BRITISH COLUMBIA

2003 Wildland-Urban Interface Fires
Post-Incident Analysis Report

Prepared by the
Office of the Fire Commissioner

OFFICE OF THE FIRE COMMISSIONER BRITISH COLUMBIA

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1. Executive Summary

The summer of 2003 has been identified as one of the worst wildland fire seasons on record. The first fires requiring public evacuations began in early July with the Chap fire near Osoyoos, and as the summer progressed and conditions deteriorated, so did the extent and unpredictability of the fire behaviour. Evacuations of threatened communities became everyday business at the Office of the Fire Commissioner (OFC).

The OFC is the senior fire authority in the province with respect to structural fire safety and prevention. Services include administration and enforcement of fire safety legislation, training of local assistants to the fire commissioner, fire loss statistics collection, fire investigation, fire inspection, response to major fire emergencies, advice to local governments on delivery of fire protection services, and public fire safety education.

The declaration of a provincial State of Emergency authorized the provincial government to assume jurisdiction and control of all fire fighting and fire prevention services in all or any part of British Columbia. The regulations also allowed for the appointment of the Fire Commissioner to exercise authority over the structural fire departments in the province. The role of the OFC during the State of Emergency was both as head of the provincial fire department and part of the Provincial Integrated Response Structure.

The provincial declaration of a State of Emergency was enacted on August 2nd, 2003. Nearly 130 fire departments and contractors and 1,500 fire fighters responded to the call for help from the OFC. The financial impact resulting from the deployment of the of the fire service and contractor response was nearly $30 Million. Upon termination of the provincial State of Emergency, responders from the fire services, provincial, regional, local governments, First Nations and police returned to their respective jurisdictions and resumed operations as usual.

A review organized by the Ministry of Community, Aboriginal and Women's Services (MCAWS) and the OFC was held in Richmond from November 19 until November 21, 2003. This report has been produced to present the results of the Wildland-Urban Interface Fire Review to the provincial government and fire service. The audience of this report is intended to be the fire service, OFC, government of the province of British Columbia and the 2003 Firestorm Provincial Review.

The objectives of the Review were to:

- Examine the provincial response by the OFC and fire departments to the Wildland-Urban Interface fires of the past summer;
- Determine effectiveness and;
- Recommend changes prior to another provincial fire emergency.

The fire service was invited to the Review with the intention of debriefing the summer's events and developing a plan for future fire emergencies. Recommendations were made and issues identified that must be addressed. Fire service representation in Richmond indicated a trust that government will implement changes to improve effectiveness and safety in the province of British Columbia.

Summary of Recommendations

1. Provide OFC staff with accredited training in the British Columbia Emergency Response Management System (BCERMS)

2. Organize BCERMS training for the British Columbia fire service

3. Require training of fire service personnel in Wildland and Urban Interface strategies and tactics

4. Organize scenario based training and exercise opportunities for OFC staff and fire service personnel

5. The OFC should collect and maintain a database of fire apparatus

6. Develop Operational Guidelines for a provincial fire response

7. Establish reasonable Operational Periods and Safe Work Practices

8. The OFC organizes a T.E.A.M.S. approach for response to a provincial State of Emergency

9. Personnel must be prepared and equipped with all Personal Protective Equipment

10. Apparatus and personnel should marshal at a location other than the site level fire department

11. Check-in procedures should be established for apparatus and personnel

12. Provincial organizations responding to a State of Emergency should use the same geographical boundaries

13. Train OFC evacuation staff in the use of GIS data and software

14. Investigate partnerships with other provincial emergency organizations already using GIS data and systems

15. Acquire fully attributed GIS mapping data and software to access data

16. The OFC should be equipped to operate a mobile evacuation centre

17. The OFC and MoF should continue performing tactical and strategic evacuations

18. Local responders should be enabled to conduct tactical evacuations with support from OFC

19. Exterior building sprinkler/irrigation kits should be purchased and stockpiled at strategic locations for future use

20. Clarify legislated roles and responsibilities and communicate to the fire service and local government

21. Legislative review should be followed by communication of relevant changes to emergency services

22. Enact legislation to protect the regular employment of volunteer fire department personnel who respond to a State of Emergency

23. The OFC should be aligned with other provincial emergency response organizations during emergencies

24. The OFC should continue to represent the structural fire service during a State of Emergency

25. Develop a Memorandum of Understanding between First Nations, INAC and provincial government for future emergencies

26. Any change in the operational status of the OFC must be accompanied by capacity building for the fire departments and local governments

27. Establish a permanent MOC in cooperation with the Provincial Emergency Program and Ministry of Forests

28. Develop and distribute a Best Practices Guide

29. Develop an OFC State of Emergency Plan in advance of the next fire emergency in British Columbia

30. Distribute and communicate the State of Emergency Plan to all fire departments

31. All local governments should be required to prepare emergency plans

32. Establish clear financial guidelines and reasonable rates for apparatus

33. Determine wages for all responders in advance of another provincial deployment

34. A single organization should establish a radio network to utilize in an emergency

35. The technology required to communicate should be provided to responders

36. Intra-organizational communication should be according to BCERMS

37. Clarify communications procedures for all State of Emergency responders

38. Policy should be established regarding media access during an emergency

39. Communities continue to encourage Interface fire mitigation practices

40. OFC continue development and promotion of Wildland Urban Interface special topic

41. Establish Critical Incident Stress Debriefing for responders to provincial emergencies

42. Conduct a post-crisis review following any large-scale provincial emergency response

43. Establish a steering committee to participate in implementation of report recommendations

2. Introduction

The summer of 2003 has been identified as one of the worst wildland fire seasons on record[1]. The first fires requiring public evacuations began in early July with the Chap fire near Osoyoos, and as the summer progressed and conditions deteriorated, the extent and unpredictability of the fire behaviour amplified. Safely evacuating threatened communities became an everyday occurrence at the Office of the Fire Commissioner (OFC).

By August 2nd, when the provincial State of Emergency was declared, the communities of Barriere, Louis Creek and McClure had experienced the devastating effects of Interface fires with several homes and businesses being lost[2]. Nearly three weeks later, the City of Kelowna was besieged by firestorms that eventually destroyed hundreds of homes. When the State of Emergency was lifted on September 14th, over 50,000 people had been safely evacuated, another 50,000 on evacuation alert and the interface fires had caused the destruction of 334 homes and 10 businesses.

2.1 Background

The OFC is the senior fire authority in the province with respect to structural fire safety and prevention. Services include administration and enforcement of fire safety legislation, training of local assistants to the fire commissioner, fire loss statistics collection, fire investigation, fire inspection, response to major fire emergencies, advice to local governments on delivery of fire protection services, and public fire safety education[3].

The mission of the OFC is…

> "To minimize the loss of life and property by fire, the Office of the Fire Commissioner teams with Local Assistants to the Fire Commissioner as innovators and supporters of fire safety and prevention in British Columbia."

The declaration of a provincial State of Emergency authorized the provincial government to assume jurisdiction and control of all fire fighting and fire prevention services in all or any part of British Columbia[4]. The regulations also allowed for the appointment of the Fire Commissioner to exercise authority over the structural fire departments in the province[5]. The role of the OFC during the State of Emergency was both as head of the provincial fire department and part of the Provincial Integrated Response Structure.

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[1] Wildland has been defined as an area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities; structures, if any, are widely scattered.
[2] Interface can be defined as the transitional zone where a community meets the forest; the interface is definitely not wildland. Interface areas typically have man made safe zones such as large clearings, soccer fields, golf courses, fields and park lands
[3] http://www.mcaws.gov.bc.ca/firecom/index.htm
[4] Emergency Program Management Regulations, section 9 (b)(i)
[5] Emergency Program Management Regulations, section 9 (b)(ii)

The OFC is a relatively small organization that operates within the Safety and Standards Branch of the Ministry of Community, Aboriginal and Women's Services (MCAWS). During the summer of 2003 the OFC maintained its head office in Victoria and four field offices strategically located throughout British Columbia with a full-time staff of twenty-five (25) people (Appendix A: Organizational Chart of the OFC). Regular operations of the organization continued throughout the summer as well as the management of provincial structural fire operations. There were numerous instances where OFC personnel performed multiple roles simultaneously (routine business and emergency management operations). The small staff of the OFC functioned at the limit of their capacity due to the demand placed on them by the State of Emergency.

2.2 The British Columbia Fire Service

The fire service in British Columbia consists of nearly 14,000 fire fighters, administrators and support staff in almost 400 fire departments protecting urban and rural communities. In addition, many First Nations communities provide fire protection services to their citizens. The majority of fire fighters in this province are the nearly 11,000 volunteers who devote their time and energy to their communities. Career and paid-on-call personnel make up the remaining 3,000. The federal government also maintains Department of National Defence fire departments at key military installations in the province and there are a small number of industrial fire brigades protecting facilities scattered throughout BC.

For the purposes of this paper, the fire service is intended to refer to fire departments from communities throughout British Columbia that are neither federal fire departments, forest service crews nor industrial brigades (Appendix B: List of Responding Fire Departments).

2.3 Declaration of State of Emergency

British Columbians witnessed an unprecedented forest fire season during the summer of 2003. Following the provincial declaration of a State of Emergency on August 2nd, nearly 130 fire departments and contractors and 1,500 fire fighters responded to the call for help from the OFC (Appendix C: Request for Fire Fighting Assistance). The financial impact of the fire service and contractor response was nearly $30 Million[6]. Upon termination of the provincial State of Emergency, responders from the fire services, provincial, regional, local governments, First Nations and police returned to their respective jurisdictions and resumed operations as usual.

Insufficient numbers of experienced personnel meant the OFC had to conscript personnel from the fire service, regional and local governments and other provincial agencies. Conscripted personnel fulfilled roles in the Ministry Regional Operations Centres (MROC) and in field operations at various levels in the organization (Appendix D: Organizational Chart of MROC). In many cases, responders had also never experienced an event of this

[6] MCAWS, Financial Services Branch internal records

magnitude involving a Unified Command Structure[7] of the Incident Command System (ICS)[8]. Still others had never received any formal training in ICS or the provincially accepted British Columbia Emergency Response Management System (BCERMS)[9]. However, OFC and fire service personnel performed to the best of their abilities and successfully managed the provincial structural fire service as it was created, utilized and eventually deactivated[10].

3. Purpose

A review organized by the MCAWS and the OFC was held in Richmond from November 19 until November 21, 2003. This report has been produced to present the results of the Wildland-Urban Interface Fire Review to the provincial government and fire service. The audience of this report is intended to be the fire service, OFC, government of the province of British Columbia and the 2003 Firestorm Provincial Review.

4. Objectives and Scope

The objectives of the review were to:

- examine the provincial response by the OFC and fire departments to the Wildland-Urban Interface fires of the past summer;
- determine effectiveness and;
- recommend changes prior to another provincial fire emergency.

The fire service was invited to the Review with the intention of debriefing the summer's events and developing a plan for future fire emergencies. Recommendations were made and issues identified that need to be addressed. Fire service representation in Richmond indicated a trust that government will implement changes to improve effectiveness and safety in the province of British Columbia.

4.1 Out of Scope

This report was limited in the scope and objectives and did not examine the following:

- Cause of the fires
- Ministry of Forests Response

[7] Unified Command allows all agencies with geographical or functional jurisdiction for an incident to manage the incident by jointly establishing a common set of objectives and strategies. Unified Command does not mean losing or giving up agency authority, responsibility, or accountability.
[8] The Incident Command System (ICS) is a model for command, control and coordination of emergency response at an emergency site. It provides a way of coordinating the efforts of agencies and resources as they work together toward safely responding, controlling and mitigating an emergency incident.
[9] The British Columbia Emergency Response Management System (BCERMS) is a comprehensive management scheme that ensures a coordinated and organized provincial response and recovery to any and all emergency events.
[10] During the Salmon Arm fire in 1998 the OFC took control of the fire service and asked for individual departments to volunteer their services. The OFC did not mobilize or deploy like it did during the 2003 State of Emergency

- Provincial Emergency Program Response
- Development of performance measures
- Reaction by citizens whose homes were lost to fire
- Costs of implementing the recommendations
- Who should bear the costs of the recommendations
- Affect on the insurance industry
- Individual fire department response
- Community response
- BC Ambulance Service response

Future reports by the OFC or other agencies should address out of scope issues.

5. Methodology

Seventy-nine stakeholders representing various organizations that had both direct and indirect involvement in the fire response to the State of Emergency attended the Review. Participants at the Review included representatives from the fire service, First Nations, MCAWS, Ministry of Forests (MoF), OFC, Provincial Emergency Program (PEP), R.C.M.P., Regional Districts, and Union of British Columbia Municipalities (Appendix E: Roster of Participants).

5.1 Groups

The seventy-nine delegates were subdivided into four breakout groups and provided with identical agenda to follow (Appendix F: Review Agenda). Professional facilitators then directed discussion around the agenda topics while recorders captured the information. The breakout groups reconvened into plenary sessions so that daily summaries of information could be shared with all group members.

5.2 Peer Review

An ad hoc review panel that included stakeholders from the fire service, forests, First Nations, regional district and provincial staff was randomly selected to evaluate this paper. The ad hoc panel had an opportunity to preview the paper and ensure it captured the essence of the breakout and plenary sessions in Richmond. Suggestions for amendment of the draft by ad hoc review panel members were implemented where possible. Every attempt was made to include all recommendations of the stakeholders, thereby validating the accuracy of this report.

6. General Findings/Major Themes

The Wildland-Urban Interface Fire Review generated several issues and recommendations for further analysis and consideration. Many of the issues discussed at the Review were suggested by multiple breakout groups, which indicate a strong sense of concurrence among the fire service representatives present. The frequency with which some issues and recommendations arose confirmed and conveyed the relative importance to the

representatives at the Wildland-Urban Interface Fire Review. The issues and recommendations have been categorized and in some cases, duplicates have been filtered out of this report.

6.1 Operational Readiness for Deployment

The province of British Columbia has a long history of effective response to emergency incidents. The most recent large-scale fire response prior to 2003 occurred between July 30th and August 5th, 1998 when the Salmon Arm area was threatened by a massive forest fire. During the response to the Salmon Arm fire, the OFC was authorized to manage the provincial structural fire resources, but local emergency officials maintained direct control of the emergency operations. Nearly 7,000 residents were ordered to evacuate their homes from the threat of fire

Operational readiness requires trained personnel, capable apparatus, operational guidelines and an integrated response.

6.1.1 Training

Representatives at the Review, including fire service management personnel, expressed a need to be trained at a high-level in the Incident Command System (ICS) to prepare for future events. ICS training was also recommended for management and staff of the OFC and the MCAWS. Stakeholders in attendance at the Richmond Review felt it should be incumbent upon the provincial government to demonstrate its commitment to improving provincial operations by not only providing resources for the training of fire service personnel and administrators, but also by training provincial staff who will participate in future incidents. This would also encourage a commitment from the fire service for the changes necessary.

Government and the fire service also need to be accomplished in the purpose, roles, strategies and tactics of British Columbia Emergency Response Management System (BCERMS). The province requires a pool of trained and skilled people to call on during events requiring the provincial integrated response structure. Cooperation from the fire service would be encouraged if the province facilitated the training for fire service personnel. In exchange for the training, local governments and regional districts should agree to provide trained structural fire services in a provincial emergency.

Members of the fire service in British Columbia, including the OFC, must assess the strategies and tactics used for fire suppression activities during a firestorm situation. The Ministry of Forests should be responsible for Wildland firefighting and the fire service should focus on structural protection, specializing in both intermix and interface tactics. The usual suppression strategies must give way to structural and exposure protection methods. A function referred to as “structural triage” cannot be overlooked and must form part of the initial size-up of Urban Interface areas.

Once members of the fire service, provincial, regional, and local governments have received training in BCERMS, regular exercises and practice events must be organized to further refine skills. The province should fund and facilitate these events on a regular basis.

1. **Provide OFC staff with accredited training in the British Columbia Emergency Response Management System (BCERMS)**

2. **Organize BCERMS training for the British Columbia fire service**

3. **Require training of fire service personnel in Wildland and Urban Interface strategies and tactics**

4. **Organize scenario based training and exercise opportunities for OFC staff and fire service personnel**

6.1.2 Apparatus Inventory

Apparatus from several communities throughout British Columbia was requested by the OFC to respond to the Urban-Interface fires. OFC personnel conducted risk assessments to determine the most appropriate regions of the province to draw from. However, the OFC did not have a current inventory of fire apparatus at their disposal.

It was discovered during the early stages of the State of Emergency that some varieties of fire apparatus were more suitable than others in certain situations. The lack of an inventory list and a clear description and categorization of resources resulted in a general call for equipment rather than specific fire apparatus being requested. In some cases, outdated or poorly maintained apparatus was utilized, resulting in breakdowns and equipment failures. In others, personnel were put into situations where they lacked the training to safely perform the tasks expected of them.

Provincial staff must conduct a pre-qualification process for equipment in order to ensure an effective response to future emergencies. In the spring of each year, the OFC should poll each fire department interested in contributing to possible emergencies in the following year. This could be done over the Internet where departments could register equipment, including a digital photo to ensure accuracy of the descriptions. Apparatus registered in the OFC database should be assigned a unique identification number.

The pre-qualification process should be explicitly tied to reimbursement rates or training opportunities to encourage participation from the fire service and local governments. Priority for deployment would be given to those departments that pre-register with the OFC.

5. **The OFC should collect and maintain a database of fire apparatus**

6.1.3 Operational Guidelines

Fire Service personnel have a clear understanding of the value of clear Operational Guidelines and have stated that there is a need to develop Operational Guidelines for future emergency operations. The OFC, in conjunction with the Ministry of Forests and Provincial Emergency Program, should prepare and provide Operational Guidelines.

According to Review participants, some responders demonstrated intrepid efforts during intense situations. It was common, according to Review participants, for responders to work double and triple shifts. However, safety, operational effectiveness and decision-making abilities decline as exhaustion increases, and the establishment of Operational Periods have been suggested. The ICS suggests operational periods are of no fixed length but recommends they should be no longer than 24 hours. Review participants suggested that Operational Periods not exceed 12 hours, which would have implications for the number of trained responders available for operation of the Ministry Operation Centre (MOC)[11].

6. Develop Operational Guidelines for a provincial fire response

7. Establish reasonable Operational Periods and Safe Work Practices

6.1.4 Fire Service T.E.A.M.S.[12]

The OFC lacks the physical capacity to fully staff a provincial fire operation without drawing on outside resources. The creation of a fire service Temporary Emergency Assignment Management System (T.E.A.M.S.) would enable the OFC to recruit and train specialists with pre-identified skills who could respond to a MOC if a State of Emergency were to be declared and provincial fire service be activated. The creation of T.E.A.M.S. should include the positions described in the MOC organizational chart and would require regular exercises to maintain and refine the skills of members.

8. The OFC organizes a T.E.A.M.S. approach for response to a provincial State of Emergency

[11] Ministry Operation Centre is the emergency management organization established according to the BCERMS model for the MCAWS and OFC

[12] Temporary Emergency Assignment Management System (TEAMS) is an integrated response model that draws upon the expertise of a resource pool of pre-selected, trained and experienced people

6.2 Deployment

Deployment includes receiving a request from the OFC to dispatch apparatus and personnel to a provincial emergency. Once deployed, responding personnel should proceed to a designated marshalling location for check-in to the State of Emergency. Crews deployed to a State of Emergency should be fully equipped and capable of being self-sufficient, with the exception of food, for up to seventy-two hours. Staging occurs after check-in and refers to the relocating of apparatus and personnel at a location at or near the site level.

6.2.1 Marshalling

Responding apparatus and personnel need to marshal their equipment at locations other than the local fire stations in the communities requiring assistance. Regular operation of the fire service should not be compromised due to too many pieces of equipment or fire service personnel being present. Review participants suggested that schools, recreation centres or public works yards should be utilized as marshalling areas in future emergencies, thereby minimizing the confusion at local departments and assisting those agencies responsible for the operation to better monitor equipment and resources. In addition, the amenities found in these types of public buildings would facilitate the needs of responding personnel.

Once apparatus arrives at a designated marshalling area, both equipment and personnel should be checked-in. The check-in procedure for apparatus should include an examination and itemization of all equipment. Apparatus check-in would also include the application of unique identification numbers. The check-in procedure for personnel should include an assessment of qualifications and abilities for each responder.

9. Personnel must be prepared and equipped with all Personal Protective Equipment

10. Apparatus and personnel should marshal at a location other than the site level fire department

11. Check-in procedures should be established for apparatus and personnel

6.2.2 Boundaries and Geographical Information System Technology

Stakeholders at the Review discussed the boundaries that various provincial organizations use to divide the province into geographical regions. During the Wildland-Urban Interface fires, the Ministry of Forests and PEP used their respective boundaries, while the OFC essentially created three regions for the affected areas of the province: Northeast, Central and Southeast. The boundaries used by the Ministry of Forests divide the province into six

isolated geographical areas that are managed by personnel in fire centre operations[13]. Much confusion arose when MoF personnel were trying to formalize the tactical evacuations with OFC evacuation orders. Provincial organizations should use the same geographical boundaries in future events to streamline collaboration and unified command efforts. The regional district boundaries already established would be a logical choice.

Accurate and detailed maps and map data from the Ministry of Sustainable Resource Management (MSRM) was available for many of the areas affected by the firestorms this past summer. However, personnel from the OFC were forced to consult commercial maps for many of the evacuation notifications and orders because of technical issues. A single, accessible, accurate and current set of mapping data that includes First Nations must be available to responding agencies. All responding agencies (MoF, OFC and PEP) should be working with the same detail of map data so cross collaboration is possible.

The MSRM Digital Road Atlas initiative will provide digital map data to partners who invest in their program. GIS data would be available and provide the detail required by emergency responders when developing evacuation notifications and orders. The OFC and MCAWS are proactively working towards a solution to this issue in preparation for another emergency event.

12. Provincial organizations responding to a State of Emergency should use the same geographical boundaries

13. Train OFC evacuation staff in the use of GIS data and software

14. Investigate partnerships with other provincial emergency organizations already using GIS data and systems

15. Acquire fully attributed GIS mapping data and software to access data

6.2.3 Evacuation

When a wildland fire threatens a community the Office of the Fire Commissioner, in consultation with the Ministry of Forests, implements four stages of alert:

- **Fire notice:** people are pre-warned about wildfire activity that may lead to an alert being put in place
- **Evacuation alert:** people are warned of imminent threat to life and property, and are asked to be ready to leave on short notice
- **Evacuation order:** people must leave the area immediately
- **Evacuation rescinded:** residents will be notified that they may return to their homes when the danger has passed

[13] Cariboo, Coastal, Kamloops, Northwest, Prince George, Southeast

The R.C.M.P. or local police generally enforce evacuation orders.

In preparation for future emergency operations, OFC staff must be equipped with computer hardware and software to establish mobile operations. The system needs to be able to remotely connect to the MOC and the Emergency Operations Centre. The hardware and software required for a mobile centre should include a laptop computer, printer, copier, fax, GIS mapping data, GIS software, modem, data connection for cellular telephones and mobile power supply. This would enable a more effective response by the OFC to areas requiring evacuation.

The importance of local knowledge for safe evacuations is critical for the safety of residents and visitors. Fire service responders have expressed a need to conduct their own evacuations during emergency operations like that experienced during the firestorms of 2003. Activation of local emergency plans enables local governments to conduct tactical evacuations of areas covered by their emergency plans. The tactical evacuation process includes contacting the OFC to formalize the evacuation. The mobile evacuation capability discussed above would enable local responders/emergency managers to be directly involved in the evacuation process.

The Community Charter also contains enabling legislation for municipal councils to authorize fire chiefs with fire suppression/prevention responsibilities that include exercising the powers of the Fire Commissioner under section 25 of the *Fire Services Act*[14]. However, section 25 evacuation powers may not be permissible under a provincial State of Emergency.

16. The OFC should be equipped to operate a mobile evacuation centre

17. The OFC and MoF should continue performing tactical and strategic evacuations

18. Local responders should be enabled to conduct tactical evacuations with support from OFC

6.2.4 Special equipment (sprinkler kits and barricade gel)

Review delegates were able to explain the benefits of some special pieces of equipment and processes used during the provincial response. There was a significant level of success in containing fire with sprinkler and irrigation kits. However, the Protection Branch of the Ministry of Forests experienced instances where sprinklers were reported to have caused damage to structures. Additionally, the protection of structures falls outside of the mandate

[14] Fire Services Act, Section 25(2) "For the purposes of subsection (1), the fire commissioner may evacuate a building or area, and may call on the police and fire prevention authorities who have jurisdiction to provide assistance."

of the Forest Protection Branch. A provincial organization should be authorized to provide a reasonable level of structural protection during future wildfires.

Barricade gel was applied with limited success in some areas of the province. The application of this product was labour intensive and costly, as was the clean up after the threat had passed. The OFC and Ministry of Forests are currently researching the effectiveness of barricade gel and anticipate the development of a barricade gel policy.

19. Exterior building sprinkler/irrigation kits should be purchased and stockpiled at strategic locations for future use

6.3 Governance of Emergency Situations

The interrelation of legislation and regulations emphasizes the need for provincial ministries and local governments to coordinate response operations. The Lieutenant Governor in Council or Attorney General may assume control for all fire fighting and prevention services and may appoint the Fire Commissioner to exercise authority in a declared State of Emergency[15]. The OFC has operated under the assumption that it is responsible for structural fire protection while the Ministry of Forests is responsible for Wildland fire protection.

6.3.1 Multiple Layers of Legislation

The following chart lists the provincial legislation and regulations that regularly affect the fire service or can come into force during a provincial State of Emergency.

Legislation/Regulation	Section
*Fire Services Act**	All sections, particularly 3 and 25
*Emergency Program Act**	6, 8, 10, 12, 13, 14
Local Government Act	517, 522, 799, 849, 875, 903
Community Charter	13, 66, 135
*Forest Practices Code of BC Act**	84, 85, 89, 91 through 95
Emergency Program Management Regulations*	2, 9, Schedule 1, Schedule 2
Local Authority Emergency Management Reg.	2, 4
British Columbia Fire Code	All parts
Compensation and Disaster Financial Assistance Reg.	16, 31, 33, Schedule 3, Schedule 4, Schedule 5

**Denotes legislation or regulations under review for amendment*

There are many provincial *Acts* and regulations that affect the OFC, provincial government, the local governments, and the fire service. Of primary importance for the daily operation of the OFC and the fire service in general is the *Fire Services Act*.

[15] Emergency Program Management Regulation, Section 9(b)(i) and (ii)

6.3.2 Legislated Roles

Legislative flexibility provides several ministries with the power to evacuate people to protect their safety. At least three *Acts* enable evacuations of parts of the province in cases of fire or State of Emergency[16]. The *Forest Practices Code* enables Forest Protection Branch personnel to authorize tactical evacuations so they can initiate suppression efforts. Section 25 of the *Fire Services Act* authorizes the Fire Commissioner to evacuate any building or area of the province that is imminently threatened by fire. Finally, the *Emergency Program Act* also enables the evacuation of regions in a declared State of Emergency. OFC and Forests Protection Branch used their respective legislation to enable both expedient and less urgent evacuations, planned evacuations and re-entry into evacuated areas. The PEP was able to enact Public Safety Orders to prevent access to Wildland areas and authorize gradual re-entry to previously evacuated areas.

The *Emergency Program Act* and Emergency Program Management Regulations articulate specific roles and responsibilities for the provincial government, ministries and local authorities in a state of emergency. These roles and responsibilities must be coordinated with those of local government responders who may have initiated their own response to an event under local emergency plans. The fire service lacked a functional understanding of the application of legislation and regulations during the provincial State of Emergency.

Although the provincial government has the legislated authority to take over local resources and manage emergencies if necessary, it is generally extremely hesitant to do so. It is the responsibility of all local governments and responders to become familiar with the laws that affect their organizations.

20. Clarify legislated roles and responsibilities and communicate to the fire service and local government

6.3.3 New Legislation

It is not uncommon for provincial legislation and regulations to be reviewed and revised periodically. The MCAWS is currently reviewing the *Fire Services Act* and the MoF is preparing to introduce the *Wildfire Act*. In addition, the Emergency Program Management Regulations, including Schedules, are being updated to reflect the integrated provincial response model signed off by the Deputy Minister's Committee on Emergency Preparedness. Disaster response coordination is a provincial responsibility that involves the integration of multiple ministries each with a unique technical response capability.

[16] In British Columbia there are five legal *Acts* to authorize evacuations that vary from hazard to hazard *(Emergency Program Act, Fire Services Act, Forest Practices Code of BC Act, Health Act, Petroleum and Natural Gas Act)*

Many of the Review participants expressed a desire for legislation to protect the job security of volunteer fire department responders. The fire service in British Columbia could not function without the network of volunteer fire fighters. Volunteer fire department personnel generally have an agreement with their employer that enables them to leave their jobs while they respond to emergencies within their communities. However, many employers are reluctant to release their employees so they can respond for their fire department. During the provincial response to the State of Emergency, some volunteer fire personnel were deployed for long periods. In some cases, volunteers returned to their communities of origin to find their paid employment had been terminated.

Of approximately 14,000 fire fighters in British Columbia; nearly 11,000 are volunteers. The authority having jurisdiction must enact legislation or regulations intended to protect job security of volunteer responders. Government should address this recommendation prior to any future provincial response by volunteer fire personnel.

21. Legislative review should be followed by communication of relevant changes to emergency services

22. Enact legislation to protect the regular employment of volunteer fire department personnel who respond to a State of Emergency

6.3.4 Ministry Alignment

Several review participants openly discussed the current alignment of the OFC with the MCAWS and suggested there be a strategic shift to the Ministry of Public Safety and Solicitor General, the ministry responsible for PEP. It was thought that this would result in more effective emergency operations for the next provincial fire response.

However, the majority of OFC operations are more closely linked to other organizations represented by the MCAWS, such as the Building Policy Branch, Local Government Branch, Provincial Gas Inspector or Electrical Inspector. A more appropriate arrangement would likely be closer working relationships with the Provincial Emergency Program during a State of Emergency.

The fire service has confirmed their commitment to work with the OFC during future emergency operations. This contradicts the mission statement of the Protection Branch, which states MoF will provide the lead role in inter-agency prevention and response to wildfire in the Wildland-Urban Interface. When the provincial fire service is activated, the OFC is in charge of the structural fire department response, regardless of the emergency.

23. The OFC should be aligned with other provincial emergency response organizations during emergencies

24. The OFC should continue to represent the structural fire service during a State of Emergency

6.3.5 First Nations

The First Nations communities throughout British Columbia are a level of government not under the jurisdiction of the provincial government. Unfortunately, the OFC does not have the same relationships with First Nations communities as with other local governments. Consequently, many First Nations did not have an opportunity to assist with suppression efforts during the State of Emergency. However, agreements could be negotiated between First Nations communities and the OFC. In many cases, First Nations responders were located in remote areas, equipped and able to provide assistance when local government responders were unavailable.

Like other communities, the evacuation of First Nations communities is essential for the safety of the residents if fire were to threaten. For effective evacuation to occur there must be accurate and current map data of First Nations communities available. This issue requires the cooperation and participation amongst all levels of government including First Nations communities, local, regional, provincial and the federal government – Department of Indian and Northern Affairs Canada (INAC).

If First Nations emergency personnel are to be eligible for future response to emergencies, they must be trained to the same standard as other responding agencies. First Nations fire service personnel should be included in any training and preparedness exercises conducted prior to another provincial emergency.

25. Develop a Memorandum of Understanding between First Nations, INAC and provincial government for future emergencies

6.3.6 Operational Mandate versus Governance Model

There exists a concern among local governments and the fire service that the OFC is shifting from an operational organization capable of responding to communities and assisting with their emergencies to that of a governance model whereby the OFC offers advice and support. Fire service members at the Review do not wish to see a change to the operational abilities of the OFC and were adamant that this be reflected in this report.

26. Any change in the operational status of the OFC must be accompanied by capacity building for the fire departments and local governments

6.4 Planning

The management structure that will be used during emergency response by the OFC and structural fire service has been adjusted to improve overall effectiveness. The planning for a future emergency response by the OFC and fire service also includes development of Best Practices, creation of a State of Emergency Plan, requirements for all local governments to prepare emergency plans and establishing financial guidelines.

6.4.1 Ministry Operation Centre

The OFC has suggested establishing an organizational structure in advance of future fire emergencies that will reduce the need to conscript fire service personnel. Under the proposed system, a single MOC would be established that would be activated in the event of a State of Emergency (Appendix G: Organizational Chart of Ministry Operation Centre). The MOC would replace the Ministry Regional Operation Centre (MROC) system established during the 2003 fire season to support regional fire suppression and evacuation operations. With the older MROC model, two centres were established to manage the provincial emergency that resulted in duplication of services and higher demand for staff and resources.

The new MOC model would include a fully equipped, permanent operation centre being established and closely linked to the Provincial Emergency Program and Ministry of Forests operation centres already in place. This would become the primary MOC and a secondary or backup centre would be established in another location – also closely linked to PEP. Close collaboration with PEP would minimize the long-term costs of maintaining a stand-alone facility and also enable smoother start-up since PEP systems and personnel would already be in place.

27. Establish a permanent MOC in cooperation with the Provincial Emergency Program and Ministry of Forests

6.4.2 Best Practices

Many of the issues identified during the Wildland-Urban Interface Fire Review address Best Practices for the fire services and government in the event of a State of Emergency, and the development of a Best Practices Guide. The Best Practices Guide should deal primarily with strategies, tactics, resources and operations and could be used as a planning tool at higher MOC levels and a field manual at the operational level.

A best practice is a technique that has been proven to reliably lead to a desired result. Using best practices in any field is a commitment to using all the knowledge and technology at one's disposal to ensure success. A best practice tends to spread throughout a field or industry after a success has been demonstrated.

28. Develop and distribute a Best Practices Guide

6.4.3 State of Emergency Plan

Review participants suggested the roles and responsibilities of key players in a provincial State of Emergency were unclear or not communicated prior to the events of the past summer. The roles and responsibilities of the Fire Commissioner, provincial staff and local fire service responders in a State of Emergency are key components of a properly implemented BCERMS organization.

An overall emergency plan for State of Emergency events would explain jurisdictional responsibilities and should contain a number of sub-sections (Appendix H: OFC Plan for State of Emergency). This plan would provide enough detail to fully inform management level responders or MOC directors, while providing operational or field level personnel with information relevant to their task. Individual roles and responsibilities are defined by BCERMS and could be a supplement or appendix to the Emergency Plan.

There is a critical requirement to develop an OFC Plan for State of Emergency and communicate the Best Practices Guide to the fire service and government prior to the next fire season. This requires an immediate commitment from government recognizing the importance of this recommendation and its subsequent development. The province of British Columbia requires responders with the requisite knowledge and skills to effectively manage future provincial emergency operations.

The development of the OFC Plan for a State of Emergency discussed above and its distribution will help solve the confusion around roles and responsibilities. Distribution must also include some form of seminar to instruct the content to the intended audience (OFC, MCAWS and fire service).

29. Develop an OFC State of Emergency Plan in advance of the next fire emergency in British Columbia

30. Distribute and communicate the State of Emergency Plan to all fire departments

6.4.4 Emergency Plans

At present, regional districts are not required to prepare local emergency plans. Review participants suggested legislation and regulations should changed to require all local governments, including regional districts, to prepare local emergency plans according to section 6 of the *Emergency Program Act*. Amendments to the Local Authority Emergency Management Regulations and section 1(1) of the *Emergency Program Act* are required to make planning mandatory for all local governments.

31. All local governments should be required to prepare emergency plans

6.4.5 Finance

Under normal operating conditions, fire departments are not capable of generating significant revenues to offset their operating expenses. In the aftermath of the response efforts, the invoices submitted for fire department expenses has become one of the most controversial issues. Rates need to be established that better reflect the market costs of acquiring services from the private sector (Appendix I: 2003 Reimbursement Rates for Structural Fire Fighters). Clear financial guidelines must be established in partnership with other key stakeholders that clarify realistic rates, policies and signing authority for equipment or services.

Wages paid to responders varied across the province during the State of Emergency. Responders should all be paid equal wages for equal work. As with other services, wage rates should be negotiated and agreed to prior to another provincial deployment.

The model used by Ministry of Forests has been identified as a solution to this challenge. MoF establishes a list of qualified service providers in the spring of each year. At the time of pre-qualification, rates are agreed upon and expressions of interest are accepted. This alleviates the confusion that could occur if incorrect rates are communicated to the responders or contractors during intense emergency operations.

32. Establish clear financial guidelines and reasonable rates for apparatus

33. Determine wages for all responders in advance of another provincial deployment

6.5 Communications

Several communications issues were discussed that must be addressed prior to another fire event. Communications are a critical link for responders and the public during an emergency. Communications includes the infrastructure and physical capabilities to communicate. The levels of communication include the site responders, command and control, inter-organizational, public communications and media. Public education messages and programs are also included in this communications section.

6.5.1 Operational

One of the challenges addressed during the review was the limitations of the radio communication networks used by responders and command. Responders to large-scale incidents need to communicate on several levels, including the site responders, command and

control, and unified command. A communication network that has the capabilities for multi-jurisdictional communications would have enhanced the provincial fire response.

Currently, provincial organizations like the Ministry of Forests maintain frequencies and support a network that has coverage throughout much of the province. The OFC has assigned radio frequencies, but limitations have been identified because of competing frequencies in some areas of the province. However, provincial forest fire centres have successfully used the frequency assigned to the OFC for their operations in some regions.

Responding agencies and personnel need to be equipped with portable radios in order to safely participate in emergency management activities. In the event of future emergencies, radios should be supplied by a provincial organization. Those responding fire departments that provide their own radio equipment should have an opportunity to reprogram their frequencies prior to being deployed from the marshalling area.

Intra-organizational communications were also identified as a challenge during the fires. The reporting channels in effect when BCERMS is activated need to be adhered to by persons conscripted to fill key organizational roles. Circumventing the BCERMS communication procedures can result in serious miscommunication during an emergency event.

Several problems were encountered when public communications or announcements relating information about fire spread or evacuations were released prior to that information being shared among the fire service responders. To prevent future circumstances of incorrect communications, a person must be dedicated to the communication function in the Ministry Operation Centre. The communication director must be the only position permitted to release all public communication.

34. A single organization should establish a radio network to utilize in an emergency

35. The technology required to communicate should be provided to responders

36. Intra-organizational communication should be according to BCERMS

37. Clarify communications procedures for all State of Emergency responders

6.5.2 Media

Another challenge addressed by Review participants was the efforts made by the media to access areas under evacuation orders. For example, during the early stages of the State of Emergency, media were prevented from entering the fire scene. However, some media representatives managed to evade the safety barriers around evacuated areas. This caused concern for their safety from OFC, MoF and fire service responders who had enacted evacuation orders and were attempting to minimize the danger to the public.

However, during the Okanagan Mountain Park fire, the media had relatively free access to the City of Kelowna because of the openness of the fire service and municipality. In some cases, failure to heed the evacuation orders enacted by OFC and Forest Protection Branch staff placed members of the media and public at extreme risk. Media are not exempt from the laws imposed by the province during a State of Emergency.

38. Policy should be established regarding media access during an emergency

6.5.3 Pubic Education

During the Wildland-Urban Interface Fire Review, public education was identified as one of the most effective ways to reduce the Urban Interface fire threat. Citizens of British Columbia choosing to reside in Wildland or Urban Interface areas of the province must take responsibility for their own fire safety. Some communities in the province are already promoting effective mitigation activities and practices.

The British Columbia Public Fire and Life Safety Education Advisory Committee created the British Columbia Public Education Strategic Plan 2002-2007, which guides all public fire and life safety education initiatives undertaken by the OFC. The Strategic Plan represents the collective interests and priorities of all committee members and their respective organizations. The OFC coordinates all activities and initiatives undertaken by the committee.

The BC Public Fire and Life Safety Education Advisory Committee have begun discussion with the Provincial Interface Committee (PIC) regarding the development of a "special topic" on Wildland Urban Interface to add to the provincial fire and life safety curriculum.

39. Communities continue to encourage Interface fire mitigation practices

40. BC Public Fire and Life Safety Education Advisory Committee and OFC continue development and promotion of Wildland Urban Interface special topic

6.6 Post-Incident Evaluation

Responders to emergencies may experience stresses or encounter situations beyond their level of comfort. Often, during an emergency, lessons will be learned and skills refined. Several post-incident evaluation techniques are available to debrief or evaluate successes and challenges.

6.6.1 Critical Incident Stress Debriefing

Discussions with fire service personnel who responded to the Wildland-Urban Interface fires identified the lack of a formal Critical Incident Stress debriefing mechanism. It was reported that responders witnessed some horrific scenes, but were not given an opportunity to diffuse their stress.

41. Establish Critical Incident Stress Debriefing for responders to provincial emergencies

6.6.2 Post-Crisis Review

Operational effectiveness can only be determined following a thorough examination of the response efforts following an emergency. The OFC initiated an internal evaluation of their emergency management operations during the State of Emergency. The Wildland-Urban Interface Fire Review was an opportunity to consult with external stakeholders including the fire service and local government responders to examine the entire provincial structural fire response.

A steering committee was suggested to ensure effective implementation of the recommendations contained within this report. Stakeholders made it very clear that there must be a commitment from government to encourage full cooperation for future emergency operations. The Wildland-Urban Interface Fire Review is an opportunity to start over again and build support for a more effective emergency response.

42. Conduct a post-crisis review following any large-scale provincial emergency response

43. Establish a steering committee to participate in implementation of report recommendations

7. Prioritization and Implementation

This report contains forty-three recommendations that have been put forward by experienced emergency responders to improve operational effectiveness for the next provincial fire emergency. Obviously, not all of the recommendations can be effectively implemented without further examination of their costs and implications. Partnering between provincial agencies should result in efficiencies and economies of scale. The natural arrangements for partnering are between MoF, PEP and the OFC. Other provincial organizations already maintain sizeable training budgets.

All of the recommendations have been categorized as Urgent, Short-term and Long-term/Continuing. Recommendations within the urgent category should be implemented or initiated prior to another provincial fire response. Short-term recommendations should be implemented within one year and long-term recommendations are those that require an on-going commitment from the government, the OFC or the fire service.

Recommendation	Implementation		
	Urgent	Short-Term	Long-Term Or Continuing
Provide OFC and MCAWS staff with accredited BCERMS training	x		x
Organize BCERMS training for the BC fire service	x		
OFC to collect and maintain a database of fire apparatus	x		x
Develop Operational Guidelines for a provincial fire response	x		
Establish reasonable operational periods and safe work practices	x		
Establish deployment guidelines for personnel and marshalling	x		
Refine and standardize boundaries used by provincial organizations	x		
Train OFC staff to use GIS data and software	x		x
Investigate GIS partnerships with other provincial emergency organizations or acquire GIS data	x		
Establish clear financial guidelines and reasonable rates for apparatus and wages	x		x
Require MOC communications according to BCERMS	x		x
Establish training for structural fire service in Wildland and Interface strategies and tactics		x	x
Organize Scenario based training exercises for OFC and fire service		x	x
Organize a fire service T.E.A.M.S. response to State of Emergency			x
Establish a mobile evacuation centre		x	x
Local responders be enabled to conduct tactical evacuations		x	
Acquire and stockpile exterior building sprinkler kits		x	
Clarify legislated roles and communicate to the structural fire service		x	
Develop M.O.U. between First Nations, INAC and OFC		x	
Establish permanent MOC		x	
Develop Best Practices and distribute to the fire service	x		
Develop an OFC State of Emergency Plan for structural fire response	x		x
Require all local governments to prepare emergency plans		x	x
Establish a radio network to be used in a State of Emergency		x	x
Set policy regarding media access to areas under evacuation		x	
Establish Critical Incident Stress Debriefing for responders	x		
Conduct post-crisis review following any large-scale emergency		x	x
Establish a steering committee to oversee implementation		x	
Enact legislation to protect volunteer fire responders			x
Build capacity of fire departments and local governments			x
Continue to promote Interface fire awareness			x

8. Summary

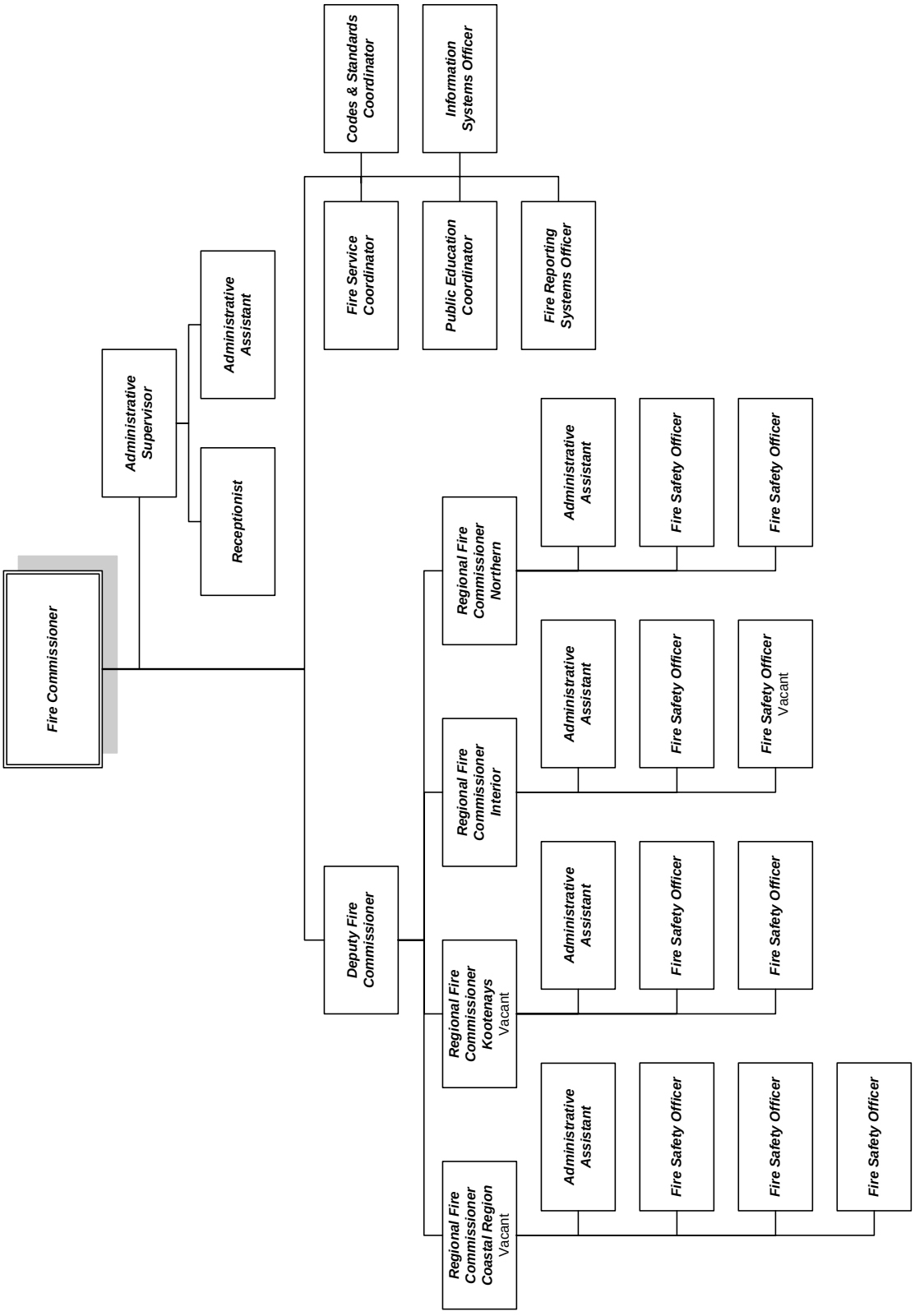
The objective of the Wildland-Urban Interface Fire Review was to examine the provincial response to the State of Emergency during the summer of 2003 and make recommendations for improvement. Analysis of the transcripts and feedback from the participants indicated that overall, the provincial structural fire service was a success. OFC staff and conscripted personnel performed their duties with diligence and professionalism.

Fire service and government representatives have suggested numerous recommendations to improve preparedness and effectiveness. This paper recognizes the contributions and collective knowledge of the fire service and summarizes the issues put forward by experienced responders and emergency managers. These issues and recommendations identify ways to improve and inform the provincial government, members of the fire service, local governments, First Nations and others about the need to develop Best Practices for emergency operations in this province.

Emergency services personnel from a range of departments stepped into management roles and the outcomes were successful. Both unionized career fire fighters and non-union volunteer fire fighters worked toward the common goal of minimizing the losses from the worst fire season of recent memory. However, no municipal, local or regional government fire suppression personnel who responded lost their lives in the largest provincial fire suppression effort ever witnessed in British Columbia.

The fire service was invited to the Review with the intention of debriefing the summer's events and developing a plan for future fire emergencies. Their representation in Richmond indicated a trust that government will implement changes to improve effectiveness and safety. This is an opportunity to create new alliances and build relationships that will benefit the fire service, OFC and levels of government as we move toward a new era of fire safety in the Province of British Columbia.

Appendix A: Organizational Chart of the OFC



Appendix B: Responding Fire Departments

1. ADAMS LAKE INDIAN BAND
2. ARGO ROAD MAINTENANCE INC
3. B C HOUSING MANAGEMENT COMMISSION
4. BAYNES LAKE VOLUNTEER FIRE DEPARTMENT
5. BX-SWAN LAKE FIRE DEPARTMENT
6. CITY OF ABBOTSFORD
7. CITY OF ARMSTRONG
8. CITY OF BURNABY
9. CITY OF CALGARY
10. CITY OF CASTLEGAR
11. CITY OF CHILLIWACK
12. CITY OF COQUITLAM
13. CITY OF COURTENAY
14. CITY OF CRANBROOK
15. CITY OF DAWSON CREEK
16. CITY OF DUNCAN
17. CITY OF ENDERBY
18. CITY OF FERNIE
19. CITY OF FORT ST JOHN
20. CITY OF GRAND FORKS
21. CITY OF KAMLOOPS
22. CITY OF KELOWNA
23. CITY OF KELOWNA
24. CITY OF KIMBERLEY
25. CITY OF LANGLEY
26. CITY OF LEDUC PROTECTIVE SERVICES
27. CITY OF LETHBRIDGE
28. CITY OF MERRITT
29. CITY OF NANAIMO
30. CITY OF NELSON
31. CITY OF NEW WESTMINSTER
32. CITY OF NORTH VANCOUVER
33. CITY OF PENTICTON
34. CITY OF PORT COQUITLAM
35. CITY OF PORT MOODY
36. CITY OF PRINCE GEORGE
37. CITY OF PRINCE RUPERT
38. CITY OF QUESNEL
39. CITY OF REVELSTOKE
40. CITY OF RICHMOND
41. CITY OF SPRUCE GROVE
42. CITY OF SURREY
43. CITY OF VANCOUVER
44. CITY OF VERNON
45. CITY OF VICTORIA

46. CITY OF WHITE ROCK
47. CITY OF WILLIAMS LAKE
48. CLEARWATER IMPROVEMENT DISTRICT
49. CLINTON VOLUNTEER FIRE DEPARTMENT
50. COALDALE & DISTRICT EMERGENCY SERVICES
51. COLLEGE OF THE ROCKIES
52. CROSSFIELD FIRE DEPT
53. DASHWOOD VOLUNTEER FIRE DEPARTMENT
54. DISTRICT OF 100 MILE HOUSE
55. DISTRICT OF CAMPBELL RIVER
56. DISTRICT OF CENTRAL SAANICH
57. DISTRICT OF COLDSTREAM
58. DISTRICT OF DELTA
59. DISTRICT OF ELKFORD
60. DISTRICT OF ESQUIMALT
61. DISTRICT OF HOPE
62. DISTRICT OF INVERMERE
63. DISTRICT OF LAKE COUNTRY
64. DISTRICT OF LANGFORD
65. DISTRICT OF LANGLEY
66. DISTRICT OF LOGAN LAKE
67. DISTRICT OF MAPLE RIDGE
68. DISTRICT OF MISSION
69. DISTRICT OF NORTH COWICHAN
70. DISTRICT OF NORTH VANCOUVER
71. DISTRICT OF PEACHLAND
72. DISTRICT OF PITT MEADOWS
73. DISTRICT OF PORT HARDY
74. DISTRICT OF POWELL RIVER
75. DISTRICT OF SAANICH
76. DISTRICT OF SALMON ARM
77. DISTRICT OF SICAMOUS
78. DISTRICT OF SOOKE
79. DISTRICT OF SPARWOOD
80. DISTRICT OF SUMMERLAND
81. DISTRICT OF TAYLOR
82. DISTRICT OF WEST VANCOUVER
83. EAST SOOKE VOLUNTEER BRIGADE SOCIETY
84. ERRINGTON VOLUNTEER FIRE DEPARTMENT
85. GIBSONS VOLUNTEER FIRE DEPARTMENT
86. GRAND FORKS RURAL FIRE PROTECTION DISTRICT
87. HALFMOON BAY FIRE DEPT
88. HINTON FIRE DEPT
89. HOSMER VOLUNTEER FIRE DEPARTMENT
90. JASPER FIRE DEPT
91. KALEDEN IRRIGATION DISTRICT
92. KALEDEN VOLUNTEER FIRE DEPARTMENT
93. KNEEHILL COUNTY

94. LAND & WATER B C INC
95. LOWER NICOLA VOLUNTEER FIRE DEPARTMENT
96. MCLURE VOLUNTEER FIREFIGHTERS & RECREATION ASSOCIATION
97. MILL BAY FIRE PROTECTION DISTRICT
98. MINISTER OF FINANCE OF SASKATCHEWAN
99. NORTH THOMPSON INDIAN BAND
100. OKANAGAN INDIAN BAND FIRE DEPT
101. OKANAGAN LANDING VOLUNTEER FIRE DEPT
102. OREGON JACK CREEK INDIAN BAND COUNCIL
103. OYSTER RIVER FIRE DEPT
104. REGIONAL DISTRICT OF CARIBOO
105. REGIONAL DISTRICT OF CENTRAL KOOTENAY
106. REGIONAL DISTRICT OF CENTRAL OKANAGAN
107. REGIONAL DISTRICT OF COLUMBIA-SHUSWAP
108. REGIONAL DISTRICT OF EAST KOOTENAY
109. REGIONAL DISTRICT OF FRASER VALLEY
110. REGIONAL DISTRICT OF FRASER-FORT GEORGE
111. REGIONAL DISTRICT OF KOOTENAY-BOUNDARY
112. REGIONAL DISTRICT OF NORTH OKANAGAN
113. REGIONAL DISTRICT OF OKANAGAN- SIMILKAMEEN
114. REGIONAL DISTRICT OF SUNSHINE COAST
115. REGIONAL DISTRICT OF THOMPSON-NICOLA
116. RESORT MUNICIPALITY OF WHISTLER
117. ROBERTS CREEK VOLUNTEER FIRE DEPARTMENT
118. SALTSPRING ISLAND FIRE PROTECTION DISTRICT
119. SECHELT FIRE PROTECTION DISTRICT
120. SHAWNIGAN IMPROVEMENT DISTRICT
121. SOUTH OKANAGAN MISSION IMPROVEMENT DISTRICT
122. SOUTH QUADRA FIRE PROTECTION DISTRICT
123. SPENCES BRIDGE WATERWORKS DISTRICT
124. SPROAT LAKE VOLUNTEER FIRE DEPT
125. SUN PEAKS RESORT IMPROVEMENT DISTRICT
126. TOWN OF BEAUMONT
127. TOWN OF BLACK DIAMOND
128. TOWN OF COMOX
129. TOWN OF CRESTON
130. TOWN OF DRUMHELLER
131. TOWN OF GOLDEN
132. TOWN OF LADYSMITH
133. TOWN OF OLIVER
134. TOWN OF OSOYOOS
135. TOWN OF SIDNEY
136. TOWN OF VIEW ROYAL
137. VILLAGE OF ASHCROFT
138. VILLAGE OF CACHE CREEK
139. VILLAGE OF CHASE
140. VILLAGE OF KEREMEOS
141. VILLAGE OF LIONS BAY

142. VILLAGE OF LYTTON
143. VILLAGE OF NAKUSP
144. VILLAGE OF NEW DENVER
145. VILLAGE OF VALEMOUNT
146. WEST BENCH IRRIGATION DISTRICT
147. WESTSIDE FIRE PROTECTION DISTRICT
148. WILSON'S LANDING VOLUNTEER FIRE DEPT
149. YELLOWHEAD COUNTY

Total	**$29,292,304.74**

Appendix C: Request for Fire Fighting Assistance

August 1, 2003 File: 81200-20/MCLUR

British Columbia Fire Chiefs

RE: Request for Fire Fighting Assistance

A serious interface fire north of McLure is threatening Barrier which is beyond the capabilities of their fire fighting resources. At this time, there is a potential need for structural fire fighting resources to assist that community:

I am therefore requesting your cooperation in advising my office as to what resources (equipment and personnel) that you are able to release, if needed. Although this is not a State of Emergency, Provincial Emergency Programs will reimburse fire departments as per the attached rates through a PEP Task Number.

The fire hazard rating for the Interior and the Kootenays remains extreme. Therefore, we are not expecting the fire departments in those areas to release any of their resources. Our main effort in recruiting resources is from the northern areas where the fire hazard rating is lesser.

If your fire department is able to assist at Barrier, please advise my office at the following numbers:

- Fax 250-356-9019
- Ph 250-356-9000

The following information is required:

- Name of fire department
- Region
- Contact Person and Telephone number
- Number of available fire fighters
- Number of Officers with command experience
- Available fire apparatus

I stress that we are not requesting equipment and resources at this time, but only creating an inventory of available resources. As and when additional resources are required, my office will contact the fire department directly.

Fire fighters should be prepared to bring the following personal equipment:

- Turnout gear
- Portable (dust/nuisance) mask

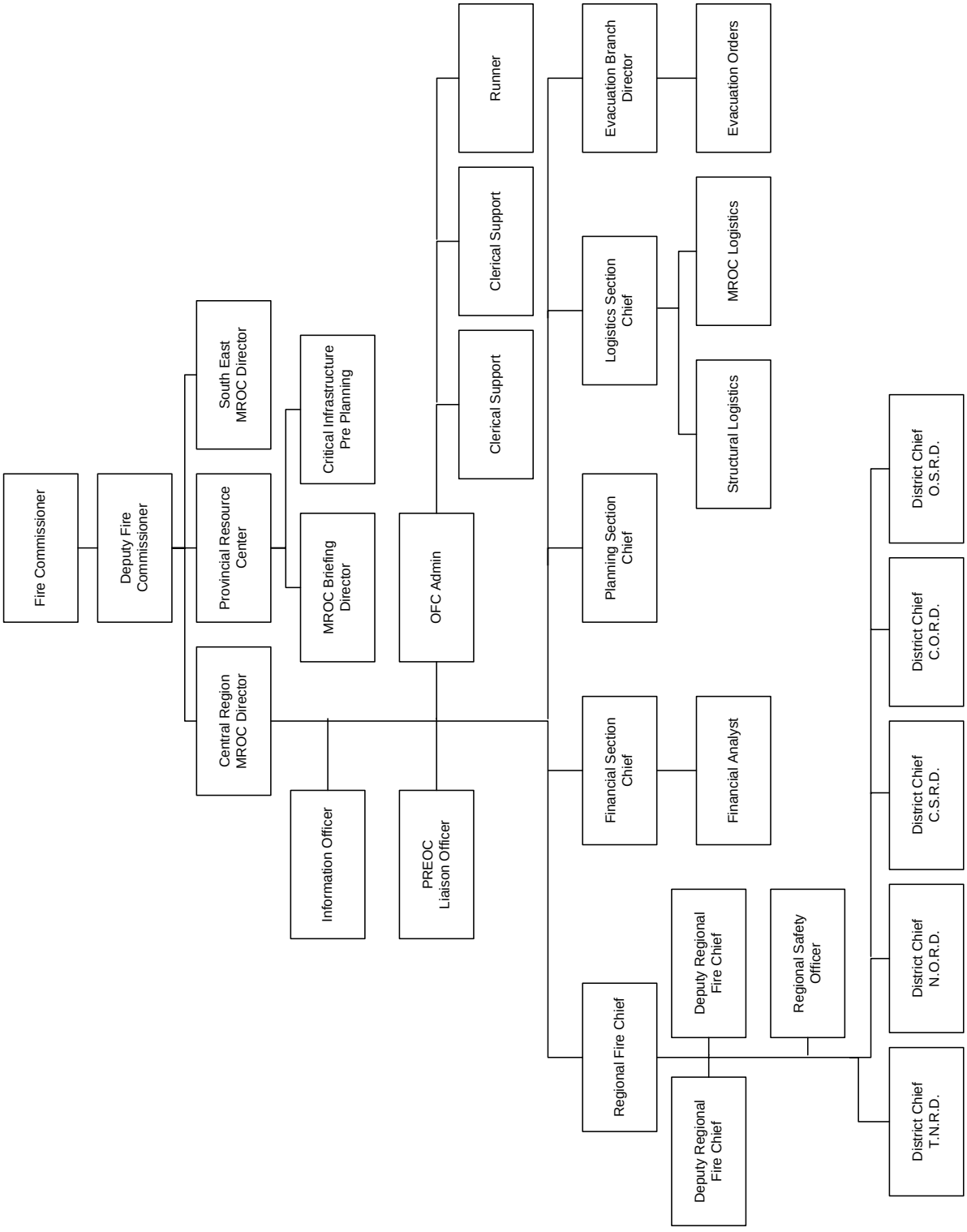
- Sleeping bag
- Fire resistant coveralls (if possible)
- Goggles (in addition to face shields)
- Additional change of light clothing for rest periods

Please do not send equipment or personnel to the affected area until asked, as this will impede the fire fighting activates.

Thank you for your immediate attention to this request.

Rick Dumala, P. Eng.
Fire Commissioner
Office of the Fire Commissioner

Appendix D: Organizational Chart of the MROC



Appendix E: Roster of Wildland-Urban Interface Fire Review Participants

Bruce Mabin, Fire Chief • Creston Fire Department	Al Kirkwood, Fire Chief • Barrier Fire Department
Bryan Collier - Evacuation • OFC Kamloops	Bill McKinnon • RCMP
Darrell Orosz • Ministry of Forests - Parksville	Bill Walkley, MROC Director • OFC - Cranbrook
Don Beer, Safety Officer • Abbotsford Fire Department	Bob Beck (Ministry of Forests) • BCFS Protection Branch - Kamloops Fire Centre
Fred Burrows • Fort St. John Fire Department	Bob Bugslag • PEP - Victoria
Gerry Fox, Fire Chief • Cranbrook Fire Department	Brian McMurdo, Fire Chief • White Rock Fire Dept.
Glen Sanders, Fire Chief • Shawnigan Lake Fire Department	Craig Weddell, Assistant Chief • Westside Fire Department
James Whyte • PEP	Dan Derby, Fire Chief • Chemainus Fire Department
K. Douglas Johnson • Coquitlam Fire/Rescue Department	Dave McCauley, First Nations Rep • Dave McCauley Consulting
Lawrie Skolrood, District Fire Chief • North Okanagan Regional District	Doug Carey, Assistant Deputy Fire Commissioner • OFC - Victoria
Len Foss, Assistant Fire Chief • Township of Langley	Gary McCall, Fire Chief • Kamloops Fire Department
Marvin Patrick • Dawson Creek Fire Department	Gord Brown • Christina Lake Fire Department
Phil Lemire, Deputy Fire Chief • White Rock Fire Department	Jim MacAulay, Finance • CAWS - Victoria
Sid Lebeau, Assistant Fire Chief • Kelowna Fire Department	Kelly Gilday • Prince George Fire/Rescue
Tina Neff • CAWS - Victoria	Lloyd Miskiman, Fire Chief • Summerland Fire Department
Val Hes - EOC Agency Rep • OFC - Cranbrook	Marvin Hunt (UBCM Rep) • UBCM
Wayne Price - MROC Director • OFC - Kamloops	Rich Finley, Fire Chief • View Royal Fire Department
Rick Dumala – Fire Commissioner • OFC - Victoria	Wayne Williams, Deputy Fire Chief • Penticton Fire Department
Barb Kidd, Information Officer • OFC - Victoria	Bill Wacey, Fire Chief • BX Swan Lake Fire Department
Blair Macgregor, Fire Chief • Grand Forks City Fire Department	Bud Livesey • Surrey Fire Department
Bob Haddow, Fire Chief • Okanagan Falls Fire Department	Dan MacKinnon • Cranbrook Fire Department
Bob Turley, Deputy Fire Commissioner • OFC - Victoria	Dave Underdown • EOC Representative
Bruce Cousins, MROC Director • OFC Prince George	David Marcotte • Kamloops Fire Department
Bruce Dundas • Langley City Fire-Rescue	Dean Larivee, EOC/OFC Rep • Abbotsford Fire Rescue

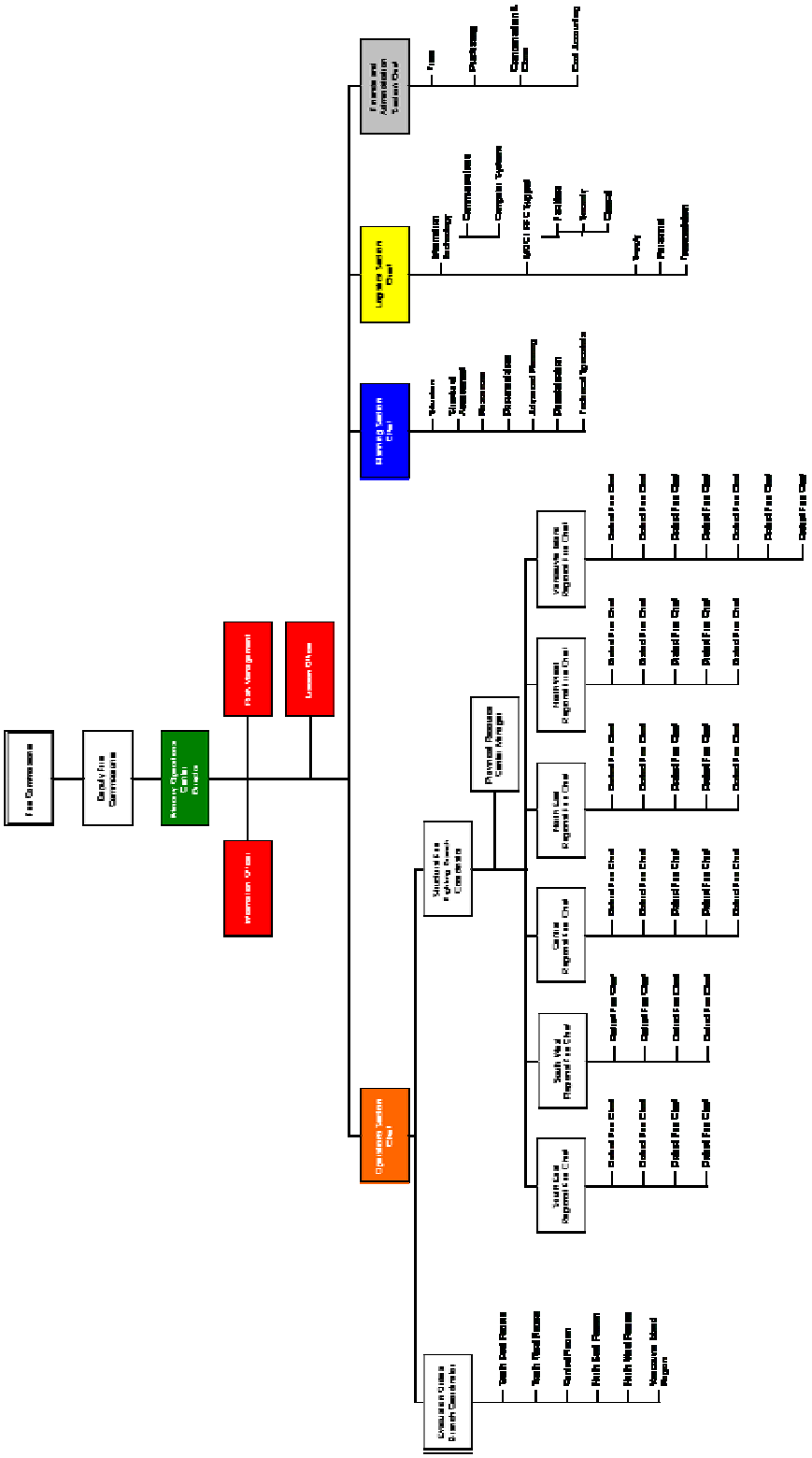
Cam Filmer • PEP	Gerry Rempel, Fire Chief • Castlegar Fire Department
Gary Johnson, Regional Fire Chief • Kootenay Boundary Regional Fire Services	Rob Marshall, Planning Officer • OFC - Victoria
Gerry Zimmerman, Fire Chief • Kelowna Fire Department	Lorne Clarkson, Fire Safety Officer • OFC - Victoria
Grahame Baker, Fire Chief • Naramata Volunteer Fire Department	Mary Ann Kirkvolt, Logistics • Cranbrook Fire Department
Jim McAllister • PEP	Randy Isfeld • Williams Lake Fire Department
Jim Price • Ministry of Forests - Victoria	René Blanleil, Assistant Fire Chief • Kelowna Fire Department
Kim McLean • Kootenay Bound Rescue & Fire Service	Tim Boutin • Kootenay Boundary Regional Fire Rescue
Len Garis, Fire Chief • Surrey Fire Department	Tom Brach • Regional District of Central Kootenay
Robert Owens, Fire Chief • Campbell River Fire Dept.	Tom Gannon • Dawson Creek Fire Department
Ron Cannan (UBCM) • UBCM	Walter Osellame, Fire Chief • Midway Volunteer Fire Department
Wayne Schnitzler, Fire Chief • Westside Fire Department	Carol Cree • Ministry of Community, Aboriginal and Women's Services
Debbie Fritz, Information Systems Branch • Ministry of Community, Aboriginal and Women's Services	Melissa Harper • Ministry of Community, Aboriginal and Women's Services
Chrissy Melling • Ministry of Community, Aboriginal and Women's Services	Janel Quiring • Ministry of Community, Aboriginal and Women's Services
Lori Wanamaker – Assistant Deputy Minister • Ministry of Community, Aboriginal and Women's Services	Vicki Yeats • Ministry of Community, Aboriginal and Women's Services
Paula Santos • First Nations Emergency Social Services	Kim Thorau – Consultant • Perrin, Thorau Consulting
Grace Van Den Brink – Public Affairs Bureau • Ministry of Community, Aboriginal and Women's Services	

Appendix F: Review Agenda (November 19 – 21, 2003)

Day 1: Understanding Unified Command
Day 2: Exploring Issues, Objectives and Expectations
Day 3: Considering Options, Ideas and Next Steps

07:15 – 07:30	**Registration** - ***Main Foyer (Mezzanine Level)***	**Breakfast – *Main Foyer (Mezzanine Level)***	**Breakfast – *Main Foyer (Mezzanine Level)***
07:30 – 08:30	**Breakfast – *Main Foyer (Mezzanine Level)***	**PLENARY: *Salon A*** Outline for Day Highlights from Day 1	**PLENARY: *Salon A*** Outline for Day Highlights from Day 2
08:30 – 10:00	**PLENARY: *Salon A*** Welcome Overview and Introductions Presentation on Intergrated Response	**Presentation of Issues by:** OFC Forests PEP	**BREAK OUT:** Next Steps
10:00 – 10:15	**Break**	**Break**	
10:30 – noon	**ICS Presentation – *Salon A***	**BREAK OUT SESSION** Planning: - Mapping - MROC & Site Planning - Marshalling - Mobilization and Demobilization - Types & Kind of Apparatus	
Noon – 13:00	**Lunch**	**PLENARY/Lunch**	**Lunch**
13:00 – 16:30 Red: *Salon A* Blue: *Cambie Room 1* Green: *Cambie Room 2* Yellow: *Dinsmore Room*	**BREAK OUT SESSION** Incident Command: - Information - Liaison - Safety Operations: - Provincial Resource Unit - Evacuation - Regional Fire Department - Structural - Staging	**BREAK OUT SESSION CONT'D** Logistics: - Spending authority (limits, accountability) - Transportation - Accommodations - Site & Regional Supplies - Rentals - Warehousing Finance & Admin: - Contract Management - Time Recording - Compensation & Claims - Reimbursement Rates	**PLENARY: *Salon A*** Presentations by each group Discussion Wrap Up
16:30 – 17:00	**PLENARY:** Brief Overview of Next Day	**PLENARY:** Brief Overview of Next Day	

Appendix G: Organizational Chart of MOC



Appendix H: OFC Plan for a State of Emergency

The following list identifies the sections to be contained in an overall OFC Plan for State of Emergency. Individual roles and responsibilities are defined by BCERMS and there would be no advantage repeating them, as current BCERMS documents could be a supplement or appendix to the Emergency Plan.

Section 1) Definitions
Section 2) Jurisdictional Responsibilities
Section 3) Organizational structure
Section 4) Policy
Section 5) Best Practices Guide
Section 6) Operational Guidelines

Appendix A) BCERMS manuals
Appendix B) Resource listing

The plan should be used as a reference for all OFC and fire service responders during a provincial state of emergency. For example, the Coordinator and Regional Chief would use the entire emergency plan, the District Chiefs would use Sections 1, 3 – 6, a Structural Branch Director 1, 4-6, a Staging Officer or Task Force Leader would use 1, 5-6 and firefighters would use 1 and 6. The suggestion is to create an emergency plan that would treat the different sections as separate entities and not overwhelm individuals with information not needed to meet their objectives.

Appendix I: Reimbursement Rates for Structural Fire Fighters

Reimbursement Costs for Structural Fire Fighters- State of Emergency

The following charges are recommended for reimbursement to fire departments and structural fire fighting personnel authorized to respond during a State of Emergency.

The charges shall commence at the time the vehicles are dispatched and continue until returned to quarters. Where only personnel are dispatched, the charges shall commence at the time the fire fighter is dispatched and continue until returned to his/her point of departure.

1. Labour rates are either:
   a) in accordance with the labour contract of the Fire Department, or
   b) the volunteer fire fighter's salary received from their normal place of employment, or
   c) $25.00 per hour.
   The above rates are for a 12-hour working day or actual time worked.

2. Repair or replacement costs for damage to or loss of vehicle and related equipment not covered by insurance.

3. Repair or replacement costs for damage or loss of hand equipment, tools, appliances, electronic equipment, ladders, clothing, etc., and use of materials.

4. Rental for specialized equipment.

		Active Service	**Standby**
a)	Pumpers	$ 500.00 per hour	$ 250 per hour
b)	Aerial Devices	$ 1100.00 per hour	$ 550 per hour
c)	Tankers	$ 450.00 per hour	$ 225 per hour
d)	Rescue Vehicles	$ 450.00 per hour	$ 225 per hour
e)	Command Vehicles	$ 450.00 per hour	$ 225 per hour

5. Accommodation, if not provided by the Province.

6. Meals, if not provided by the Province, at Province of BC Group 1 rates:

Full day	$ 42.50
Breakfast	$ 10.00
Lunch only	$ 11.75
Dinner only	$ 20.75
Breakfast & Lunch only	$ 21.75
Lunch & Dinner only	$ 32.50
Breakfast & Dinner only	$ 30.75

7. Transportation of personnel to and from the scene, if not provided by the Province. Private vehicle mileage at $0.44 per kilometre.

8. Other expenses as authorized by the Fire Commissioner.