standards that address most if not all issues related to the operation of the fire service. NFPA 1710¹¹ is the standard that describes the organization and management of a career fire department such as the Port Alberni Fire Department, and defines response time objectives for the turnout of crews from the fire hall, as well as 4 minute and 8 minute expectations for arrival at any emergency incident.

The graph shown in the following figure is taken directly from the NFPA 1710¹² standard and demonstrates the expected fire propagation curve, which indicates the point at which a fire is expected to spread beyond the room of origin. This is normally at or about 8 minutes from the point of ignition.

¹¹ Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2010 edition, effective June 15, 2009.

¹² The standard for the management of volunteer and composite fire departments is NFPA 1720 and although it identifies a different approach to arrival on scene with a certain number of fire fighters, the essence of the fire propagation curve as shown in Figure 3 applies to all fires regardless of whether the department is career, composite or volunteer.

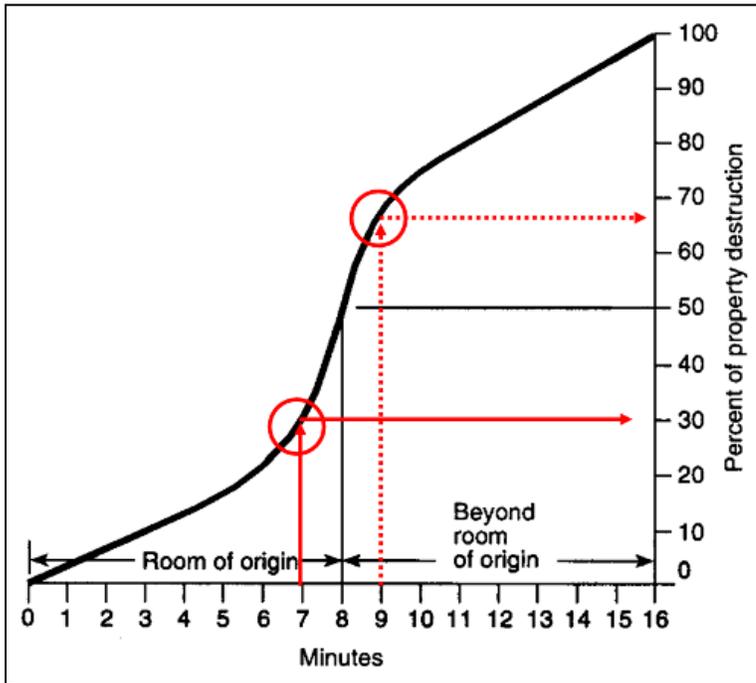


Figure 3: Fire Propagation Curve, Modeled from NFPA 1710

From this graph it can be seen that in the range of time from 7 to 9 minutes after ignition, a fire is expected to rapidly accelerate and the percentage of property destruction (shown on the Y axis) increases from approximately 30% to nearly 70%. At some point in this short period of time, the assumption is that the fire will spread beyond the room of origin.

The significant point is that each of the steps in the fire department's response sequence, including 9-1-1 call processing, call assessment, dispatch, turnout and travel time should all occur prior to the time when a fire will extend beyond the room of origin, thereby creating a much higher risk to life and property. In this regard, the NFPA notes:

In Figure A.5.2.2.2.1, [Figure 3 above] the line represents a rate of fire propagation in an unsprinklered room, which combines temperature rise and time. It roughly corresponds to the percentage of property destruction. At approximately 10 minutes into the fire sequence, the hypothetical room of origin flashes over. Extension outside the room begins at this point.

Consequently, given that the progression of a structure fire to the point of flashover (i.e., the very rapid spreading of the fire due to superheating of room contents and other combustibles) generally occurs in less than 10 minutes, two of the most important elements in limiting fire spread are the quick arrival of

sufficient numbers of personnel and equipment to attack and extinguish the fire as close to the point of its origin as possible¹³.

The key element going forward is the requirement to manage all parts of the response equation as quickly as possible.

¹³ NFPA 1710, 2010 edition, A.5.2.2.2.1.

Current Structure

Alberni-Clayoquot Regional District

The ACRD is directly responsible for three volunteer fire departments: the Bamfield Volunteer Fire Department, Beaver Creek Volunteer Fire Department and the Sproat Lake Volunteer Fire Department. Each of the departments has a bylaw specifying an area for service, and for the purposes of Workers' Compensation and ultimate liability, volunteer fire fighters in each department would be treated as employees of the ACRD. Indeed, two of the three bylaws establishing the respective fire departments expressly deem the volunteer fire fighters to be ACRD employees.¹⁴

The ACRD is currently operating a devolved governance model: primary responsibility for almost all aspects of fire department operations falls to the local volunteer chiefs and their deputies. Within the ACRD, responsibility for the departments lies principally with the chief administrative officer, with additional involvement on the budgeting side by ACRD's finance function. While there is some regional assistance with strategic coordination issues, the ACRD provides no direct oversight of fire department operations, training, occupational health and safety and similar matters. The departments themselves indicated that they provided little or no reporting to the ACRD, as historically, there has been little interest evinced at the regional level in such reports. That being said, most departments noted that they had good working relationships with their Area Directors.

Within the Alberni Valley itself, close coordination between the ACRD departments and the Cherry Creek Fire Department and the City of Port Alberni Fire Department, is essential to ensure that residents in the region receive responsive and effective fire and rescue protection.

Bamfield Volunteer Fire Department

Introduction and Overview

The Bamfield Volunteer Fire Department ("BVFD") is the most isolated of the departments reviewed. For all practical purposes, barring a major or ongoing event (such as a large interface fire or natural disaster) mutual aid will be of limited or no assistance. Coordination of training and the provision of administrative support, however, would be of enormous benefit to this department.

The department's coverage area is divided between the "mainland" and the "peninsula" – the latter being accessible by water only and containing only a rudimentary road

¹⁴ Sproat Lake's current bylaw, discussed below, repealed a bylaw which had the same deeming language.

network. A number of residential structures within the fire suppression area are also best – and in some cases, only – accessed by water. There also are some anomalies in terms of the BVFD's coverage area as certain houses appear to have been excluded (water access only). The boundaries should be formally reviewed and it should be determined why these houses were not included in the coverage area.

The main fire hall is relatively new, and houses a pumper and a utility vehicle. The main hall includes some office and classroom space as well as washrooms and showers. Hall 2 is located at one of the highest points of the peninsula and houses two older pieces of apparatus, a pumper and a quick attack vehicle. Hall 2 is simply a storage point for the apparatus and equipment.

The department has also constructed its own fireboat, consisting of a welded aluminum boat with a 250 gallons per minute pump. The department currently has relatively few members; it provides only fire suppression services (and likely would not attempt an interior attack), along with some basic first aid in cooperation with the Canadian Coast Guard station. There is one paid maintenance person, who is not a member of the BVFD.



Figure 4: Bamfield hall 1



Figure 5: Bamfield hall 2

There is a piped, pressurized water system that is maintained by the ACRD¹⁵. If the primary pump fails during a power failure, then the engine at Hall 1 pressurizes the system until the primary pump is restored. An uninterruptible power supply is planned to be installed in the water system in the near future.

The permanent population in Bamfield is relatively small, estimated by the Chief at between 200-300 people, which makes recruitment and retention of sufficient volunteers a significant challenge. The summer time population is significantly larger, leading to problems of congestion and increased fire risk.

The area has a tax base of some \$90 million and current taxation rates are about \$1.14/\$1,000 of assessed value. One of the BVFD members is a CGA, and he manages the finances (including budget) for the department. The operational budget is approximately \$70,000 per year, of which (for 2008-09) some \$53,000 came from the ACRD. A further \$45,000 year is applied to paying off the cost of the new fire hall. The department has approximately \$30,000 in its capital reserves.

Fire Risks

As noted above, the fire suppression area is divided into two distinct regions, with one accessible by water only. This division poses challenges in getting responding members to the appropriate place in a timely fashion. In terms of specific risks, the community has significant interface exposures, and many of the residential and commercial buildings are older and unlikely to have been built to code. A number of the commercial and resort operations also store material quantities of vehicle or marine fuel on site. The

¹⁵ It is still to be determined whether this pressurized water system extends to 'the peninsula'.

Bamfield Marine Sciences Centre poses a particular risk within the coverage area. It includes a three storey residence for students, as well as potentially hazardous materials on site. We were advised that the centre was under federal jurisdiction; it was not clear whether it was paying taxes or giving a grant in lieu, for the fire protection coverage it receives.

The narrow roads in Bamfield, and lack of any substantial parking facilities, means that during the summer time, passage by the fire apparatus can be impeded or blocked by illegally parked vehicles. This issue poses a significant risk, both in terms of delaying a response and potentially resulting in damage to the apparatus and/or to the illegally parked vehicles. This issue should be addressed by the ACRD's planning department.

Recommendation: The ACRD should review the difficulty with keeping road access clear in Bamfield during the summer season and develop remediation measures.

Structure and Governance

Fire suppression services have been provided in Bamfield under bylaw since at least 1972.¹⁶ In 1989, the structure was updated, and pursuant to Bylaw No. 564,¹⁷ the ACRD officially established the BVFD. In so doing, however, the bylaw essentially married the existing constitution (the "Constitution") of the Bamfield Volunteer Fire Department society (the "Society") to the establishment bylaw. This structure produces some potential anomalies including:

1. Section 1.9 of Bylaw No. 564 contemplates that BVFD members may be remunerated (subject to ACRD approval); the Constitution's bylaws (s. 1.02) appear to forbid that.
2. The number of officers, their appointment and duties, as well as the duties, obligations and appointment of the volunteers, are subject to the terms of the Constitution. The Constitution itself, however, is subject to amendment by the Fire Chief, at the request of the volunteers.¹⁸ The ACRD has no means of controlling or limiting these changes. The ACRD also cannot control, for example, proficiency or training criteria for either volunteers or officers, even

¹⁶ Bamfield Specified Area Establishment and Loan Authorization By-law No. 24, 1972.

¹⁷ Regional District of Alberni-Clayoquot, Bamfield Volunteer Fire Department Establishment and Regulation By-law No. 564, 1989 ("Bylaw No. 564").

¹⁸ Section 2.2 of Bylaw No. 564.

though all members of the BVFD are expressly deemed to be employees of the ACRD.¹⁹

3. It is not clear if there is one organization or two. Under s. 3.3 of Bylaw No. 564, the assets in existence at that time (other than unspecified “recreational” assets) were transferred to the ACRD. Presumably, then, all of the Fire Department’s capital assets are owned by the ACRD, rather than the Society. It is not clear, however, how these issues are being treated between the two organizations. Indeed, the Society actively raises funds separate and apart from the Fire Department’s tax revenue (including major fund raising activities and gaming grants), and ownership of assets purchased by the Society using such separate funds, is unclear. This uncertainty in the structure needs to be clarified.

Under the Constitution, the Fire Chief (and other officers) are elected annually by secret ballot. No proficiency or other criteria exist for their selection, other than being members of the BVFD.

In addition to establishing the BVFD, Bylaw No. 564 also covers a very wide range of operational issues, powers and regulatory matters. The bylaw addresses issues as varied as parking next to fire exits, the powers of the fire chief (or officer in charge) to control a fire scene, the granting of various permits and licences, chimney cleaning/maintenance among others. The bylaw also refers to statutes which, if they ever existed, have now been superseded (for example, certain of the Fire Chief’s powers are said, in section 2.3, to emanate from the “Fire Department Service Act”, which does not exist).

We would recommend updating the bylaw and governance structure²⁰. Bylaw No. 564 has never been converted to an establishment bylaw (as permitted by sections 774.2(3) and (5) of the *Local Government Act* (BC)). The provision of fire suppression services should be converted to a local service, while matters related to operations/structure could be handled in separate bylaws. Ideally, the operational criteria bylaw would be consistent across all of the ACRD’s departments, along with the methodology for selecting fire chiefs and officers, and appointing volunteer fire fighters. See our recommendation below.

The role to be played by the Society will need to be clarified. It is obvious that the BVFD enjoys great local support, and its members, through significant fund raising efforts, have substantially supplemented the fire department’s annual revenues (thereby keeping the

¹⁹ Section 1.4 of Bylaw No. 564.

²⁰ This recommendation would see the ACRD develop an operational criteria bylaw along the lines of that in use by the Columbia Shuswap Regional District. A separate regulatory bylaw would be implemented dealing with matters such as open burning, etc.

tax rate under control). The Society should perhaps be retained to function as a social / fundraising organization, which continues to promote the efforts of the BVFD. These issues, however, should be fully reviewed with the BVFD members before any bylaw revisions are undertaken.

Recommendation: The ACRD should review and update the bylaws and governance structure for the Bamfield Volunteer Fire Department.

The BVFD is overseen by a Fire Chief and Deputy Chief, who are subject to an annual election at the annual general meeting of the Society. Each is committing up to 30 – 40 hours per month (including weekly training sessions, administrative duties, call outs, planning sessions and similar matters). Both expressed significant concerns about the administrative load and the potential liability that could flow from failing to maintain proper records or otherwise keep up with the paper work. The Fire Chief also sits as a member of the local water board, to ensure that issues of concern to the fire department (supply and pressure) are fully addressed and considered. This additional duty, which is directly related to his role in the BVFD, adds a further 4-5 hours of work a month. Neither officer receives any remuneration for their efforts.

Communications and Dispatch

As with the other ACRD departments, the BVFD is dispatched from Campbell River by North Island 9-1-1. Each of the members has a pager, and is also alerted to calls by a siren on Hall 1. There are some issues with radio coverage on the highway, which can affect communications. In general, dispatch has been satisfactory, although the BVFD is often sent to calls (e.g., motor vehicle accidents), which involve situations that are outside of the services they provide. The reality, however, is that the BVFD are the only emergency services readily available in Bamfield (neither police nor paramedics have a presence there). As such, they, often with assistance from the Coast Guard, provide what amounts to a first responder service on a best efforts basis.

Training

- There is regularly scheduled training: once a week, with 3 weeks/month on the “mainland”; once a month on the peninsula.
- Have not yet sent members to the training centre at Sproat Lake, but will be going there within this year.
- As they only have one engine at Hall 1 they cannot take it to Sproat Lake to drill; however the SLVFD has agreed to allow the BVFD to use a Sproat Lake apparatus for training; also will be able to train on the SLVFD Scott air packs as they are common between the departments.
- Training of fire fighters is focussed on basic issues to prepare a recruit for the limited mandate of the BVFD; they do not expect, for example, to conduct an

interior attack; training is to the satisfaction of the Chief or Deputy that the fire fighter can function safely.

- BVFD has had difficulty finding and retaining a training officer.
- Recruitment and retention is a challenge.
- Training is currently directed towards developing competence for operational responses including driving and operating the pump and hose work. There are currently no certified fire fighters. First aid is taught although there is a reluctance to perform road rescue.
- The 'Fit-5' (fire interruption technology) portable powder aerosol knock-down tool is used as a means of controlling interior fires and is carried on each pumper.

Current Issues and Challenges

Road access in the BVFD's suppression area provides significant response challenges. The issues include the following:

- As noted above, during the summer time, the shortage of parking means that double parked or illegally parked vehicles often restrict the BVFD's movement from the fire hall and there is no recourse. There is no RCMP or bylaw officer to order their removal; likewise there is no towing company even if a removal could be ordered.
- Road access to Hall 1 at 352 Pachena is quite steep and the roads in the area are narrow and twisty, slowing response times.
- Hall 2 does not have road access to 'the mainland'. When required to attend an emergency call in Hall 2's area, the members in Hall 1's area take the fire boat to the dock adjacent to the Coast Guard station.
- Roads on the peninsula are narrow, rudimentary and steep. Roads on the "mainland" side, though paved, also are steep in places, and narrow.
- Relatively small tax base.
- Recruitment and retention of sufficient volunteers.
- Administrative burden of maintaining all required records and otherwise managing the paperwork.

Another current issue involves the negotiation of a service contract with the local First Nations reserve. The BVFD had previously responded to issues at the reserve only on a "good neighbour" basis, without either contract or remuneration. The ACRD is negotiating a contract with First Nations to provide a defined response by the BVFD, but the department is concerned about potential liability and their ability properly to resource calls. At the time of our meetings with the BVFD, issues such as the state of the available water supplies, the level of service expected, the manner in which the reserve's tax base had been determined (for assessing the price to be paid), and potential response times, were issues identified by the department.

Major Needs

- A regional fire services coordinator would be a huge help (any help with administration / work load would be appreciated) although there is a concern that any service provided by the ACRD will result in an administration fee.
- BVFD will need help to ensure that training and other records are properly maintained.
- There is concern related to the potential agreement with the First Nations to provide fire protection as the assessment allegedly does not reflect the actual development on the Reserve, water systems are not understood, and the capability to provide an acceptable level of service is in doubt.

Beaver Creek Volunteer Fire Department

Introduction and Overview

The Beaver Creek Volunteer Fire Department (“BCVFD”) dates back to 1977. As with Bamfield, the bylaw structure was updated in 1988. The department provides a full range of fire suppression, first medical responder (“FMR”) and road rescue/extrication services. Road rescue services have been coordinated with the City of Port Alberni, to ensure appropriate coverage in the region. The BCVFD is also working towards a full confined space operational capability. They do not handle hazmat incidents (other than to secure the perimeter of a scene) and do not deal with high angle or river rescue.

The BCVFD has one fire hall, located at 6038A Beaver Creek Road, which houses two pumper trucks, two rescue vehicles (one with a compressed foam system) and a utility/officers’ vehicle. The pumper trucks are both Freightliner FL80s by Hub, with 1,050 gallons per minute (“GPM”) pumps and a 1,000 gallon capacity. The older pumper dates from 1995; the newer one, which includes a compressed foam system, dates from 2000. The fire hall also has classroom/training space, office space, showers and washrooms and space used for recreational purposes.



Figure 6: Beaver Creek hall 1

The Beaver Creek Fire Protection District has a reasonably large tax base, with aggregate assessed values in the range of \$290 million. The BCVFD’s budget is about \$220,000 per year, of which some \$75,000 annually is put towards capital and about \$17,000 to training. The department has some \$175,000 in capital reserves. The basic tax rate is about \$0.76/\$1,000. The BCVFD does not undertake any additional fundraising efforts.

The BCVFD’s officers receive small honoraria. The Fire Chief receives \$500 per month; the Assistant Chief and Deputy Chiefs receive \$100 per month and each of the other officers receives \$75 per month. Members are paid for practices only (\$10/practice plus

a gas allowance); they are not paid for call-outs. Members are reimbursed for their expenses in relation to out of town training.

The BCVFD currently has 26 members. Its goal is to maintain a 30 person roster. Recruitment and retention challenges include the time commitment expected of members (both for call-outs and training), the lack of steady employment in the vicinity, which has reduced the number of available recruits, and a changing attitude on the part of employers towards volunteer fire fighters. Increasingly, employers are balking at fire fighters leaving work to respond to call-outs. At present, when all calls are included (so, FMR and road rescue in addition to fire calls), turn out is averaging about 6 members. This number is somewhat misleading, however, as most calls do not require a higher turn out response.

The BCVFD has 4 chiefs, 6 captains/lieutenants, 6-8 fully qualified fire fighters and with the balance being fire fighters at various levels of training. The department has two LAFCs.²¹ The department seeks to train all its members to at least Fire Fighter 1 in accordance with NFPA 1001 standards.²² The department has a safety committee which meets monthly to deal with occupational health and safety issues.²³ There also is a society, which manages the social and recreational side of the BCVFD, and receives a small grant from the ACRD budget managed by the department (as with all volunteer departments, the social and recreational aspects of the department are integral to its recruitment and retention efforts). The Association is responsible for operating a portion of the building in which the fire hall is located.

Fire Risks

The Beaver Creek Fire Protection Area does not have many high risk areas: there are several three-storey apartment buildings, some commercial-retail centres and a chlorine pump station. In some parts of the response area, there also is potential wildfire interface risk. There does not appear to have been a recent Fire Underwriters Survey conducted in this area.

Mutual aid arrangements are currently in place with all of the neighbouring departments under a recently revised mutual aid agreement. The Chief and Deputy Chief indicated

²¹ Local Assistants to the Fire Commissioner, appointed under the *Fire Services Act* (BC). LAFCs are expected, among other things, to conduct fire investigations and to provide reports to the Fire Commissioner.

²² NFPA 1001: Standard for Fire Fighter Professional Qualification (2008).

²³ Under the Part 31 Regulations of the *Workers Compensation Act* (BC), employers are required to establish separate Occupational Health and Safety Joint Committees for fire departments under their control. We have not reviewed the structure of the various safety committees maintained by the fire departments to determine whether they meet the requirements under the *Workers Compensation Act*.

their general support for the development of an appropriately structured automatic aid agreement. They noted that they did not see the need for that agreement to include any payment provisions (either for their volunteers, or as between departments or service areas). For both automatic aid and mutual aid, they agreed that there was no easy way for the departments to determine skill levels or training of firefighters responding from other departments and that this issue needed to be clarified across the region. The BCVFD is also a participant in the emergency plan for the Alberni valley.

Structure and Governance

Fire suppression services have been provided under bylaw in the Beaver Creek area since at least 1977.²⁴ The original structure was revised in 1988, with the implementation of Bylaw No. 562, which provided for the establishment of the BCVFD.²⁵ Bylaw No. 562 is substantially similar to Bamfield's Bylaw No. 564 (indeed, the latter was obviously modeled on the former). Again, it appears the fire services in the area originally were provided by a separate society – in this case, the “B.C.V. Firemen's Association” (the “Association”). Unlike Bylaw No. 564, however, the Association's constitution is not attached to the bylaw, although there are occasional references in the bylaw to the “articles” and “regulations”, which presumably relate to the Association.

As with the Bamfield bylaw, Bylaw No. 562, in addition to establishing the department, covers a wide range of operational and regulatory matters. The bylaw contains the same references to non-existent statutes, and generally requires updating. Fire suppression and related services should be continued as a local service, while operational criteria (including the roles, duties, powers and proficiencies of fire chiefs and officers), and regulatory matters, should be dealt with separately.

Under Bylaw No. 562, the Fire Chief has a two-year appointment from the ACRD. The Regional District is required to consider the recommendation of the BCVFD members in relation to the selection of the chief, but is not obligated to adhere to such recommendation.²⁶ In practice, however, it appears that the Fire Chief is elected every second year, with the election being confirmed by the ACRD Board. There are no specific criteria or proficiencies stipulated in the bylaw for either the chief or any of the BCVFD's officers. In our discussions with the BCVFD's Fire Chief and Deputy Chief/Training Officer, they indicated their general support for establishing standardized proficiency requirements for chiefs and officers, along with appropriate approval procedures and tenures.

²⁴ Beaver Creek Specified Area Establishment and Loan Authorization By-law No. 196, 1977 (as amended).

²⁵ Regional District of Alberni-Clayoquot, Beaver Creek Volunteer Fire Department Establishment and Regulation By-law No. 562, 1988 (“Bylaw No. 562”).

²⁶ Section 1.2 of Bylaw 562.

The BCVFD manages its own budget and expenses. They review their budget with the ACRD and their Area Director, before it is approved by the ACRD Board. The department itself handles the payment authorizations, purchases and expenditures.

The provision of FMR and road rescue services is authorized under Beaver Creek First Responder Bylaw No. PS1002, 1998. This bylaw permits the BCVFD to respond to accidents or illness where medical aid is needed, rescue assistance and hazardous materials releases. As noted in the overview, hazmat capabilities have not yet been developed, though the department is authorized to do so, should it choose.

Recommendation: The ACRD should review and revise the bylaws for the Beaver Creek Volunteer Fire Department.

Training

- Public education – presentation and extinguisher training upon request.
- Noted that they use different color helmets to distinguish officers from fire fighters;
 - White = chief officers,
 - Red = captains or lieutenants,
 - Yellow = fire fighters certified for interior attack,
 - Green = fire fighters who are in training and not fully certified.
- In the discussion it wasn't perfectly clear that there is a clear demarcation between what the yellow and green hats can do²⁷.
- They send their fire fighters to at least one live fire training session outside of the department annually.
- The department is a major user of the Sproat Lake training centre; but also send their members outside of the region to get assessments from other trainers.
- At times they have brought in evaluators from other regions.
- The goal is to have fire fighters complete work through to FF1 and FF2 under NFPA 1001 although there is no time limit to complete this certification.

Technology

- Use FirePro for their RMS.
 - In discussion it was agreed that a shared RMS with a larger group, even as large as a provincial group would allow for the sharing of lesson plans, records etc. and allow for appropriate comparisons.
 - Would streamline record keeping and make it easier to meet the administrative burden.

²⁷ The issue of the competence of fire fighters for fire ground activities based on helmet colour or other demarcation is something that must be standardized within an area where fire departments operate under a mutual aid agreement as is the case in the Alberni Valley.

- The firefighters get costs/expenses for training but not wage loss.
- Noted that they are finding keeping up the records on the training side occasionally challenging (along with other administrative tasks): they are using FirePro2, and it is sometimes cumbersome. Records are created on paper, but not necessarily readily transferred to the computer. Discussion of “sign off” by trainees as required by NFPA – is difficult to handle as part of the computerized record.

Major Needs/Current Challenges

- Administrative assistance:
 - Record keeping, incident reports, training and certification records;
 - Liked the idea of an integrated RMS that would download from CAD; and
 - Would like regional (centralized) assistance with some of the administrative burdens.
- Identify risks and appropriate pre-plans.
- Some issues relating to recruitment.

Sproat Lake Volunteer Fire Department

The Sproat Lake Volunteer Fire Department (“SLVFD”) has a challenging fire protection area, which is spread around Sproat Lake itself. The department consequently maintains three fire halls to ensure timely responses and is the largest of the departments for which the ACRD is directly responsible. Hall 1 is located at 10605 Lakeshore Road, Hall 2 at 9501 Faber Road and Hall 3 at 7667 Pacific Rim Highway. The SLVFD provides fire suppression and FMR services. The bylaw structure was updated in 1999, under Bylaw No. R1008.²⁸ While more modern than the bylaws governing BVFD and BCVFD, Bylaw No R1008 poses its own potential issues and is discussed in the governance section below.

The goal of the SLVFD is to have a minimum of 15 volunteers assigned out of each of the three fire halls. As with the other departments, recruitment and retention is a challenge. The area has a large “summer” or vacation only population, and is too expensive for many volunteers to live in, thereby reducing the number of potential recruits available from which to draw fire fighters. At present the department has between 8-9 volunteers at Hall 1, 15 volunteers at Hall 2 and 12-13 volunteers at Hall 3. The SLVFD also has a Chief, a Deputy Chief, a Safety Officer and a Training Officer.

²⁸ Bylaw No. R1008, “A Bylaw to make rules for the provision, operation and administration of the local services for fire prevention and suppression and the provision of assistance in response to other classes of circumstances that may cause harm,” 28 July 1999 (“Bylaw No. R1008”).



Figure 7: Sproat Lake hall 1



Figure 8: Sproat Lake hall 2



Figure 9: Sproat Lake hall 3

Unlike the other two ACRD departments, the SLVFD has had regular Fire Underwriters Surveys (“FUS”), largely initiated by the department itself, which sought and obtained a “superior tanker shuttle accreditation”.²⁹ This designation is important for areas which do not have a regular hydrant system to rely upon, and which must depend on water tenders for their water supply. The effect of the accreditation is to move the FUS rating for residential insurance purposes from a semi-protected status to fully protected status, which translates into a potential drop in insurance rates for homeowners.³⁰ The accreditation demonstrates the ability of the department to maintain a consistent water flow suitable for fire suppression purposes over an extended (minimum 2 hour) period of time.

The department has an operating budget of about \$185,000 per year, and are making significant contributions to capital for equipment renewal purposes (in 2009, \$150,000 was transferred to capital reserves), for a total budget of about \$335,000.³¹ The fire protection area has a significant tax base, however, with a total assessed value in the range of about \$593 million, resulting in a basic tax rate of about \$0.42/\$1,000 of assessed value.

²⁹ Letter from CGI Fire Underwriters Survey to ACRD and SLVFD, dated 12 September 2006. The area received a full FUS assessment in 2007.

³⁰ The maximum residential rating for a jurisdiction dependent on tankers under the 5-point FUS rating system is “3B”, which translates into a semi-protected rating. Under the terms of the 2007 FUS Survey, the rating for the area is now “3B (S)” which is considered “fully protected”.

³¹ Anticipated budgets for subsequent years, with smaller capital contributions, are expected to be in the range of \$250,000 - \$283,000: Alberni-Clayoquot Regional District, *2010-2014 Financial Plan*.

The following honoraria are paid to the Fire Chief and officers:

Fire Chief:	\$5,500/annum
Deputy Chief:	\$3,500/annum
Other Officers:	\$2,000/annum each.

The Chief and Deputy Chief are both LAFCs.

Members receive \$13 per practice and are reimbursed costs when sent on training. The SLVFD also pays a small honorarium to a person who is performing the bookkeeping for the department. If the issue of recruitment cannot be solved, the department may need to look at consolidating to two fire halls.

The department is a signatory to, and supports the mutual aid arrangements in the Alberni Valley. It also supports the idea of developing an appropriate automatic aid agreement amongst the departments. Like the BCVFD, it does not see a need to require compensation for providing automatic aid. Indeed, the SLVFD feel that an automatic aid agreement will provide a manageable increase in fire call volumes, which will have the effect of increasing member interest (and thereby improving volunteer retention).

In 2009, the SLVFD entered into an agreement with the Ministry of Forests and Range to provide standby support to the Ministry in relation to Alberni Valley wildfires.

Fire Risks

The SLVFD's fire protection area has some 1,700 dwellings within its boundaries, but not a significant number of commercial operations. Many of the lakeshore properties can present access issues and the region faces a material interface risk. With a large number of vacation homes, there is also a risk that a fire can start and remain undetected until the structure becomes significantly involved, thereby increasing the risk of spread to neighbouring structures or the wildland interface.

Structure and Governance

As noted in the overview section, the bylaw governing the SLVFD was updated in 1999, replacing a bylaw from 1988 ("Bylaw No. 563"). Bylaw No. 563 is in substantially the same format as the ones governing the BVFD and the BCVFD discussed above. Bylaw R1008 covers three basic areas: the powers and obligations of the Fire Chief (and his or her appointment), certain operational matters and a number of regulatory issues (such as controlling open burning, use of various incinerators, etc.). Unlike Bylaw Nos. 562, 563 and 564, however, Bylaw R1008 does not expressly establish the fire department, but merely provides for its regulation. Given that Bylaw No. 563 (which did establish the department) was repealed, one would have to refer back to the original (1970s?) bylaw

under which the service area was established to confirm that no anomalous result has occurred.

In addition, in section 4.1, which sets out the powers of the Fire Chief, the use of the term “may” rather than “shall” is potentially problematic. For example, the section reads: “The Fire Chief may: ... administer this bylaw”, when it probably should be mandatory. Similar comments apply to subsections (b) (reporting to the Regional District) and (c) (making rules governing the administration and operation of the fire department), each of which should be mandatory, rather than permissive. The powers of the Fire Chief also should cross refer to the *Fire Services Act* (B.C.) (the “FSA”) and the *Local Government Act* (BC).

As with the other two bylaws, the structure should likely be overhauled. The provision of fire suppression and related services should be converted to a local service area. Operational matters should be dealt with in a separate bylaw, while regulatory matters are dealt with in a third bylaw. Operational criteria can and should be generally uniform across each of the ACRD’s fire departments.

Recommendation: The ACRD should review and revise the bylaws for the Sproat Lake Volunteer Fire Department.

The SLVFD is responsible for developing its own budget, which is approved by the ACRD Board. The department itself handles the payment authorizations, purchases and expenditures.

The provision of FMR services is covered by the Sproat Lake First Responder Bylaw No. PS1004, 2000. This bylaw permits the SLVFD to respond to accidents or illness where medical aid is needed, provide rescue assistance and respond to hazardous materials releases. Although given broad authorization under the bylaw, the SLVFD currently only provides FMR services; it does not provide either hazmat responses or road rescue which is supplied by the Port Alberni Fire Department.

In relation to FMR calls, the Fire Chief noted that there is a need to develop a process for controlling the number of members responding (more are showing up than are actually needed).

Recommendation: The ACRD should review alternate paging methods (group pages) to better manage the number of volunteers that respond to calls that require less personnel³².

³² This method of variable page groups to alert part but not necessarily all members of the department is something that has been implemented in other volunteer fire departments to good effect and should be considered within this region.

The department noted that there is little direct oversight by the ACRD. The Fire Chief commented that, for a few years, they had submitted formal reports on an annual basis to the ACRD Board. These reports, however, had not been requested and, as other departments were not submitting them (and there seemed to be limited interest in them at the regional level), the department stopped providing them.

Technology

- Currently have purchased but not deployed an RMS (FirePro), but would like to consider a shared system linked to CAD; the advantage would be that the fire department would not need to set the system up, define workflows etc., but could simply use an as-built system. The Chief feels that this solution, if it could be implemented region-wide, would offer significant benefits, including for training plans etc.
- No web site.
- No pre-plans.

Training

- Use the regional training site which is in Sproat Lake's area.
- Were responsible for initial development of the Sproat Lake training centre.

Public Education

- Use a reader board on the highway that is regularly updated.
- Send newsletters by email.
- Host a number of tours.

Major Needs/Current Challenges

- Need administrative support.
- Would like to see a regional records system.
- Would like that records system to include shared training plans.
- Would like a "point person" at the ACRD who understands fire issues in general and the ones affecting the district.
- Recruiting and retention issues to ensure that all 3 halls are staffed by full complements.

Cherry Creek

Introduction and Overview

The Cherry Creek Fire Department (“CCFD”)³³ is operated under the Cherry Creek Waterworks District (“CCWD”), a local improvement district. Its governance and operation is entirely separate from the departments managed by the ACRD, and oversight is the responsibility of the CCWD.

The CCFD was established under Bylaw 169 in 1992.³⁴ The department provides a full range of fire suppression, public education and FMR services. Road rescue services are provided by the City of Port Alberni Fire Department.

The department has one fire hall located at 5920 Cherry Creek Road which houses a 2010 Pierce Contender 1250 GPM pumper, a 1997 Freightliner 1050 GPM pumper with a compressed foam system; a 2005 Freightliner 1,500 gallon tanker with a 250 GPM pump; and a 1993 Ford utility vehicle used to carry personnel. The hall is older, with limited space and is in need of replacement or significant renovation. The department, however, lacks the funding required to manage the hall replacement, along with its apparatus renewal.



Figure 10: Cherry Creek hall 1

³³ Under Bylaw No. 169 (see next footnote, below), the name of the department is “Cherry Creek Volunteer Fire Department”. We have been advised that the department has changed its name to the “Cherry Creek Fire Department” and have used that form in this report.

³⁴Cherry Creek Waterworks District Bylaw No. 169, “Fire Department Establishment and Operations Bylaw”, 1992 (“Bylaw No. 169”).

The CCFD currently has 27 members; its goal is to have a 30-person roster. Members receive an honorarium of \$15 for each practice they attend; call-outs are not remunerated. As in other jurisdictions, the Fire Chief noted that some employers, including Catalyst Paper, have changed their policies regarding volunteers leaving work to respond to fire calls. Nevertheless, at their last weekday day-time fire, the department had 13 members respond to the call.

Under Bylaw 169, the Fire Chief is appointed by the CCWD Board; there is no specific term for this appointment.³⁵ The Fire Chief has recently been made a half-time paid position. Officers are elected by the fire fighters themselves (with the Fire Chief retaining the power to appoint additional officers as he or she sees fit).³⁶ No proficiency requirements are specified in the bylaw for the selection of officers. The department currently has one Deputy Chief, one Assistant Chief, three Captains and two Lieutenants.³⁷ The department has had three of its officers appointed as LAFC's to effect fire reporting to the Office of the Fire Commissioner and conduct fire investigations. Two of these individuals are trained to NFPA 1033 standards.³⁸

As with other departments in the region, the CCFD is dispatched by North Island 9-1-1. In general, dispatch and communications were not considered to be major problems, though some dispatch errors had occurred.

There are approximately 1,200 homes in the fire protection area. Taxation separates the cost of the water system from the cost of the fire department and the basic assessment for fire services is about \$0.93/\$1,000 of converted assessed value. The last FUS report on the Cherry Creek Fire Protection Area was conducted in 1984, which resulted in a residential rating of "3A" and a commercial rating of "7".³⁹ The Cherry Creek area has a hydrant system, which can be interconnected to the City of Port Alberni, but not with Beaver Creek's area. Water is drawn from Lacy Lake, and the CCWD is planning to add additional loops and tanks to manage both the water flow and turbidity.

³⁵ Bylaw No. 169, s. 3.

³⁶ Bylaw No. 169, ss. 4 and 5.

³⁷ The CCFD is slightly understrength for its officer ranks, as Bylaw 169 specifies the appointment of three Lieutenants.

³⁸ NFPA 1033, "Standard for Professional Qualifications for Fire Investigator," 2009 Edition.

³⁹ The FUS rating for commercial insurance lines is a 10 point scale (lower being better). A rating of "7" is considered "semi-protected", and is generally considered a good rating for small/volunteer departments.

The CCFD has an annual budget of about \$222,000 (2010), of which \$15,000 annually is transferred to a capital account and approximately \$24,000 a year is spent on operational training of its volunteer members.

The CCFD has recently agreed to become a signatory to a revised mutual aid agreement with the other Alberni Valley departments. Under Bylaw 169, absent such an agreement, the department is not permitted to operate beyond its boundaries.⁴⁰ In discussing fire ground operations, and how parties to the mutual aid arrangements are aware of the capabilities of responding units, the Fire Chief noted that the department only permitted those volunteers to respond whom they felt were fully qualified. Where other department's units were responding into Cherry Creek, the CCFD relied on information from the officer in charge of the responding units, as to the qualification and training of those units.

At the present time, the Fire Chief does not support the proposed automatic aid agreement. He and his Board are concerned about the CCFD members having to respond to each defined call type, when the City of Port Alberni's members are paid for such calls, and the CCFD fire fighters are not. The department noted that they had initiated discussion of automatic aid in certain border areas, but that the current conception went beyond their comfort level.

Structure and Governance

As noted in the overview, control of the CCFD lies with an Improvement District, not the ACRD. The Board members of the CCWD noted, however, that the long term continuation of their Improvement District is potentially in question, given the Province's recently introduced "4-3-2-1" regulations related to water quality, and the fact that some of the tax base has been eroded as the City of Port Alberni has expanded (making the needed improvements difficult for local taxpayers to afford). In general, the structure for local governments has distinctly moved away from using Improvement Districts, which increasingly are treated as an anachronism. Funding sources for Improvement Districts are limited, and no new Improvement Districts can be established.

The CCFD meets annually with its Board, to review the department's needs, budget and performance. There also are monthly reports to keep the Board informed of the fire department's operations and any issues which may have arisen.

Bylaw 169 establishes the department and sets out the basic operational criteria and jurisdiction of the CCFD. The specific geographic limits on the department's operations are worth noting. Under section 6, the CCFD cannot operate outside of the "area and boundary of the District". While "District" is undefined, it appears from context that this

⁴⁰ Bylaw No. 169, ss. 6 and 7.

refers to the area covered by the “Water District”, not the “Regional District”. This interpretation is supported by section 7, which notes that the CCFD can provide fire suppression services “[w]ithin the Fire Protection District”. On that basis, the department cannot respond outside of the Water District’s boundaries unless there is a relevant “Mutual Aid Agreement” (section 7) or “the express authorization of a written contract or agreement providing for the supply of firefighting services or assistance response outside the [D]istrict boundary” (section 6).

On that basis, absent a contract or a Mutual Aid agreement, the department cannot operate outside the boundaries of the Water District. This authorization likely should be expanded, since it is not clear (for example) whether the CCFD would be authorized to combat a wildland interface situation, unless it had either a written agreement with the Ministry of Forests and Range or with the Provincial Emergency Plan.

The CCFD also provides FMR services. Bylaw 169 does not specifically authorize this, though it does authorize “assistance response” (a term which is undefined). If the bylaw is updated, the provision of FMR and other emergency responses (subject, perhaps, to CCWD Board approval before new services are implemented) should be more explicitly authorized.

Section 10 of Bylaw 169, by implication seems to limit the CCFD to one LAFC. While not a critical issue (and the control of the appointment of an LAFC is actually within the purview of the Fire Commissioner, not the CCWD), it is another issue which could be addressed in an updated bylaw.

If the bylaw is updated, cross-references to the powers provided for in the FSA and in the *Local Government Act* (BC) would be appropriate. It also would make sense for the CCWD to coordinate any revision of its bylaws, with revisions undertaken by the ACRD, to ensure that there is relative uniformity of authority and operational criteria across what is essentially a single operational theatre.

Finally, there are references to “District” in certain sections of Bylaw 169 which seem to refer to the “Water District” (e.g., the definition of “Board” in section 1, and as used in section 6), while in other parts of the bylaw, the intent appears to be to refer to the “Regional District” (e.g., in section 20, which speaks of obtaining assistance “from other officials of the District”, including “other District Fire Departments”). Again this minor lack of clarity could be cleaned up if the bylaw is updated.

Recommendation: The Cherry Creek Water Works District should review and revise its bylaws. This review should be considered in light of the possibility that local improvement districts are being phased out over time⁴¹.

Training

- Training is provided to all fire fighters to Fire Fighter 1 and 2 thus allowing for interior attack. The CCFD is in talks with Beaver Creek to enable firefighters to be trained and evaluated in SCBA bottle filling (a component of Firefighter I and II training).
- ICS⁴² and passport accountability is taught to all staff.
- First Responder to Level 3 with AED spinal.
- There are 2 FMR instructors in-house to train new recruits and recertification.
- Vehicle extrication is not taught as this is performed by Port Alberni.
- Training records are currently entered into FirePro2 although there is some question regarding the conformity with NFPA 1041 and also whether all training and drill sessions are entered into an employee record.

Major Needs/Current Challenges

- Replacement of the Fire Hall
 - At the present time, the CCFD lacks the funds to replace/rebuild the fire hall.
- Replacement of Apparatus
 - Likewise, at the present time, the CCFD lacks the funds to replace apparatus. The Department moves unspent funds into the Capital reserve at the end of the fiscal year. The Department has to have the funds in the bank before any purchases can be made. Although funds are tight they are not lacking. So far there have been no problems.
 - Current apparatus includes a 2010 – Pierce Contender 1250 GPM TCP, 1997 Freightliner 1050 GPM TCP w/ CAFS; 2005 Freightliner tanker 1,500 gallon w/ 250 gpm pump; 1993 Ford personnel carrier.
- Paperwork is a major issue and could be better managed by
 - A shared record management system (RMS).
 - Technology: RMS with an interface to CAD for alarm details would be helpful.
 - Shared support services – willing to look at a shared regional service to provide administrative support. With the Chief on a half time basis,

⁴¹ It is recommended also that this review take place in concert with the ACRD to ensure continuity within the region.

⁴² Incident Command System.

however, they are generally staying on top of their administration and records requirements.

Port Alberni

Introduction and Overview

The Port Alberni Fire Department (“PAFD”) is a unionized, career department operated by the City of Port Alberni. The department currently has two chief officers, one fire prevention officer and 20 firefighters, with a minimum shift strength of four. The firefighters are members of the IAFF, Local 1667 and are paid in accordance with the collective agreement. The City and the IAFF are currently negotiating the terms of the next collective agreement.

A major benefit of a career department is that there is available a permanent trained staff for immediate response. Early intervention at a fire scene by a trained crew can often limit property damage and risk to life. Operating a career department is significantly more expensive than corresponding volunteer departments. Career fire departments are usually operated by municipalities where fire risks and call volumes warrant that level of protection. In Port Alberni current financial constraints may limit the City’s ability materially to increase fire department staffing levels. The PAFD’s current staffing levels are adequate for initial responses but may not provide adequately for sustained operations at larger fire events.

In general, the PAFD has not had a recruitment and retention problem. The department utilizes long term employees, and experiences very little attrition. They have been able to attract qualified candidates when hiring, although the current practice of laying off the two junior firefighters during the fall and winter could impact their long term ability to continue to attract qualified candidates in the future.

The PAFD provides fire suppression, FMR and road rescue services. In respect of the latter, its coverage area is exceptionally large, extending to Bamfield to the south, Cathedral Grove to the east, Canoe Creek on the Tofino Highway to the west and Dixon Lake to the north. In accordance with the requirements of the FSA, the PAFD also conducts fire inspections within the municipal borders. The department is dispatched by North Island 9-1-1.

The department has one fire hall, which recently has received seismic upgrades. The apparatus includes the following:

- 2010 Spartan (Fort Garry) 1750 GPM triple combination pumper;
- 1992 Volvo/White/GMC (Anderson) 1,050 GPM triple combination pumper;
- 1995 Cyclone (Superior) 75 foot aerial quint;

- 1985 International Cargo Star (Hub) 1,050 GPM triple combination pumper (reserve);
- 2000 Freightliner FL 80 (Hub) 1,050 GPM triple combination pumper/rescue; and
- 1976 International Cargo Star 2,000 gallon tanker.

The PAFD also has a 1 ton rescue vehicle, two Chief Officer vehicles and a fire inspection vehicle. The PAFD operates in partnership with the Port Alberni Port Authority a 1998 Quay Craft aluminum hulled fire boat capable of pumping 700 GPM, complete with foam capability. The PAFD utilizes three CAD⁴³ mobile workstations⁴⁴ in fire apparatus.



Figure 11: Port Alberni hall 1

⁴³ Computer aided dispatch.

⁴⁴ The mobile workstation units in the fire apparatus provide a visual 'dispatch ticket' along with mapping, pre-plan and other information.



Figure 12: PAFD communications centre



Figure 13: PAFD mobile CAD

The PAFD's current operating budget is approximately \$2.5 million. The City has an aggregate tax base in excess of \$1.6 billion. The basic residential tax rate is a little under \$0.97/\$1,000 of converted assessed value. Residential taxes account for approximately half of the tax revenue that supports the PAFD; heavy industry accounts for about 28% and light industry and businesses account for most of the rest.

The PAFD is professionally managed and draws on City resources for matters such as human resources and other administrative support. The PAFD is an active participant in the coordinated Alberni Valley emergency plan. The Fire Chief and Deputy Chief are on the committee. The PAFD is the first point of contact for Emergency Operation Center (EOC) activation. The PAFD shares responsibility for notifying other regional agencies as appropriate when activating the EOC. The EOC is located at the ACRD offices and some concern was expressed about the lack of back up power supplies for equipment that would be used during an activation.

The last FUS report on the City of Port Alberni was conducted in 1985 and resulted in a rating of DPG 1 for residential purposes and PFPC 4 for commercial purposes.⁴⁵ The department is currently providing updated information to the FUS in response to some survey questionnaires. The PAFD expects that the City's ratings will remain the same given current operating practices.

The PAFD is a signatory to the Alberni Valley mutual aid agreement, and an active proponent of the proposed automatic aid agreement. The department sees significant mutual advantages to the departments which agree to participate in automatic aid.

Traditionally, automatic aid is established in identified border areas, where calculated travel times from another department are faster⁴⁶ than the home department. This can occur as a result of the vagaries of fire protection area layout, fire hall placement, community growth, road alignments, geography and similar factors.

The automatic aid agreement currently under consideration in the Alberni Valley is somewhat different. While border area response times may be included, the goal of this agreement is to define specific call types which would activate automatic aid call outs. These call types may vary with the jurisdiction, depending on the issues they face. For departments which need tanker support for non-hydrant areas, fire calls in certain portions of their fire protection area would result in an automatic aid call out for tanker support. In volunteer-covered areas, it may be that automatic aid would dependent on time of day, to ensure that an initial response is timely and adequately staffed.⁴⁷

⁴⁵ The gradings provided by the FUS relate to residential dwellings (Dwelling Protection Grade, or "DPG"), which are ranked on a 5-point scale (where 1 is fully protected and 5 is unprotected), and to fire protection for commercial operations, which are ranked on a 10-point scale (the lower the ranking, the better).

⁴⁶ This argument must be considered with great care for the reason that the PAFD is a career department and their response time = their travel time + approximately 1 minute to 'turn out' from the fire hall; for volunteer departments, their response time = their travel time + several minutes depending on the time of day for volunteers to leave their home or place of business and first drive to the fire hall and assemble a crew prior to driving to the scene of the emergency.

⁴⁷ For most volunteer departments, week day, daytime call-outs can be problematic. As several of the fire chiefs of volunteer departments noted, the increasing reluctance of employers to

Similarly, where there is a fire call that involves more than a single family residence, or which is of a nature that will require additional sustained operations, automatic aid would be invoked.

This more complex approach has significant advantages for all of the departments involved, though it will require careful situational definitions and thorough coordination with North Island 9-1-1 to ensure appropriate dispatching. From the perspective of the volunteer departments, the ready availability of the on-duty career members of the PAFD will ensure that there is a timely initial response regardless of the time of day. From the PAFD's perspective, the additional resources are important to provide assistance where sustained operations are required. This concept seeks to share the strengths of each partnering department to address specific challenges of other departments.

To the PAFD, the question of remuneration/compensation for services is not an issue. They are prepared to work with the other departments to develop a mutually acceptable solution. If compensation or other payments are to be provided, however, there would be an expectation of assurances such as that responding apparatus is ULC plated and the crews fully qualified to an agreement upon standard.

With respect to the issue of fire ground competence, if automatic aid is implemented (and as a safety matter for existing mutual aid call outs), there is a need for the departments to ensure that there is ready identification of training levels of all of the responding fire fighters. This is important in order to ensure adequate safety of all responders as well as to provide for optimum fire suppression services. Common training practices (lesson plans), cross-jurisdiction training exercises, involving mock major incidents (perhaps as part of the Regional emergency plan), would be useful to ensure that the systems and processes operate as intended.

Structure and Governance

The PAFD traces its roots back to departments established in 1909 (Alberni) and 1912 (Port Alberni). In 1967, the two departments were merged when Alberni and Port Alberni were amalgamated.⁴⁸

Bylaw No. 3599, Fire Regulation Bylaw, adopted 1 June 1981, provides for the regulation of certain aspects of the PAFD; it also provides for the regulation of various activities or situations which fall under the supervision or authority of the Fire Chief. This bylaw superseded Fire Prevention Bylaw No. 3284 (which has not been reviewed).

release volunteers from their jobs to respond to emergency calls, makes week-day responses potentially problematic.

⁴⁸ D.W. Philips, "A Historical Account of the Firehalls and Vehicles of the Alberni and Port Alberni Fire Departments," on <http://www.portalberni.ca/node/8>, accessed on 21 June 2010.

Bylaw 3599 is the subject of three applicable amending bylaws, two of which relate to the control and regulation of outdoor burning,⁴⁹ and one which updates the incorporation of powers from the FSA.⁵⁰ The Fire Chief's powers and responsibilities are further supplemented by a bylaw regulating the possession and discharge of fireworks and firecrackers.⁵¹

Fire services are an optional service which may be established and provided by a municipality under the *Community Charter* (B.C.). Strictly speaking, however, Bylaw No. 3599 does not provide for the establishment of the fire service within the City of Port Alberni. That likely arises under a separate, older bylaw (perhaps dating from the City's amalgamation in 1967). As it stands, however, even with its amendments, Bylaw No. 3599 does not completely align with the modern statutory structure. Two examples should suffice: first, under section 26 (and subsection 36(4)) of the FSA, a municipality must provide for a regular inspection of hotels and public buildings within its boundaries. Section 7 of Bylaw No 3599 grants the power of inspection to the Fire Chief or designate (in terms that are somewhat different than those provided under sections 21-23 of the FSA), but does not require the establishment of regular inspections. We understand that the PAFD effects such inspections on a regular basis (and conducts more than 850 inspections annually), but the mandatory terms of the FSA should be reflected in this regulatory bylaw.

Second, section 6 of Bylaw No. 3599 imposes restrictions on individuals impeding the work of fire fighters at a fire scene. It refers to the FSA, and possibly quotes from an earlier version of the Municipal Act (the structure of the provision suggests that the language was drawn from another statute or source, as it is shown as a quote). In their current forms, at least, neither the FSA nor the *Community Charter* address or regulate these issues.

In addition, Bylaw No. 3599 incorporates as part of the bylaw "the published standards of the Canadian Standards Association and the standards of the National Fire Protection Association". The potential impact of this provision is significant. The NFPA has established standards on matters ranging from the regulation of course of construction fire risks and wildfire interface situations, to general construction and electrical codes. On its face, Bylaw No 3599 would appear to incorporate all those standards into a

⁴⁹ Fire Regulation Bylaw Amendment No. 2 (Outdoor Burning) Bylaw (Bylaw No. 4457, 21 August 2000); Fire Regulation Bylaw Amendment No. 4 (Outdoor Burning), Bylaw No. 4697 (26 May 2008). Bylaw No. 4457 repealed Bylaw 3855 (not reviewed), which was likely the first amending bylaw to Bylaw No. 3599.

⁵⁰ Fire Regulation Bylaw Amendment No. 3, Bylaw No. 4638 (24 July 2006). This bylaw authorized the Fire Chief or his designate to exercise all of the powers of the Fire Commissioner in accordance with section 25 of the *Fire Services Act* (B.C.).

⁵¹ Fireworks Regulation Bylaw, 2002 (15 October 2002).

mandatory bylaw.⁵² It seems unlikely that this was the intent (nor is it clear how those standards were to be applied).

With respect to the Canadian Standards Association (the “CSA”), there are likely ancillary aspects of the PAFD’s operations that would be affected by this language,⁵³ though there did not appear to be any standards that were directly on point for fire department operations or fire apparatus. (Clearly, there may well be standards that affect equipment used by the PAFD, but there do not appear to be, for example, standards on fire department apparatus, as there are under NFPA.⁵⁴) The one exception may be CSA Standard Z1600 in relation to Emergency Management and Business Continuity Programs. While an excellent standard to be considered, the sweeping language of Bylaw No. 3599 would now appear to have made it a requirement for the PAFD (at the same time that it made the corresponding, substantially similar NFPA 1600 standard applicable as well).

We would recommend a review of both the original service establishment bylaw and Bylaw No. 3599 (as amended), with a view to updating both. The bylaw should cover issues such as: the continuation of the fire service, the jurisdictional limits of the fire service, the services authorized to be provided, and the authority of the Fire Chief and his or her designates (including control at fire or emergency scene operations). Additional regulatory matters which could be covered include fire inspections, regulation of fire hazards, regulation of alarm systems, emergency access and evacuation, and control of fire access routes. For reference, we attach a copy of the recently enacted Pitt Meadows Fire Protection and Life Safety Bylaw, No. 2405, which we reviewed as part of a project with the Pitt Meadows Fire Department.

Recommendation: The City of Port Alberni Fire Department should review and revise its bylaws.

The PAFD does have certain “regional” responsibilities – its coverage area for certain of its functions, such as road rescue and hazmat, extend well beyond the City’s borders. The agreement under which some of this is done (for example, hazmat) dates from 1992

⁵² There are several hundred NFPA standards, many of very general application, others very specific. Assuming that the adoption of the BC Building Code under Bylaw No. 3599 rules out a number of the broader, general codes (e.g., the NFPA building code, the NFPA electrical code, etc.), there may still be a number of NFPA standards which are inadvertently swept up by this broad adoption, which was never really the intent when the bylaw was originally drafted.

⁵³ Thus, certain equipment – such as personal protective equipment – may well be the subject of CSA standards. In Ontario, the CSA also runs training sessions in relation to the proper use, maintenance and filling of SCBA devices – though that program appears to be Ontario-centric and not national.

⁵⁴ NFPA 1901, Standard for Automotive Fire Apparatus.

and should be updated to ensure that it properly addresses the role being played (and incidents to which the PAFD is expected to respond).

Both the Chief and Deputy Chief have a progressive and region-wide appreciation of issues. They fully recognize the interconnectedness and mutual dependencies of the departments in the area and are working to improve relations with their neighbours.

Training

- The department has begun using the regional training centre at Sproat Lake; when they first considered it, the site was not certified. The PAFD Deputy Chief worked on behalf of SLVFD to get the appropriate certification and since then have put the Port Alberni members through it. PAFD intends to continue using that site annually. The training centre is regarded as a good starting place for training and can be developed and expanded over time.
- The City is prepared to contribute funding for capital improvements to the training site.
- Feel there is mutual benefit from a regional training officer, or a regional training function. This would help develop common standards and practices across the region, improve the delivery of both mutual and automatic aid, in addition to making departments more effective in their own suppression areas.
- The ACRD is exposed to the potential of liability for all actions undertaken at the live fire training site. A regional training officer (or similar position) could ensure that there is oversight of the facility and activities undertaken there.

Major Needs/Issues

- PAFD has a need for additional fire fighters at certain times:
 - The mutual aid departments can provide these although not with 100% certainty.
 - Mutual Aid does not provide for additional resources that can be recognized by the Insurance Underwriters. With an automatic aid agreement in place, all areas will benefit in terms of fire protection ratings.
 - There is a concern that Incident Commanders cannot be certain that responding firefighters are uniformly qualified for interior attack; In the absence of a clear and dependable means to ascertain the qualifications of responders from other departments, Incident Commanders will underutilize all resources from other departments in order to provide for the safety of all responders.
 - An automatic aid agreement will improve the response into Port Alberni in terms of secondary response resources, but it will also improve the

response to the regional fire departments in terms of primary response resources.

- Following from this, there will be a need for an agreement on the definitions of fire fighter competencies; this should be part of the overall report
 - A regional training officer could help address the issue of consistent and identified training standards, as would better coordination between the departments in terms of standardized indicia for various levels of fire fighter qualification.
- Regional training, either as a shared function, or a defined training officer.
- Technology
 - There was interest in a hosted solution for records management. If it was approached on a region-wide basis, and hosted through North Island 9-1-1, it would be beneficial for all and simplify records keeping (and potentially IT issues). PAFD believes that a hosted RMS solution should be funded at the regional level.

Governance Issues

Managing the Regional Fire Services

The ACRD currently is responsible for three fire departments and, as noted above, it operates a devolved governance model. The volunteer Fire Chiefs are given primary operational and administrative responsibility for all aspects of their respective departments. The ACRD provides little direct oversight or control, outside of the budgetary process.

The delivery of fire services, however, is becoming more demanding, with a widening array of service requests, coupled with a growing focus on administration and documented processes. Failure to meet these obligations can give rise both to personal liability for individuals who are in charge and corporate liability for the ACRD, which is ultimately responsible for the service. The passage of Bill C-45 in 2004, which implemented the new section 217.1 into the *Criminal Code* (Canada), potentially makes the individuals involved liable to criminal penalties if a fire fighter or a member of the public is injured, and it is determined there was a failure to “take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task”.⁵⁵

WorkSafe BC issues also require careful management. The 2004 death of a volunteer fire fighter in Clearwater B.C., during an interior attack at a structure fire in an abandoned restaurant, highlighted the need for proper administrative systems in volunteer departments. The Coroner’s Report, echoing the findings of WorkSafe BC, deemed the fire fighter inadequately trained for an interior attack, as the Clearwater department was unable to provide proper documentation of the fire fighter’s training. The fire chief maintained in testimony that the two individuals who had been sent into the building were properly trained, but the department lacked appropriate training records to support his contention.⁵⁶

In the Coroner’s report on the Clearwater Incident, several recommendations were made, including that the Office of the Fire Commissioner (the “Fire Commissioner”) together with the employers, “initiate and maintain a regular inspection and audit process to ensure volunteer fire departments and fire fighters meet provincially recognized

⁵⁵ Bill C-45 is federal legislation that amended the Canadian Criminal Code and became law on March 31, 2004. The Bill established new legal duties for workplace health and safety, and imposed serious penalties for violations that result in injuries or death. The Bill provided new rules for attributing criminal liability to organizations, including corporations (and governments), their representatives and those who direct the work of others. See: the Canadian Centre for Occupational Health and Safety website for a good overview of this law, at: <http://www.ccohs.ca/oshanswers/legisl/billc45.html> .

⁵⁶ See: BC Coroners Service, “Judgement of Inquiry into the Death of Chad Jerry Schapansky”, 2 February 2006 (Case No. 2004:565:0011), especially at pp. 6,7.

standards for equipment, training and operational policy". In response to this report, the Fire Commissioner released a proposal which includes a draft of a detailed inspection and audit checklist for volunteer fire departments.⁵⁷ While this proposal remains a draft, it is clear that a new layer of oversight and inspection is approaching for volunteer departments in the province. The aim of this oversight is to increase both safety and effectiveness, and should be embraced as such. The downside, however, is that it also means a new layer of administrative requirement and further burden on a system which, in some aspects, already is struggling to keep up with its paperwork.

In our facilitations and subsequent meetings with the ACRD Fire Chiefs, they noted that the rising administrative burden and potential for personal liability, were both of growing concern. They also noted that, historically, the ACRD Board and ACRD staff, had not taken a concerted interest in the operation of or issues facing the fire departments. Enhanced administrative support and better regional coordination were concepts that received strong support from the three departments.

Unlike a municipality, Regional Districts typically see their responsibilities for fire and rescue services grow organically over time, as unincorporated centres of population petition for and establish these services in accordance with local wishes. In some cases, there are Regional Districts directly responsible for a dozen or more different fire suppression areas.⁵⁸ For many Regional Districts, the appointment of an emergency services or fire services coordinator provides the answer to the challenge of managing their responsibilities for fire and other regional emergency services.

We would recommend that the ACRD adopt this approach and consider appointing a fire services coordinator, whose function would be essentially five-fold:

1. To provide a regional coordinating role, to assist departments in coordinating training, recruitment efforts, equipment and apparatus purchases, the development of standardized operational guidelines, helping to establish standard proficiency criteria for chiefs and officers and managing operations with other fire departments and emergency services (including issues related to the development or refinement of automatic aid and mutual aid agreements);

⁵⁷ Office of the Fire Commissioner, *Bulletin from the Office of the Fire Commissioner: The Office of the Fire Commissioner's Response to the Coroner's Judgement of Inquiry recommendations regarding the death of Fire Fighter Chad Schapansky*, May 2008.

⁵⁸ For example, the Regional District of East Kootenay manages 12 fire departments, while each of the Columbia Shuswap Regional District and the Regional District of Fraser-Fort George, is responsible for 13 separate departments. The Cariboo Regional District currently has 14 regional fire departments.

2. To provide an effective voice for fire departments at the ACRD Board level and with ACRD staff, and to ensure coordination between the fire services and other ACRD functions (such as Planning);
3. To help provide (or develop) appropriate administrative support for fire departments;
4. To help departments develop and implement fire safety and fire education programs in their respective fire suppression areas; and
5. To provide oversight of fire department operations for the ACRD to ensure that the departments are meeting required standards, including training standards, and occupational health and safety requirements.

In some jurisdictions, the Fire Services Coordinator (or equivalent), essentially acts as the senior “Chief” with potential operational responsibilities and authority. We do not see the need for that level of responsibility here. Indeed, given that there are only three departments for which this individual would be responsible, we do not see this as a full-time position (unless other significant emergency or protective service functions were included in the role, as happens in some Regional Districts⁵⁹).

In developing the terms of reference for this position, the existing fire chiefs and officers should be consulted and their views incorporated into the final job description and role of the Fire Service Coordinator.

Recommendation: The ACRD should implement the position of fire services coordinator.

Revising the ACRD Bylaw Structure

As noted in the sections discussing the bylaws and governance structures of each of the Bamfield, Beaver Creek and Sproat Lake departments, the ACRD should review its overall bylaw structure for the fire services. Since departments in Regional Districts develop in response to local need, it makes sense to split the bylaws into three separate types:

1. Establishment bylaws, which establish the local service in the particular fire suppression area (including the ambit of each fire department’s jurisdiction and services offered by such department);

⁵⁹ For example, the Fire Services Coordinator in Fraser-Fort George is also responsible for overseeing three separate road rescue agencies operating in that jurisdiction. In the Cariboo Regional District, there is a Manager of Protective Services, who appears to have responsibility for overseeing most of the emergency services and planning for which that Regional District is responsible.

2. An operational criteria bylaw which establishes how each fire department for which the ACRD is responsible, is to operate (including matters such as how a chief is to be selected, proficiency requirements for chiefs and officers, training requirements, powers and authority at a fire scene, etc.). This bylaw can also define how additional emergency services (such as FMR or road rescue) will be offered, without requiring that all departments offer such services, as well as the role of the Fire Service Coordinator; and
3. Separate fire prevention and similar regulatory bylaws, which may vary from fire suppression area to fire suppression area (though in most cases should be consistent across the fire suppression areas).

This approach makes the process of future refinement or revision clearer and easier. It also ensures that practices and requirements (as contained in the operational criteria bylaw) are standardized across the ACRD. In the future, if a new department were to be established, it would require its establishment bylaw, but its operation automatically would fall under the operational criteria bylaw.

Mutual Aid and Automatic Aid

Within the Alberni Valley, mutual aid arrangements have existed for some time. A revised mutual aid agreement has been largely agreed between the four departments involved. An automatic aid agreement is currently under discussion, with three of the four departments, all except Cherry Creek, in general agreement as to how such an arrangement would work.

Mutual Aid Agreement

Mutual aid arrangements are a standard feature for the fire services. Even major metropolitan departments potentially face situations where their own resources are insufficient to meet all potential emergencies that may arise.⁶⁰ Mutual aid enables a jurisdiction to request assistance from a neighbouring fire department, and specifies the basis on which such assistance will be provided (including such issues as compensation and potential liability).

The mutual aid arrangements between the Beaver Creek, Cherry Creek, Port Alberni and Sproat Lake departments have recently been renegotiated. We provided some comments on the form of the agreement in the course of our individual meetings with the department chiefs and the Regional District staff.

⁶⁰ As the Vancouver Fire Department discovered during the Stanley Cup riots in 1994.

We must caution that any comments in this report, whether on agreements or bylaws, should not be construed as legal advice and should be confirmed by the participants with their respective legal counsel.

While there are a number of minor comments that could be made about the wording of the new mutual aid agreement, the one issue that definitely should be reviewed is the language in the indemnity and waiver/release sections (sections 13 and 15). These sections read as follows:

13. No Party to this Agreement shall bring any claim, action, or demand against any other Party to this Agreement or its elected officials, officers, employees, agents, volunteers, or contractors and, without limiting the generality of the foregoing, in respect of or in any way related to the decision of a Chief Fire Officer as to the level of Mutual Aid, if any, or the withdrawal of Mutual Aid to be provided under this Agreement.

15. The Party responsible for the Requesting Fire Department shall indemnify and save harmless the Party responsible for an Assisting Fire Department, its elected officials, officers, employees, agents, volunteers, or contractors from and against any and all claims, demands, actions, causes of action, loss, costs, damages, and expense (including legal fees on a solicitor-client basis) in respect of or in any way related to the provision of Mutual Aid under this Agreement and, without limiting the generality of the foregoing, any action taken or thing done or any failure to take action or do a thing under this Agreement.

Section 13 is very broadly cast. It really should be limited to “any matter or issues arising out of or in connection with this Agreement”. It also poses a problem in relation to section 15. Under section 15, a very broad indemnity is provided by a Requesting Department to a Responding Department. If a Responding Department seeks indemnification under this section, and the Requesting Department refuses it, section 13 would appear to prevent the Responding Department from enforcing that request through the courts. Thus, section 13 should be further curtailed, and an exception be created for actions to enforce the indemnification rights under section 15.

In relation to section 15, moreover, it is not unusual to carve out exceptions for the indemnity where the party seeking such indemnification has been grossly negligent or guilty of wilful misconduct.

Automatic Aid Agreement

Three of the four Alberni Valley fire departments – PAFD, BCVFD and SLVFD – have agreed the basic format of an automatic aid agreement. As noted above, automatic aid agreements involve the call-out of both the local fire department, in whose jurisdiction the incident has occurred, and one or more other responding departments. Typically,

automatic aid is used to cover border regions, where a neighbouring department may have a better response time as a result of geographic proximity. The Alberni Valley departments, however, are seeking to craft an agreement that will maximize the strengths of the participating departments and provide coverage or support in defined circumstances where a participant is likely to require assistance. Thus, the aim of the agreement is to define certain call types, circumstances and/or call-out times, where automatic aid would be invoked by their dispatch organization, North Island 9-1-1.

Conceptually, automatic aid agreements are an excellent approach to maximizing available resources and providing more effective coverage. Where there is a blend of volunteer and career departments, it means that for the former, in the defined automatic aid situations, they can be reasonably assured of a response,⁶¹ even if there are issues with gathering sufficient volunteers for the particular call. For a career department, it means that staffing in depth will be available for major incidents (with the automatic aid call-out significantly reducing the time for those additional units to arrive on scene).

Response time calculations in the context of a potential automatic aid agreement are considered in greater detail in the Service Areas and Responsibilities section below. Suffice to say that, from the perspective of the City of Port Alberni and those in the Cherry Creek Water Improvement District, it would make a great deal of strategic sense if the CCVFD were also a participant in the arrangements.

A draft agreement has been prepared which seeks to describe these automatic aid arrangements. The participants were frank in noting that the agreement needs work. The current document contains extensive discussion of the concepts behind the automatic aid program mixed with some “legal language”. The layout (which lacks section numbering) creates potential uncertainty, and some of the legal concepts are poorly defined. We have reviewed the arrangement, and would suggest the following:

1. A formal legal framework could easily be adopted from the agreed language in the mutual aid agreement. The legal component should be kept as simple and straight forward as possible. It should address:
 - a. the parties;
 - b. the extent of (and limitations on) their respective commitments to one another;
 - c. whether any payments are to change hands (and if so, for what, and how much);

⁶¹ Any automatic aid agreement is subject to the other department's unit not being involved in another incident.

- d. the extent of their potential liability to each other and to the public (and limitations on that liability);
- e. the term of the agreement;
- f. the process for modifying the agreement (and schedules); and
- g. the process for a party to withdraw.

The legal framework should also commit the parties to regularly scheduled meetings to review the operation of the arrangement and to modify any aspects which have proven unsatisfactory (we would suggest at least three meetings a year, with the right for any party to request that a meeting be held). Finally, the legal framework would include standard language related to matters such as governing law, power and authority, and similar matters. Consideration also should be given to including a dispute resolution mechanism, which could be invoked instead of – or before – going to court.

2. The planned automatic aid program is more complex than the corresponding mutual aid agreement. The majority of the substantive aspects of **how** automatic aid is to work, should be contained in one or more schedules, which are expressly made subject to regular modification and refinement. The schedules should contain the discussion of the concepts behind automatic aid, define the situations that trigger automatic aid call-outs, address issues surrounding appropriate training and qualifications for responders (and how they are to be identified by an officer in charge), and set out agreed operational guidelines for each of the participating departments in relation to automatic aid responses.

We would note that the insurance requirements specified in the Automatic Aid Agreement are double those set out in the Mutual Aid Agreement. The rationale for this is not apparent, and we would recommend that the levels agreed in the latter should be considered. It is possible that the higher insurance limits could impact the participation of the CCFD, which must access insurance through a private insurance company, rather than the Municipal Insurance Agency.

When crafting the schedules, care should be taken to ensure that the fundamental agreement in the legal framework is not inadvertently overridden. Indeed, unless expressly modified, the legal framework should take precedence over the language in the schedules (which should not cause significant problems, as the legal framework will not delve deeply into operational matters, which should be the focus of the schedules).

Before any agreement is signed, the parties would be well advised:

- to have thoroughly mapped out what incidents and situations are triggers for automatic aid;

- to have determined what operational guidelines and additional training are required;
- to have confirmed and tested the new arrangements through North Island 9-1-1; and
- to have had the legal framework (particularly with respect to potential liability issues) reviewed by legal counsel. Counsel should also review the schedules for both clarity and consistency with the main agreement.

On a general note, we believe that an automatic aid agreement, functioning as contemplated by the parties, will be of significant advantage to all participants.

Service Areas and Responsibilities

The area being reviewed is comprised of the majority of fire departments in the ACRD with the exception of Tofino and Ucluelet. Figure 14 shows the configuration of the Beaver Creek, Cherry Creek, Port Alberni and Sproat Lake fire departments. Figure 15 shows the fire hall configuration for Bamfield, approximately 80 kms by road from Port Alberni⁶².

In the following section, each of the fire departments will be discussed in terms of their call volume and pattern of emergency response. The response data will then be aggregated to determine the relative percentage of responses for each area.

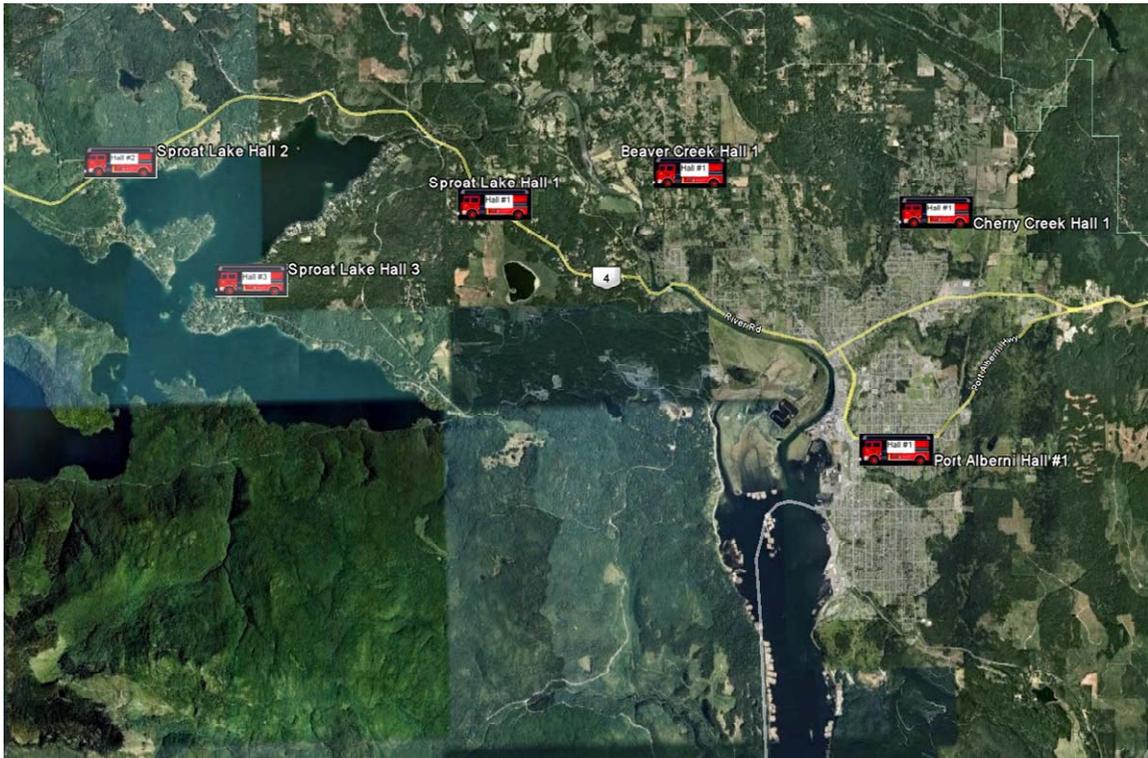


Figure 14: Alberni Valley, 4 fire departments

⁶² Each of the maps shown in the report were produced using a licenced copy of Google Earth Pro[®], with data related to fire incidents being imported on a department-by-department basis.



Figure 15: Bamfield, two fire halls

The response information was provided by the North Island 9-1-1 Corporation which provides dispatch services for all fire departments in the ACRD. The data set⁶³ provided included the date and time of each incident along with an address and where appropriate a sector⁶⁴.

Response Data

Bamfield

Bamfield is by far the smallest fire department in terms of its call volume, responding to a total of just 8 incidents in three years. These include responses to monitored alarms to the marine sciences centre and other facilities in addition to motor vehicle incident (MVI's), brush fires and one structure fire.

⁶³ The data set included 4,312 responses by the 5 fire departments being reviewed; the data was provided in an Excel document with separate worksheets for each fire department. In addition the response for the entire group was provided in an Access format. The very helpful assistance of the North Island 9-1-1 Corporation and in particular Assistant Chief Chris Vrabel is noted.

⁶⁴ The sector in this case normally refers to a response within the normal fire district, or outside this area, often times for road rescue. In this regard, Port Alberni and Beaver Creek are the two departments that provide road rescue services within the ACRD to the boundaries.

DISPOSITION CODE	Total
Alarms	3
Beach/Brush/Misc. Outdoor	1
MVI	2
Rescue/Extrication	1
Structure - Fire	1
Grand Total	8

Table 1: Bamfield VFD responses from 2007 to 2009

Beaver Creek

The Beaver Creek Volunteer Fire Department is situated to the west of Cherry Creek and north-west of Port Alberni. The department has the second highest call volume, with slightly over 300 responses in three years. The responses are summarized in table 2 which shows that more than 50% of the responses by the BCVFD are for first medical responder (FMR) and MVI's.

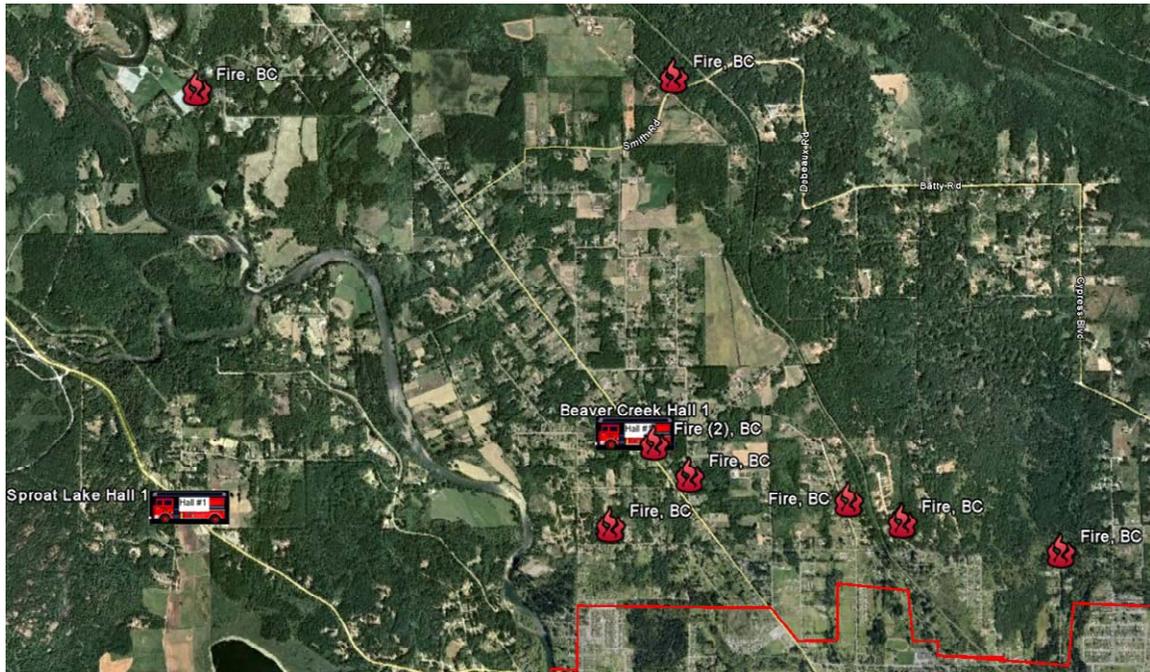


Figure 16: Beaver Creek VFD structure fires, 2007 to 2009

Figure 16 illustrates the structure fires to which the department has responded in the three years for which data was provided and it can be seen that all but two of them are reasonably near to the fire hall. Based on this cluster of incident activity, the fire hall is probably well sited.

Table 2 provides the details regarding each call type the department was dispatched to.

DISPOSITION CODE	Total
Alarms	51
Beach/Brush/Misc. Outdoor	48
Carbon Monoxide	4
Chimney Fire	7
Dispatch Action	4
First Responder	141
Hydro Trouble	3
MV Fire	7
MVI	30
MVI - Ped Struck	4
Natural Gas Incident	1
Public Service	3
Rescue/Extrication	3
Structure - Fire	8
Structure - Smoke/Odour/Electrical	4
Grand Total	318

Table 2: Beaver Creek VFD, responses 2007 to 2009

Cherry Creek

Cherry Creek shares much of its southern boundary with Port Alberni. The Cherry Creek VFD is the 4th busiest fire department within the 5 departments being reviewed. Its total call volume for the years 2007 to 2009 was 196.

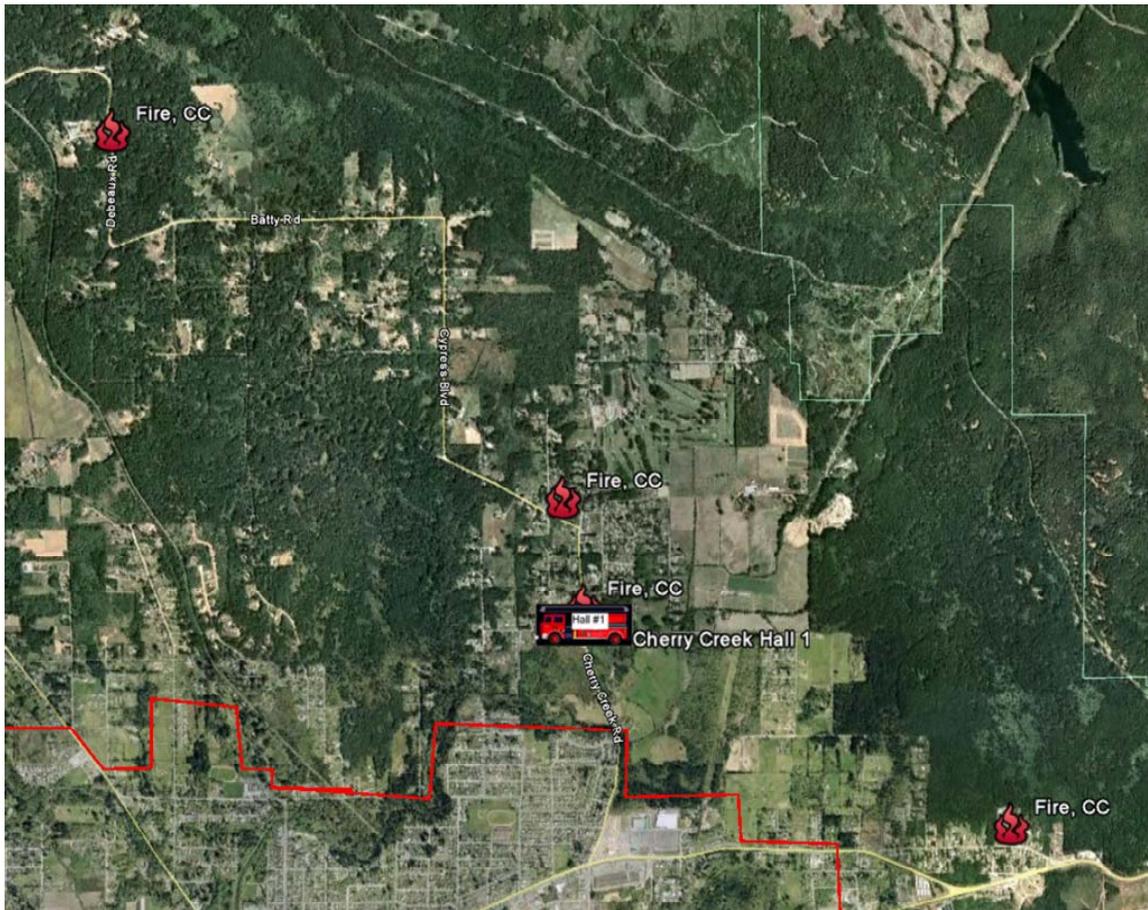


Figure 17: Cherry Creek VFD structure fires, 2007 to 2009

The fire department operates from a fire hall on Cherry Creek Road as shown in Figure 17 and is reasonably well located in the centre of its fire district. This figure also indicates the locations of the structure fires within the jurisdiction of Cherry Creek that could be mapped; at least one of their additional structure fires appears to have been a mutual aid call with Port Alberni.

Table 3 summarizes Cherry Creek's responses and from this it can be seen that just over 100 out of 196 responses are either first medical responder or MVI's.

DISPOSITION CODE	Total
Alarms	18
Beach/Brush/Misc. Outdoor	41
Carbon Monoxide	2
Chimney Fire	1
First Responder	65
Hazmat	1
Hydro Trouble	6
Mutual Aid	11
MV Fire	5
MVI	32
Public Service	4
Rescue/Extrication	4
Structure - Fire	6
Grand Total	196

Table 3; Cherry Creek VFD responses from 2007 to 2009

Port Alberni

The Port Alberni Fire Department operates from a single fire hall at 3699 10th Avenue as shown in Figure 18. This map shows the fire boundaries for the department and the distribution of structure fire calls during the period 2007 to 2009. From this map it can be seen that the location of the fire hall is quite central to its response area.

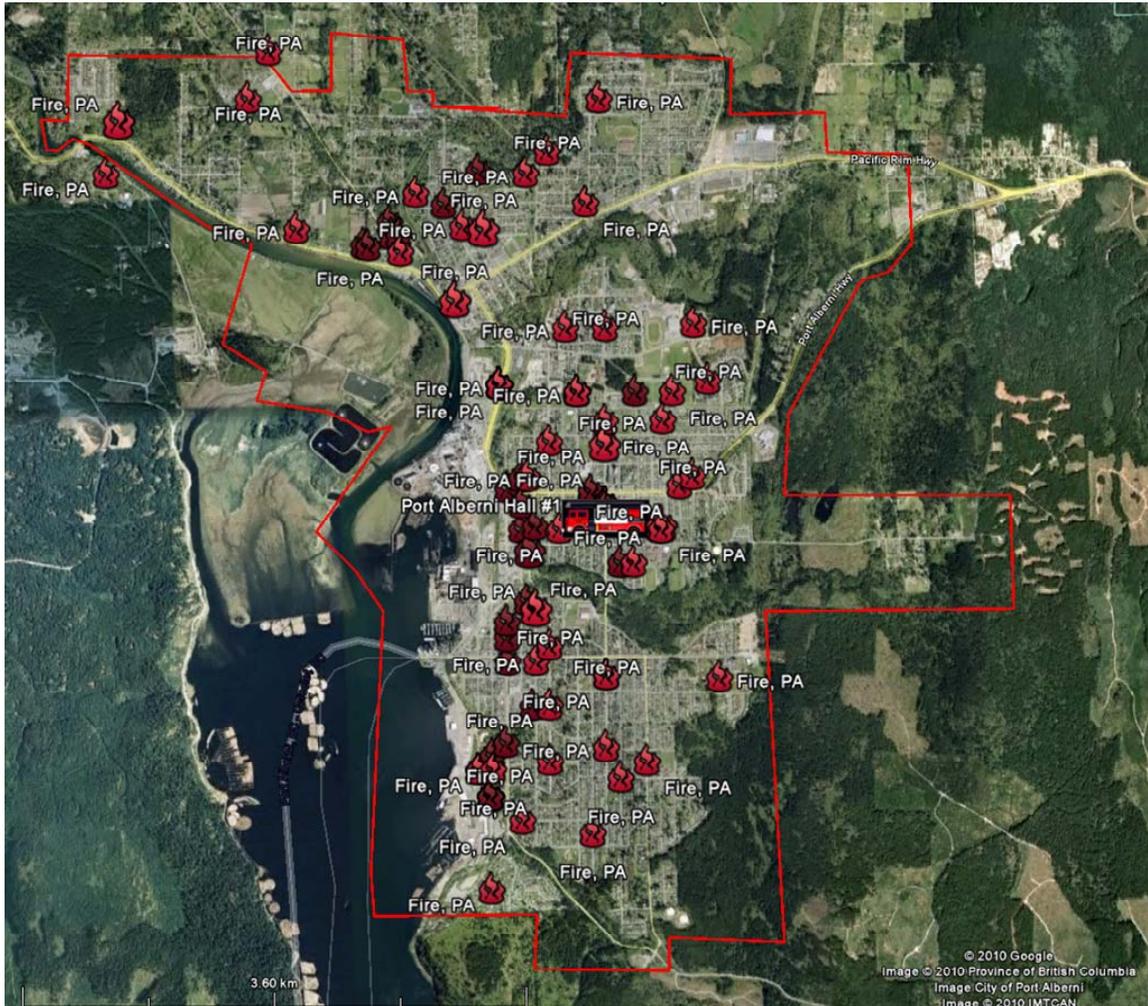


Figure 18: Port Alberni Fire Department structure fires, 2007 to 2009

One issue that arises is the development on the north side of Port Alberni and the location of the Cherry Creek Fire Hall as shown in the Figure 19. In terms of 'drive time' the unit(s) from the Cherry Creek fire hall are well positioned to respond to the area of Johnston Road and this is among the areas being considered for automatic mutual aid by the regional fire departments.

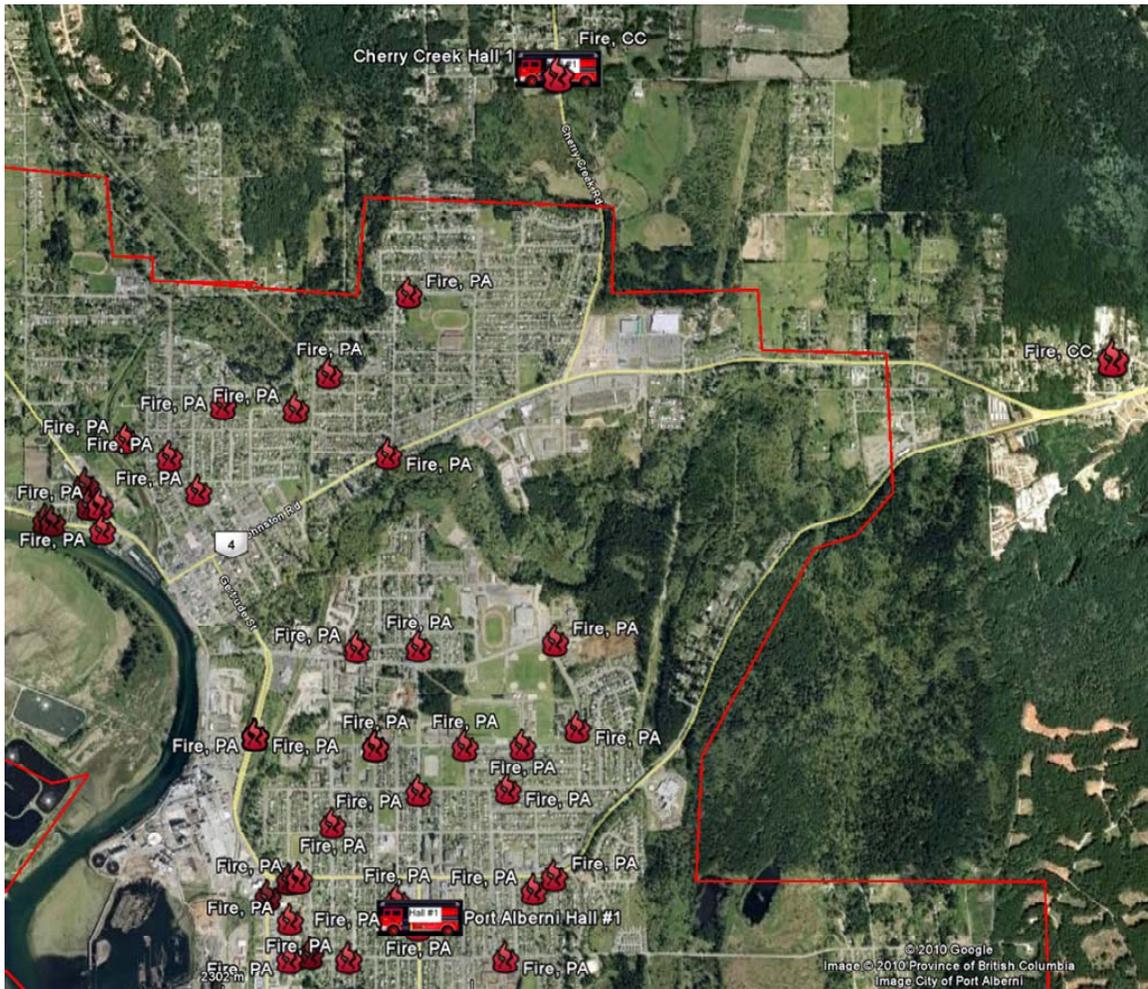


Figure 19: North Boundary of Port Alberni adjacent to Cherry Creek fire hall

The detailed breakdown of responses by the Port Alberni Fire Department is shown in Table 4. Like most other fire departments, Port Alberni responds to FMR and MVI related incidents more than 50% of the time; a figure that is seen in most fire departments in British Columbia.

DISPOSITION CODE	Total
Alarms	775
Beach/Brush/Misc. Outdoor	420
Carbon Monoxide	12
Chimney Fire	46
First Responder	1,715
Fuel Incident	20
Garbage Container	28
Hazmat	13
Hydro Trouble	15

DISPOSITION CODE	Total
Marine Incident	5
Mutual Aid	4
MV Fire	37
MVI	299
MVI - Ped Struck	38
Natural Gas Incident	35
Public Service	89
Rescue/Extrication	105
Structure - Fire	90
Structure - Smoke/Odour/Electrical	90
Grand Total	3,836

Table 4: Port Alberni Fire Department responses from 2007 to 2009

Sproat Lake

The Sproat Lake Volunteer Fire Department is the third busiest department in the group being reviewed, and it responds from three fire halls as shown in Figure 20. This map also shows the location of structure fire calls within the department's coverage area in the years 2007 to 2009.



Figure 20: Sproat Lake VFD structure fires, 2007 to 2009

The structure fire calls are well distributed throughout a fairly large area and the rationale for a three-hall model based on the location of both the fire calls and the volunteers is apparent.

Table 5 provide details regarding the breakdown of responses for the department and, similar to every other fire department, more than 50% of the call volume relates either to FMR or to MVI's.

DISPOSITION CODE	Total
Alarms	24
Beach/Brush/Misc. Outdoor	25
Carbon Monoxide	1
Chimney Fire	7
First Responder	81
Hydro Trouble	6
Marine Incident	1
Mutual Aid	2
MV Fire	3
MVI	42
MVI - Ped Struck	2
Public Service	6

DISPOSITION CODE	Total
Rescue/Extrication	6
Structure - Fire	7
Grand Total	213

Table 5: Sproat Lake VFD responses from 2007 to 2009

Table 6 summarizes the responses for all five fire departments for the years 2007, 2008 and 2009. From this it can be seen that call volume is reasonably consistent during this period of time increasing approximately 3.9% over the three years.

	Total	Percentage	2007	2008	2009
Bamfield	8	0.19%	3	1	4
Beaver Creek	318	7.37%	92	109	117
Cherry Creek	196	4.55%	50	79	67
Port Alberni	3,577	82.95%	1,178	1,217	1,182
Sproat Lake	213	4.94%	70	65	78
	4,312	100.00%	1,393	1,471	1,448

Table 6: Responses by years 2007, 2008, 2009

The relative call volume for each of these departments is illustrated in the pie chart in Figure 21.

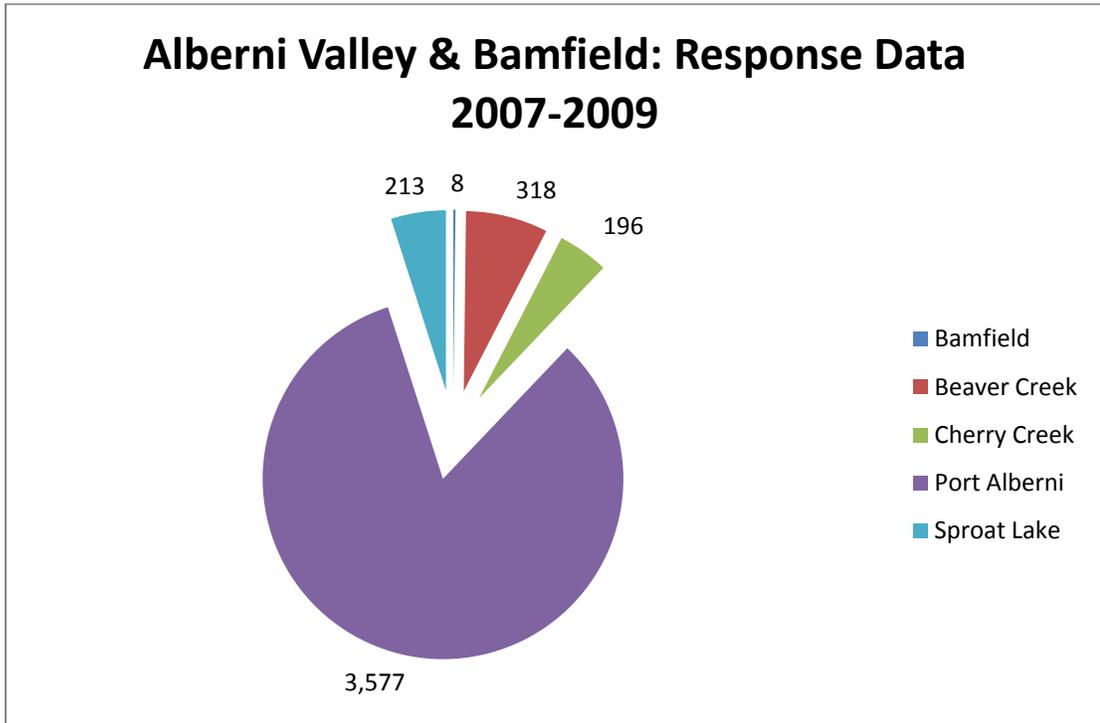


Figure 21: Pie chart--total calls for 5 fire departments

Proficiency Criteria for Fire Chiefs and Deputy Fire Chiefs

In the past many volunteer departments selected their fire chief based solely on who was thought to be the best firefighter or the most popular person on practice night. Today, volunteer fire departments are subject to increasing regulatory scrutiny and must focus on operational integrity and business excellence similar to organizations that are operated by full time staff. The strength and quality of an organization's cohesiveness, effectiveness and motivation depends on the strength and leadership of those in charge. Much has been written and discussed regarding the need for trained fire fighters to provide safe and effective emergency response, although where leadership is poorly trained or ineffective it becomes a problem that multiplies and undermines the effectiveness of the entire organization. As the fire service changes, so does the demand for demonstrated competencies and proficiencies at various levels.⁶⁵

The challenge becomes one of ensuring that the leadership in each fire department is trained, knowledgeable, skilled and able to deal with issues at that level. Leadership within an organization does not begin at the point that a person is needed to assume higher-level positions, but rather, begins with the introduction of an individual to that organization. This discussion will consider proficiencies (also known as competencies) that can be achieved through verifiable training and quality experience that demonstrate leadership ability to succeed within a fire department.

In approaching the topic of training and resulting proficiencies for volunteer and partial-paid positions, one of the foremost concerns is the limited amount of time that volunteer fire officers have to perform all the duties that are expected of them. In addition, most of the training that is now being provided is directed at improving technical knowledge, rather than developing administrative or leadership skills, making this subject area a relatively new topic of discussion. It was clearly stated during the meeting with the ACRD Fire Chiefs and Deputies that this topic could create a bigger problem than it will solve if not handled properly, therefore a sensible and tolerant approach is required.

This project did not include an in-depth analysis of each fire department including information on the specific level of training and preparedness for fire chief and deputy fire chief positions however a general understanding was obtained regarding the current level of training and expectations within the Beaver Creek, Sproat Lake and Cherry Creek departments.

⁶⁵ Proficiencies can otherwise be defined as aptitude, competencies, skills, demonstrated ability, and expertise in a specific discipline or function and are often used interchangeably with competencies.

General Qualification for Fire Chief and Deputy Fire Chief

As the fire service changes, so does the demand for demonstrated proficiencies at various levels. This competency generally flows from a combination of training, education, and quality experience.

A reported entitled, "Call to Action"⁶⁶ published by the International Association of Fire Chiefs, notes that, "*the lack of quality leadership is the most critical issue confronting the volunteer fire service*" and that the "*lack of quality local leadership is cited as the most significant problem to retaining volunteer fire fighters.*" The challenge is one of ensuring that the leadership within the fire department is trained, knowledgeable, skilled and able to deal with issues at that level.

As previously noted, one of the foremost concerns is the limited amount of time that volunteer fire officers have to perform all the duties that are expected of them as well as training for additional levels of responsibility.

In January 2003 a Ministers' Order was issued in accordance with Fire Services Act subsection 3(3)(b) declaring that training of all fire personnel was to be in accordance with the National Fire Protection Association (NFPA). Fire Chiefs and Deputy Fire Chiefs clearly require additional training in order to improve their ability to fulfil their roles and to meet the requirements set out in the Minister's Order.

To lay the foundation for discussion related to the training of fire officers including fire chief and deputies, some assumptions must be made related to the training that is required and provided to fire fighters.

The following is a list of minimum requirements for Fire fighter training:

- One of the following three levels of firefighter training (the list is progressive, from most basic to advanced; the goal should be to progressively train fire fighters through these levels):
 - Basic Fire Fighting Certificate (9 essential topic areas) or equivalent: equates to exterior (defensive) firefighting only;
 - NFPA 1001 Fire Fighter level 1; equates to interior (offensive) firefighting team member; and
 - NFPA 1001 Fire Fighter level 2; equates to interior (offensive) firefighting team leader.
- Incident Command System 100.
- Emergency vehicle driving, including air brakes if applicable.

⁶⁶ Call to Action (March 2004) was published by the International Association of Fire Chiefs and is otherwise known as the "Blue Ribbon Report, Preserving and improving the future of the volunteer fire service."

- Pumps and pumping.
- Live fire 1, (minimum).
- Understanding of critical incident stress on responders.
- Other technical training to perform duties related to services provided.

For Fire officers – Lieutenant / Captains (In addition to the training and experience gained as Fire fighter)

- Structural fire ground command including strategy and tactics.
- Basic fire-cause determination.
- Basic supervisory skills.
- Emergency Scene Management.

While some fire departments require NFPA Fire Officer 1 (NFPA 1021⁶⁷) to be completed for promotion to an officer level, the time demands can be prohibitive, particularly within volunteer departments. As noted elsewhere in this report, however, the Minister's Order makes NFPA standards the basis for training requirements in British Columbia. Unless a comparable standard can be identified, compliance with NFPA as the training standard is not a topic that is open for debate. Therefore, the minimum level of training for any officer position must be NFPA 1021 level I.

Fire Chiefs clearly require additional training in order to improve their ability to fulfil their roles and to meet the requirements set out in the Minister's Order. Using NFPA 1021, Fire Officer 1 as a guide, the following is a list of the minimum proficiencies required by a Fire Chief that should be considered for adoption by the ACRD:

- Governance and administration of the fire department.
- Leadership/supervisor skills.
- Risk assessment – identification, responsibilities and standards.
- Incident Command System 300/400.
- Financial management/budget preparation.
- Services and limitations to what you can/should provide and why.
- Human resource functions.

⁶⁷ NFPA 1021, Fire Officer Professional Qualification Standard typically is seen as the standard for career departments, and is broken into four levels; Fire Officer 1 is intended for captains/lieutenants who are in charge of a single apparatus and related staff functions; Fire Officer 2 is intended for Captains/District/Battalion/Assistant chiefs in charge of a station or a response of multiple apparatus; Fire Officer 3 is directed at Deputy Fire Chiefs in charge of multiple apparatus or stations including administrative duties; Fire Officer 4 is directed at Fire Chiefs with overall responsibilities including acting as a part of jurisdictional planning and administration team and ability to function at the political level.

- Physical resources – apparatus and buildings
- Training and competencies
- Internal/external relationships

Implementation of these standards should be mandatory, but phased in over a determined time period.

Although the requirement for additional training was raised during the meetings with the ACRD Fire Chiefs we would emphasize that there is a need for additional discussion and agreement with all members of the fire departments who potentially will be impacted. For volunteers, there are “costs” associated with obtaining this training beyond just the monetary cost of the training. The ACRD will need to review the commitment involved, and find an appropriate means of recognizing the investment of time required by volunteers to achieve these minimum standards. For example, it would be inappropriate to require extensive training to qualify as either a Fire Chief or Deputy Fire Chief if no additional compensation was provided. Indeed, it could lead to a situation where insufficient volunteers are prepared to take on such roles.

The concept of minimum training also impacts the issue of tenure for a chief (and, potentially, for officers). The present practice within the ACRD is for the members of each department to annually or biennially select their Chief, an approach that may pose a challenge with the requirement that the Chief or Deputy Chief obtain additional supervisory or leadership training that may go beyond this length of time.

In implementing these changes, there also is a need to allow sufficient time for members to access the training that is being introduced, with appropriate transition provisions being developed. It may also be that some existing members will be accepted as having met an equivalency (grandfathering provision) to the standards being proposed based on training and experience that was acceptable prior to a new system being introduced, with the clear direction that future candidates for those positions must possess minimum qualifications prior to being promoted. A succession training plan should be adopted to facilitate this.

The additional training requires further commitment from members; it also requires an additional funding commitment to cover the training costs and to account for the additional time commitment of the affected Chiefs and officers. By adopting the recommended requirements, however, the ACRD will be making a significant investment in providing improved service to members of the fire departments and the communities that they serve, as well as minimizing the liability facing the ACRD as a result of any failure to ensure adequate minimum qualifications for firefighters and officers.

With this in mind, fully including fire department members in discussions that set new standards can have a positive impact on morale and future retention, and improve the

recruitment of future fire department members. This is a major shift in thinking, however, and needs to be approached with some care and sensitivity.

It should be noted that during the conduct of this project that five regional districts were contacted. One of the five has developed a position on the minimum proficiency standard for becoming a Fire Chief that did not include a minimum level of training, but rather was based on 'best-candidate' including a combination of training, years of service, combined with demonstrated competence during a formal interview process.

Recommendation: That further discussions take place involving a cross-section of department members to develop a proficiency model that would be acceptable to all members and that this be implemented over the next three to five years including a grandfather clause to accommodate members who are currently serving in these positions.

Remuneration of Fire Chiefs within the ACRD

During the meeting with the Fire Chiefs and Deputy Chiefs there was a general discussion on remuneration. Most indicated that they did not volunteer because of the "pay" nor was it likely that amounts offered would ever be sufficient to be a compelling inducement. It was also noted that volunteers should not be out of pocket as a result of their volunteer work or training with the department. Any standardized remuneration system must be designed to ensure that their costs are reasonably covered⁶⁸ and that some degree of equity exists among department within a geographic area. There are currently no guidelines establishing a basis for this remuneration.

The current reimbursement of fire chiefs/deputy chiefs within the ACRD is as follows:

Bamfield	Beaver Creek	Cherry Creek (I.D.)	Sproat Lake
'\$0'	Fire Chief \$6,000/yr Deputy Chief \$1,200/yr	Fire Chief \$42,000 yr ⁶⁹	Fire Chief \$5,500/yr Deputy Chief \$3,500/yr

Table 7: ACRD Volunteer Chief Reimbursement

⁶⁸ The same can be said about other officers and volunteer fire fighters. The general principles regarding establishing the baseline for determining remuneration for a Fire Chief should be applied to the other officer levels as well as the volunteer fire fighters.

⁶⁹ It is noted that Cherry Creek is an Improvement District and that the half-time salary includes conducting administrative duties for the department.

When considering remuneration, regardless of the position, reference is usually made to a number of principal issues established by the Human Resource practices that include:

- Level of responsibility.
- Required qualifications.
- Required time commitment (training, responses, and other duties).
- Level of authority.

Salary (and other) comparisons with career and composite departments are clearly not appropriate. That being said, an abbreviated benchmarking exercise⁷⁰ suggested that other regional districts also struggle with the issue of how to determine remuneration levels for their Fire Chiefs, officers and volunteer firefighters. From our review, it did not appear that any of the benchmarked regions had established agreements with members of their departments for objective standards for determining pay levels. The following pay ranges (for fire chiefs) were identified during the review:

Columbia Shuswap RD (13 departments)	Central Kootenay RD (17 departments)	Cowichan Valley RD (6 departments)	Kootenay Boundary RD (6 halls)⁷¹	Fraser Fort George RD 13 (departments)
Varied but highest paid fire chief is \$4,200/yr. Deputy Chief \$1,200/yr.	All members are volunteers Stipends - \$1,000 to \$1,500/yr. based on service time	Chief/officers receive up to \$4,000/yr. based on years of service and training	District chiefs - \$2,800/year, A/C's - \$1,000/yr in addition to \$10/hour for call-outs for all members	Chiefs – up to \$4,200/yr; Deputy Chief – to \$1,200/yr;

Table 8: Volunteer Chief Remuneration 5 Regional Districts

During the discussions with individual Fire Chiefs and officers within the ACRD, it was generally accepted that an amended list of principles (paraphrased) should be considered if a remuneration scale is to be established across the region:

1. Level of training and qualification required or recommended for the position.
2. Tenure/experience of the individual.
3. Average activity within the fire protection area or local service area.
4. Size of department/number of members supervised.

⁷⁰ As benchmarking and comparison of remuneration has been conducted during earlier projects, an update was undertaken with five regional districts the results of which are documented

⁷¹ Kootenay Boundary Regional District Fire Services has a single fire chief although each of the six volunteer departments is called a 'hall' and is under the direction of a 'District' chief.

The present range of remuneration is not strongly linked to the factors noted above. This is not surprising, given the ad hoc approach that has been taken to establishing the pay levels and the fact that the volunteer Fire Chiefs or officers were very much of the view that they had not taken on their positions for the pay. Nevertheless, it is suggested that a pay system which fairly takes into account the responsibilities and time commitment will be of overall benefit to the ACRD fire services.

The following scenario could form the basis for discussions with the fire departments on the issue of establishing a consistent basis for remuneration.

Possible Remuneration Scenario

Using the top paid chief within the ACRD or a comparable Regional District as the benchmark, apply a percentage to each of the principal factors broken down as follows:

- Required proficiencies (technical training) = 25%.
- Recommended proficiencies (Leadership/administration training) = 15%.
- Tenure – minimum years of service/experience = 10%.
- Size of Department – members supervised = 25%.
- Activity of department (average number of emergency responses) = 25%.

To be workable, several assumptions may have to be made, including:

- The notion that the highest paid chief will have achieved the level of training that meets both required and recommended levels (once established).
- Some decision-making must be exercised in separating the size of departments and activity level.
- In applying a system of this nature that the recommendation on enhancing management/leadership training for fire chiefs also has to be implemented.
- This process may require a grand-parenting period to allow the 'recommended' training to be clearly identified and available to those seeking advancement or currently in the position and awaiting reimbursement review.
- There is a need for some latitude to be built into the steps that would allow for an increase or decrease of activity, i.e., in responses, without suffering a reduction in reimbursement.

It is noted that the ACRD departments currently use a "pay for training" system that has been found to encourage members to attend training in general, and could be used to motivate those aspiring toward promotions to take fire officer training as well to prepare themselves for future advancement.

Once a reasonable and equitable method of reimbursement is determined, annual increases in rates for fire department members could be linked to salary increases for staff within the ACRD, as is done in one of the benchmarked regional districts. Reimbursement for personal vehicle use should be handled as a separate issue and should be consistent with ACRD staff allowances and conditions of use.

Fire Prevention and Fire Education

Fire Prevention

Fire prevention is the first line of defence against the occurrence of fires. It is interesting to note that discussions on fire services generally ignore this fact as fire prevention is often spoken of as a 'by-the-way' function, yet in fact it is the only mandatory fire-related requirement.

The existence and formation of a fire department is an optional service that can be undertaken under by-law at the wishes of each regional district under the Local Government Act. It is also interesting to note the misconception surrounding the Fire Services Act and its limited relationship to fire suppression.

First, the Fire Services Act does not require that a community maintain a fire department or other system of emergency response to fires.

Second, within municipalities, the Fire Services Act defines the appointment and role of Local Assistants to the Fire Commissioner (LAFC) (Section 6(1) (a)). It goes on to require that all fires within the jurisdiction be investigated (Section 9(1)), and reported (Section 9(1)). Further, the LAFC is to identify fire hazards (Section 24) upon complaint or without complaint, if deemed advisable. Of interest, the ACRD is not a municipality and as a regional district it is not subject to requirements for mandatory fire safety inspections.

Bamfield, Beaver Creek, Cherry Creek and Sproat Lake Fire Departments have requested that one or more of their members be appointed as LAFC pursuant to the Fire Services Act, Section 6 (1)(b) that allows persons to request an appointment by the Fire Commissioner. Each area has indicated that the LAFC role is limited to reporting fires⁷² that occur and to investigating complaints of a fire hazard⁷³ within their jurisdiction.

Although a system of fire inspections can be conducted within non-municipal areas, none of the fire protection areas under the jurisdiction of the ACRD have requested that their bylaw be amended to undertake this role.

Public Fire Education

Public fire education has been increasingly recognized in recent years as an effective means of engaging the community in the prevention or mitigation of fires and related hazards that create risk to life and property. It also helps build public awareness of their

⁷² Once appointed, an LAFC is required to report fires to the Fire Commissioner in accordance with the Fire Services Act Section 9 (1) thru (3).

⁷³ Once appointed, an LAFC may enter premises upon complaint or without complaint to inspect and determine whether a fire hazard exists as per Fire Services Act Section 24.

local fire departments and can be an effective public relations tool. Some departments already conduct some limited public education initiatives. These efforts, however, are not coordinated across the region and support for the potential of developing a broader public fire education program was expressed during consultations. While public fire education can take a wide variety of forms, the following areas are ones which cover the most important aspects and potential audiences:

School-based and Senior Citizen Safety Programs

Fire safety awareness and safe practices education directed at elementary school-children and senior citizens is a critical element in any successful education program as these are the two demographic groups most at risk.

There are a number of demographic-based public education programs currently developed and available for fire departments to deliver to school-aged children and also to senior citizens. Within the ACRD, there are several schools, community centres and senior centres/care homes that could be included within these initiatives. Programs that are directed to each of the target audiences can be purchased directly from the NFPA or through the BC Public and Life Safety Education Committee that is administered through the Office of the Fire Commissioner.

Educating the Public on the Risks Associated With Interface Fires

Interface fires and the risks that are present in BC communities have attracted the attention of most residents of the interior. One of the recommendations in the Filmon Report into the 2003 wildfires that resulted in close to 350 homes being burned and millions of dollars in property loss, is that the public education program entitled, "Fire Smart" be adopted and promoted.

The "Fire Smart" program is used by most regional districts and their fire departments. In addition to promotion of safety measures through the Fire Smart program, many centres throughout British Columbia participate jointly with staff from Ministry of Forests in promoting fire safety in interface areas.

It should be noted that the ACRD and City of Port Alberni have partnered in the development of a Community Wildfire Protection Plan. That plan is expected to be completed and presented to the ACRD Board during the early summer of 2010.

Media Releases on Current Fire Safety Initiatives

The media can be useful by keeping current information before the public. Local media outlets in small communities are generally helpful and are looking for items that will be of interest to their readers. Items of interest could include information on the various safety

weeks that are declared in BC, for example, Fire Prevention Week, Burn Awareness Week, Emergency Preparedness Week, to name a few.

In addition, members of the public should be afforded the opportunity to tour their local fire hall. An 'open-house' is often held during Fire Prevention Week in October at which time home-owners are encouraged to change the battery in their smoke alarm on the same weekend that they change their clocks. Local media are often interested in assisting both with the announcements as well as being present at the 'open-house' events. In both cases, the publicity helps raise the profile of the fire services within their local communities, and can be used to help encourage new volunteers to join or generally educate the public as to the role and duties of the fire department.

At the present time the Alberni Valley Emergency Program Coordinator does hold Emergency Preparedness Week each year. The ACRD also has a booth at the local Fall Fair and provides information to the public with regard to emergency planning, fire prevention, etc.

Hazards Associated with Fireworks

One of the major issues that confront rural communities is the need to raise the awareness of permanent and seasonal residents to the significant risks posed by fireworks particularly during dry summer weather.

The risks posed by the use of fireworks and resulting potential for death and injury have resulted in some jurisdictions passing bylaws to control and/or ban consumer or family fireworks. In British Columbia, there has been a reluctance to provide sweeping legislation on this topic and any restrictions on their use and sale are left up to local government to deal with as they see fit.

Fireworks were identified as a risk within British Columbia and discussions have taken place to regulate or ban the sale of fireworks except display fire works that are closely controlled under Federal Regulation. As an interim step and until such time as this matter is resolved at the political level, it is prudent that the fire services develop a unified approach to advising the public of the risk that fireworks pose, both in terms of igniting possible structural or interface fires and injury from accidental (or deliberate) misuse. There are several public education programs that focus on fireworks and problems that result from this hazard.

The NFPA publishes periodic announcements that highlight the ongoing concern with fireworks. A recent bulletin indicated that on a single holiday in the United States – July 4, 2006 – some 1,800 structure fires, 700 motor vehicle fires, and 60 injuries resulted from fireworks-related accidents or misuse. (Also see www.nfpa.org) These statistics provide a basis for the program, which should be designed to warn of the risks and advise on the proper and safe use of consumer fireworks. As part of the education

program, an effort should be made to compile regional statistics on problems emanating from fireworks.

Although a specific recommendation is not made in this area, it would be prudent for the Fire Chiefs to encourage the development of a region-wide bylaw to better regulate the sale and use of fireworks throughout the ACRD.⁷⁴

Value of the Volunteer Fire Department to the Community

As noted above, one of the benefits of a “public education” program is the opportunity to increase public awareness of the value of and need for community support for volunteer fire departments. There are a number of reports that focus on this as a means of recruiting fire department members and gaining public support. There are several points that could be emphasized within such a campaign:

- Volunteer fire departments provide life-critical emergency support when needed by the community.
- Fire departments staffed with volunteers provide a substantial cost savings to local governments.
- Property-owners receive significant insurance savings as a result of having a fire department which meets the required standards. These savings typically outweigh the taxes associated with maintaining the fire department.
- The two main ways to demonstrate this benefit are “actual cost savings” and “cost avoidance.” This amount is calculated based on actual records of the volunteers’ time commitment, including training, responses, public education efforts, vehicle maintenance, station upkeep and any other contribution that volunteers make to the fire department. Cost avoidance is the amount of money that would be spent to pay a career fire fighter or an external company to perform the work.
- The actual value of volunteer firefighter departments is reflected in the amount of time that volunteer firefighters contribute to the community.

The results of an earlier survey conducted in 2008 of five⁷⁵ regional districts revealed that:

- All five of the regions provide public fire education to some extent;

⁷⁴ As noted above, the City of Port Alberni does have a bylaw which regulates both fireworks and firecrackers. The ACRD should work with the City to ensure that the rules and regulations are uniform in this regard. It is noted that the ACRD has an old outdated fireworks bylaw which requires revision.

⁷⁵ Regional districts included in this survey included Columbia Shuswap, Cowichan Valley, Kootenay Boundary, Fraser Fort George, and Central Kootenay Regional Districts.

- All five regions utilize the 'Fire Smart' program in areas where the potential for interface or wildfire exists;
- Two regions conduct public fire safety programs in schools and senior citizens centres;
- All regions hold at least one 'Open-House' per year and use this as a recruitment opportunity;
- Two regional districts provide public education in schools during Fire Prevention Week (October); and,
- One regional district limits their public education effort to distribution of fire safety brochures.

Recommendation: That the ACRD establish coordinated public fire safety education programs that are relevant and available to all fire departments throughout the regional district.

Summary of Recommendations

- Recommendation:** The ACRD should review the difficulty with keeping road access clear in Bamfield during the summer season and develop remediation measures.
- Recommendation:** The ACRD should review and update the bylaws and governance structure for the Bamfield Volunteer Fire Department.
- Recommendation:** The ACRD should review and revise the bylaws for the Beaver Creek Volunteer Fire Department.
- Recommendation:** The ACRD should review and revise the bylaws for the Sproat Lake Volunteer Fire Department.
- Recommendation:** The ACRD should review alternate paging methods (group pages) to better manage the number of volunteers that respond to calls that require less personnel.
- Recommendation:** The Cherry Creek Water Works District should review and revise its bylaws. This review should be considered in light of the possibility that local improvement districts are being phased out over time.
- Recommendation:** The City of Port Alberni Fire Department should review and revise its bylaws.
- Recommendation:** The ACRD should implement the position of fire services coordinator.
- Recommendation:** That further discussions take place involving a cross-section of department members to develop a proficiency model that would be acceptable to all members and that this be implemented over the next three to five years including a grandfather clause to accommodate members who are currently serving in these positions.
- Recommendation:** That the ACRD establish coordinated public fire safety education programs that are relevant and available to all fire departments throughout the regional district.

Appendix 1: Draft Implementation Plan

Recommendation	Projected Completion Date
<p>The ACRD should implement the position of fire services coordinator.</p> <ul style="list-style-type: none"> <i>This function is critical to the undertaking of actions to address all other recommendations in the report. Once established, the position of fire services coordinator (FSC) will lead on addressing all other recommendations.</i> 	<p>Nov 1, 2010</p>
<p>The ACRD should review alternate paging methods (group pages) to better manage the number of volunteers that respond to calls that require less personnel.</p> <ul style="list-style-type: none"> <i>This is a good first project for the FSC. It will require collaboration with all fire chiefs and offers an opportunity to work together in the new format on an operational topic.</i> 	<p>Mar 1, 2011</p>

<p>The ACRD should review the difficulty with keeping road access clear in Bamfield during the summer season and develop remediation measures.</p> <ul style="list-style-type: none"> <i>This will require the FSC to work with other ACRD staff and the community of Bamfield to facilitate a solution. While road access maintenance is not directly a responsibility of the ACRD or the FSC, this recommendation does present an opportunity for the ACRD to represent the BVFD on an issue of importance to their operational needs.</i> 	<p>Apr 1, 2011</p>
<p>The ACRD should review and update the bylaws and governance structure for the Bamfield Volunteer Fire Department.</p> <p>The ACRD should review and revise the bylaws for the Beaver Creek Volunteer Fire Department.</p> <p>The ACRD should review and revise the bylaws for the Sproat Lake Volunteer Fire Department.</p> <ul style="list-style-type: none"> <i>As outlined in the strategic plan, some bylaws for these fire departments will be identical. Other bylaws should have similar format with specifics differing based on the needs and wishes of the electorate in that jurisdiction. The FSC will be integral in this process.</i> <i>It makes sense for all of these bylaws to be addressed at the same time. The ACRD Board should consider adoption of the new bylaws all at the same time.</i> <i>It is likely that a consultant and/or the ACRD legal advisor will be involved in this initiative. The FSC will coordinate that involvement.</i> <i>This will be a budget item in 2011 financial plan.</i> 	<p>Sept 1, 2011</p>

<p>That the ACRD establish coordinated public fire safety education programs that are relevant and available to all fire departments throughout the regional district.</p> <ul style="list-style-type: none"> • <i>This initiative should be rolled out for fire prevention week, 2011.</i> 	<p>Oct 1, 2011</p>
<p>The Cherry Creek Water Works District should review and revise its bylaws. This review should be considered in light of the possibility that local improvement districts are being phased out over time.</p> <p>The City of Port Alberni Fire Department should review and revise its bylaws.</p> <ul style="list-style-type: none"> • <i>It would be advantageous that Cherry Creek and Port Alberni consider their own fire department bylaws at the same time that ACRD considers theirs. Any use of consultants may be done on a shared cost basis.</i> • <i>As stated in the strategic plan report, given the nature of one operational theatre, and the possibility of future transfer of fire departments to ACRD governance, it makes sense to have all fire service bylaws in the area to use a similar format.</i> • <i>The FSC will be integral in coordinating any partnering in this regard.</i> 	<p>Nov 1, 2011</p>

<p>That further discussions take place involving a cross-section of department members to develop a proficiency model that would be acceptable to all members and that this be implemented over the next three to five years including a grandfather clause to accommodate members who are currently serving in these positions.</p> <ul style="list-style-type: none"><i>The broad nature of input into this topic and the sensitivity concerns identified in the strategic plan report dictate that a methodical approach be taken on this item. While this item is in process, the FSC can facilitate local officer training opportunities in anticipation of the outcome of the consultation process.</i>	<p>Mar 1, 2012</p>
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Appendix 2: Consultant Background

Dave Mitchell

Dave Mitchell retired as Division Chief, Communications in 1998 from Vancouver Fire & Rescue Services following a career spanning 32 years. During this time he was responsible for managing the emergency call taking and dispatch for the Vancouver and Whistler Fire Departments. In 1997 he managed the transition of dispatch service for the five Fire Departments on the Sunshine Coast from an independent contractor, to Vancouver Fire/Rescue.

In 1998 Mr. Mitchell was hired by E-Comm, Emergency Communications for Southwest BC as its first Director of Operations. In this role he was a member of the founding senior management team, and was responsible for the transition of the Regional 9-1-1 Control Centre staff from the Vancouver Police Department to its current location at 3301 East Pender in June 1999. By June 2000 this included the management of approximately 200 call takers, dispatchers and team managers in addition to a ULC listed alarm monitoring service.

He left E-Comm in June 2000 to work as a consultant, and since that time has managed the development of corporate, strategic and operational plans for a number of clients. In addition he has completed a number of fire hall location studies for clients throughout the Province and provided transition management services to Vancouver Fire/Rescue as it implemented a new Computer Aided Dispatch and Record Management System. In 2004 Mr. Mitchell provided technical advice to the Hon. Gary Filmon as part of the Firestorm 2003 Review. In 2005, along with ICTconsult Inc. he conducted a full review of the radio system for the fire departments on the Sunshine Coast Regional District and in 2006 he conducted a similar review for the Central Okanagan Regional District.

More recently, along with a number of associates he has conducted master fire plans for West Vancouver, Saanich, North Vancouver District, Port Moody and Pitt Meadows in addition to managing major communications upgrades for E-Comm and the Regional District of Fraser-Fort George as well as fire hall location studies for the Fort St. John, View Royal, Central Saanich and Pitt Meadows Fire Departments. Along with John Vokes and Ian MacDonald he has recently conducted fire services reviews for the Comox Strathcona, the Columbia Shuswap and Squamish Lillooet Regional Districts.

Mr. Mitchell holds a Bachelor of Arts Degree from Simon Fraser University in addition to a diploma from their Executive Management Development Program. He is past Chair of the Board of Directors of the Vancouver General Hospital and University of British Columbia Hospital Foundation and is a member of the National Fire Protection Association (NFPA), the National Emergency Number Association (NENA), the Association of Public-Safety Communications Officials (APCO), the Fire Chiefs' Association of British Columbia (FCABC), the Canadian Association of Management

Consultants (CAMC) and is a member of the Public Safety Communications Advisory Committee of Kwantlen College.

John Vokes

John Vokes began offering independent consulting on fire service issues in early 2005 following a 34 year fire service career in progressively responsible positions. These positions included Director of the Justice Institute of BC's Fire & Safety Division, 17 years with the British Columbia Office of the Fire Commissioner - the last nine as Deputy Fire Commissioner in charge of Policy and Operations, and prior to that, nine years as a career fire fighter with the City of Hamilton Fire Department.

John provides technical, interpretive, and administrative advice related to administration and interpretation of codes, standards, and legislation that affects fire safety, enforcement of fire regulations, and the development of fire training strategies. John has assisted many local governments and organizations throughout British Columbia to establish and improve their fire protection systems. This experience has led to an in-depth understanding of fire protection systems, fire service culture, and operational needs related to fire safety that is reflected in the interpretation and advice that is offered to clients.

John is highly trained, educated, and experienced in leading fire service initiatives having earned a Master of Arts degree (RRU) in Leadership and Training along with a Bachelor of General Studies degree (SFU) with a focus on Leadership in Justice and Public Safety Organizations, and a Fire Science Certificate (Mohawk College). John is also a member of the Institution of Fire Engineers (MIFireE).

John has completed a number of fire service reviews including Big White, District of Highlands, Bear Mountain Golf Resort, District of Peachland, Regional District of Fraser Fort George (training center), Regional District of Okanagan Similkameen (feasibility study), City of Fort St John (training center (2)), various projects with UMA Engineering, and with Dave Mitchell and Associates including similar reviews for the Squamish Lillooet Regional District and a master fire plan for the North Vancouver District Fire/Rescue Department.

Ian MacDonald

Ian MacDonald is a former lawyer who practiced international corporate law in Canada and the United Kingdom. Ian started as a lawyer with Davies Ward & Beck in Toronto in 1990 and worked on large corporate transactions in Canada, including the Strait Crossing Inc. project which put the financing and development agreements in place for the construction of the bridge linking Prince Edward Island with New Brunswick. He also advised extensively on other financings, shareholder agreements and corporate

restructurings and corporate acquisitions. Ian became a partner in Davies Ward & Beck in 1994 and an equity partner in 1996.

After moving to England in 1998, Ian became managing partner of Arnander, Irvine & Zietman, an intellectual property/litigation firm, and had a varied practice advising clients in respect of company formation, shareholder and members' agreements, corporate financing, governance issues, and privacy matters. He also did extensive work on litigation files related to corporate fraud.

Ian retired as a lawyer in January 2004 and returned to Canada, since which time he has acted as a volunteer director on two boards, acting as the chair of the governance committee for one, and assisted various community groups in developing long term strategic and business plans.

His consulting work since 2004 has mainly been focused on governance and bylaw issues for fire departments, municipalities and regional districts. These projects have included the review of the CREST radio system in Victoria, and fire service reviews for Comox Strathcona, Columbia Shuswap and Squamish Lillooet Regional Districts, Pitt Meadows and Lethbridge. He has also advised on governance and structuring issues related to the proposed establishment of a province-wide emergency radio network in Saskatchewan. He is currently assisting Columbia Shuswap Regional District in revising the structure and governance of its regional fire services (including regional mutual aid arrangements) and implementing a new fire department in the Kicking Horse Resort area. He is also working with the City of Lethbridge to develop written service level arrangement between the Lethbridge Public Safety Communications Centre and its technology suppliers and dispatch clients .

Ian received an honours BA in history at Simon Fraser University in 1983, a masters degree in history from the University of North Carolina (Chapel Hill) in 1986 and an LLB from Dalhousie University in 1990.