Submission: FireFighter Safety

VFBV

VOLUNTEER FIRE BRIGADES VICTORIA

March 2010

INTRODUCTION

1. This submission is made on behalf of Volunteer Fire Brigades Victoria ("the Volunteers") in connection with the issue of firefighter safety.

2. VFBV acknowledges that over the last decade, the adoption and prosecution of a "safety first culture" and the "safe person concept" in CFA has lead to improved firefighter safety outcomes.

3. The Volunteers have examined the evidence produced in relation to firefighter safety and do not consider that any additional "evidence" will make any constructive addition to the material presently before the Commission on the discrete subject of firefighter safety.

4. The Volunteers are grateful for the opportunity afforded it to adduce evidence on the subject of firefighter safety, but instead consider that, rather than reiterate evidence already given to the Commission we are best able to respond by way of submission.

5. That said, the Volunteers wish to make the point that although it may be convenient to deal with the question of firefighter safety as a discrete or separate topic in the administration of the Commission's hearings, there are very important links between the general construct of firefighter safety and matters that have already been raised or dealt with by the Commission under different headings.

6. The Volunteers are concerned to ensure that the Commission recognises that the broader issues (which have been dealt with as separate issues so far) are intrinsically related to firefighter safety.

7. Rather than take up valuable hearing time before the Commission, this submission has been prepared to highlight the links between firefighter safety and other issues already raised in the Commission. These issues fall into three broad categories, each of which are intrinsically linked to firefighter safety overall:

    - Preparation of firefighters to perform their duties;
    - Overall organisational and operational structure within which firefighters, in particular volunteer firefighters, operate;
    - Equipping firefighters with the necessary tools and resources.

8. It is appropriate to address each of these broad categories in turn and then to deal with some specific matters.

PREPARATION OF FIREFIGHTERS

9. By far the most fundamental step that can be taken to minimise accidents and injuries sustained during fire fighting is to ensure that personnel are adequately trained.

10. VFBV, through the evidence of Mr Monti and Mr Small, have already raised a number of key issues in relation to training carried out by CFA and those comments are equally applicable to the development and delivery of curriculum related to firefighter safety.

11. The implementation of "Minimum Skills" training was a valuable first step in this process for volunteers. The Commission has previously received evidence to the effect that there is much more that must be done.

12. Training firefighters properly is critical to firefighter safety. One fundamental component of any training regime is curriculum or syllabus. In addition to the fundamental theory of fires and suppression techniques, the content of any curriculum to train firefighters must be:

    - Based upon experience; and
    - Flexible and adaptive to new experiences.

NEAR MISS INCIDENT REPORTING

13. CFA and DSE have procedures for reporting dangerous incidents. These incidents do not necessarily involve injuries, but are important from the perspective of reviewing the performance of equipment, the operating environment and the various activities undertaken by personnel leading up to and during an incident. As such there is much to learn from "near miss" investigations.

14. Agencies should invest in the development of case studies and scenario problem solving based on the key messages from "near miss" and other investigations. The case study published by CFA in 1999[1] following the Linton fire is an excellent example of how this process can be used to highlight significant incidents and as a result, improve firefighter safety.

15. Few similar studies have followed since that time.

16. VFBV strongly encourages volunteers to report any near misses and have gone to some lengths to assure volunteers that the process is not aimed at apportioning blame but is instead focussed on improving performance and the safety of all firefighters.

17. Unfortunately, there are some weaknesses in the incident reporting process.

18. Incident reports and lessons learned from the various firefighting agencies i.e. CFA and DSE are not shared in an open and transparent manner.

19. <u>An open and transparent process of reporting is in the interests of all firefighters, whether paid or volunteer.</u>

20. VFBV understands that the United Firefighters Union (UFU) may have discouraged its members from participating in the process of "near miss" investigations, such as appears to have been the case involving Sunbury Tanker 2 whilst attending the Kilmore East fire[2].

21. The Volunteers believe that it is critical that an environment is created where all firefighters (paid or volunteer) participate in incident reporting in an open and transparent way so that opportunities to analyse possible improvements are not wasted.

22. Current "near miss" investigations are generally confined to technical aspects of the environment such as weather, fuels, topography and fire behaviour and the performance of equipment.

23. There is little expert analysis of elements of decision making and human behaviour that may have either contributed to the incident or alternatively, prevented a worse outcome. While acknowledging that this is a difficult area, it is also an important one from which many valuable lessons can be learned.

[1] Reducing the Risk of Entrapment in Wildfires. A Case Study of the Linton Fire. CFA July 1999
[2] CFA.001.027.0355VFBV

24. The details of CFA's "near miss" investigations are not distributed widely, as a matter of routine. Consequently training programs do not receive the full benefit of new knowledge from these reports and skills maintenance programs do not emphasise safety related issues adequately. This is an important and unique learning opportunity.

25. There are several ways in which this process could be improved.

26. The "near miss" investigation process should be reviewed to ensure that both "causal" and "contributing" factors are taken into account. Reports should be subject to review by a panel that includes volunteers and recommendations made to the appropriate agencies relating to prevention or minimisation of a recurrence of the incident.

LESSONS LEARNED

27. A key safety strategy is to learn from the experiences of others.

28. "Near miss" and firefighter entrapment reports, in addition to the outcomes from after action reviews, should form a foundation for the incorporation of lessons learned and conveyed to firefighters so that they can be converted to knowledge and skill in firefighting, both on the ground and in command and control positions.

29. The Australasian Fire and Emergency Service Council (AFAC) and the Bushfire CRC have undertaken a variety of projects aimed at improving firefighter safety. Unfortunately, many findings are either not communicated or not communicated in a fashion that can be usefully incorporated by volunteers into improved safety on the fireground.

30. A greater focus on lessons learned for operations purposes is needed and key safety messages should be disseminated as widely as possible. A national Lessons Learned Centre along similar lines to that which exists in the USA should be considered. Overseas experiences and information should not be ignored in this process.

HUMAN BEHAVIOUR AND SITUATIONAL AWARENESS

31. An analysis of the "Near Miss Incident Reports" compiled by the CFA based on the evidence of volunteers[3] suggests that a number of the incidents that occurred over the 2008/09 fire season may have been avoided by a greater recognition of the overall existing and forecast changes to the environment in which crews were operating, commonly termed "situational awareness".

32. Situational awareness is achieved through a combination of knowledge of the local environment, the key factors that influence fire behaviour and personal behaviour. Safe outcomes require each firefighter, regardless of their role, to focus on situational awareness while on the fire ground and to respond accordingly. A lack of situational awareness or lack of response to signals on the part of firefighters, can lead firefighters into dangerous situations. The gravity of this cannot be overstated.

33. Accordingly the next quantum step in enhancing firefighter safety requires enhancement in training in situational awareness. Such training should be incorporated into the existing curriculum, but also as standalone courses. These Courses should be designed to highlight the various environmental and human factors that expose firefighters to potential danger, incorporate risk analysis and illustrate appropriate, safe responses.

[3] INDX.468.001.0001

PRESCRIBED BURNING

34. Participation in prescribed burning can be a useful training tool for developing an understanding of some aspects of fire behaviour. There are particular benefits for volunteers who participate in these activities, including greater local ownership of risk reduction, an improved understanding within the community of the need for prescribed burning and in particular an increased level of understanding of fire behaviour and fireground safety. As a result VFBV encourages the participation of volunteers in prescribed burning activities.

35. Unfortunately the reduced level of prescribed burning conducted by brigades in recent years has reduced the opportunities to participate in this practical training. Notwithstanding this, there are some good examples of co-operative prescribed burning being undertaken with CFA volunteer brigades and DSE. Where local fire brigades are prepared to participate in the conduct of prescribed burning and flexibility exists with both timing and prescription, the involvement of volunteers should be facilitated.

36. In cases where prescribed burning is occurring on public land, additional financial incentives should be available to DSE to conduct these programs where supervision may be necessary out of normal work periods. This will enable improved opportunities for volunteers to participate at times when they are more readily available.

SKILLS MAINTENANCE

37. Firefighters are generally able to practice many of the basic skills necessary to maintain safety through a program of regular brigade level training matched to local risks and which is reviewed by CFA staff on an annual basis[4].

38. Outside of these activities, CFA does not have a structured skills maintenance program, e.g. alternative readily accessible options to practice command and control skills in the absence of opportunities to perform roles during “live” fire operations.

39. Keeping firefighters safe requires leaders with high level technical skills, knowledge of human behaviour and experience. Reviews of IMT competencies by CFA and DSE are underway and the Volunteers are cautiously supportive of this. Further consultation is required.

AVAILABILITY OF INSTRUCTORS

40. CFA has considerable difficulty in filling Instructor vacancies. Positions can be vacant for many months. CFA also no longer uses paid Sessional Instructors to the extent that it used to. A combination of these factors can mean volunteers are unable to access training when it is convenient for them.

41. Existing barriers to opportunities for volunteers to acquire and maintain skills due to issues associated with the availability of Instructors should be removed.

[4] S29 CFA Act 1958

B. ORGANISATIONAL AND OPERATIONAL STRUCTURES

COMMAND AND CONTROL

42. Strike Teams and ICCs are preplanned on days like Black Saturday. This results in a level of readiness at the top and a capability to rapidly escalate resources on the fireground, but it can leave a vacuum in the key area of fireground command and control, i.e. with Sector and Division Command. Without strong command and control at all levels, firefighter safety is jeopardised through a lack of effective tasking and surveillance over activities.

43. Often, command lags behind resource deployment in the early stages of a fire resulting in sub-optimal resource tasking, unclear or conflicting objectives, congested communications and a lack of priority attention to safety. These problems can be overcome if command escalation matches resource escalation. This is particularly relevant for rapidly developing fires as were experienced on Black Saturday.

44. To ensure Sector and Division Command is established, and Control Point capability is able to match and co-ordinate rapid resource escalation, Groups and Brigades need to have the capability to deploy commanders into the field. This requires access to vehicles, communications and other technological support. This is as much a priority as preplanning for ICCs and Strike Teams. Some Brigade and Group areas have the resources to support the performance of these functions, but not all.

HUMAN RESOURCE MANAGEMENT AND WORKFORCE PLANNING

45. Efficient and safe fire fighting operations rely on having the right people with the right competencies in the right place at the right time. These people must also be fit for duty for extended periods under what may sometimes be stressful and uncomfortable conditions.

46. Fatigue is one of the causal factors in many incidents and accidents. Poor resource management can contribute to fatigue. To manage this, a human resources system capable of recording the availability of personnel, their current position, their skills and their preferred roles is needed. Without such a system the potential for poor workforce management or inappropriate role assignment is high. There are a number examples of this in the evidence already before the Commission.

47. Poor workforce planning and management can also lead to the over-utilisation of some people and the under-utilisation of others, usually due to expediency and convenience. The disadvantages of this situation are two-fold. Firstly, over-utilisation can lead to fatigue and sub-optimal performance and subsequently, a degradation of safety standards that can impact on both individuals and teams.

48. Secondly, those who have acquired skills and are underutilised are denied the opportunity to practice their skills and gain experience. This has a long term impact on succession planning and a lessening of critical skills and experience relative to safety in the “future leader’s pool”.

BACKBURNING AS A SUPPRESSION STRATEGY

49. The strategy of backburning during Black Saturday has received some attention in the Royal Commission. The Volunteers are not aware of all of the facts surrounding the backburns that were lit at Kinglake or Marysville and can therefore make no informed judgement as to the efficacy of the action taken in either of these instances.

50. However, it is clear that backburning (or indirect attack) can be a legitimate suppression strategy but it is also a potentially hazardous operation. There are significant safety risks associated with the ignition of a backburn, even under relatively benign conditions. An unauthorised backburn may place firefighters' lives at increased risk if they are not aware of the backburn or if those who initiate the burn are not well informed of the deployment of resources and the location of infrastructure and members of the public.

51. CFA firefighters are taught that a backburn initiated under extreme conditions will generally fail. There is a common saying amongst firefighters: "if you can't contain the main fire, you are unlikely to be able to contain the backburn". This lesson was no more strongly brought to firefighters attention than during the Linton Fire[5] where a backburn escaped containment.

52. The forecast Forest Fire Danger Index was significantly higher on Black Saturday[6], than it was for the day of the Linton fire.

RED FLAG WARNINGS

53. VFBV strongly supports the retention and use of "Red Flag Warnings" to convey critical operational information that may impact firefighter safety. Timing and the identification of what is critical information is crucial for "red flag" warnings to be effective. The appointment of a suitably qualified Safety Officer to Level 3 incidents as now envisaged by the agencies should assist in this regard. The harmonisation of "red flag" procedures across agencies would also assist.

[5] Report of the Investigation and Inquests into a Wildfire and the Deaths of Five Firefighters at Linton on 2 December 1998. State Coroner's Office, Victoria

[6] Report of the Operations Review of Linton Fire/Midlands Fire #15 on Wednesday 2 December 1998 – CFA & Department of Natural Resources & Environment, 11 March 1999

C. EQUIPMENT AND RESOURCES

COMMUNICATIONS

54. Evidence before the Commission reveals that there were a number of instances in which the failure of communications systems and infrastructure exposed volunteers to a high level of risk.

55. This evidence concerns the inability to use the pager system to alert firefighters to emerging dangerous conditions, the inability of the VHF network to operate in some circumstances e.g. as was alleged to have occurred during the Bendigo fire, and the inability of the networks to cope with the high volume of traffic. Similar evidence concerning the performance of the CFA's VHF radio network was heard during the conduct of the Linton Coronial Investigation and Inquests. A robust, reliable and comprehensive communications network is essential to mitigate some these firefighter safety issues.

56. Further, the current network does not enable the use of more modern technologies including the integrated use of Global Positioning Systems and Automatic Vehicle Locator functions. This type of technology can contribute significantly to firefighter safety. For example, during the near miss incident involving the North Warrandyte Tanker en-route to Kinglake, not only was the Tanker disabled, but the crew were also unsure of their location[7]. With the technology available today, the crew could have signalled that they were in distress and their location at the push of a button. This technology would also be useful for out of area crews and for improved resource tracking and deployment.

57. CFA's radio communications network is nearing the end of its useful life and planning is well advanced to procure replacement infrastructure. The opportunity exists to address concerns directly related to firefighter safety and security through the introduction of the next generation of equipment. Any new system should:

    - work under all conditions likely to be encountered on the fireground, i.e. in heavily smoke logged conditions or in difficult terrain
    - be capable of conveying urgent safety related messages, particularly Red Flag Warnings, in all circumstances
    - automatically convey the location of the user
    - use technology that maintains voice capability, while at the same time makes use of automatic background messaging or data transfer that functions regardless of voice congestion for the transmission and receipt of vital messages such as "Red Flag Warnings".

58. The majority of CFA's communications systems on the fireground rely on vehicle based systems. Over the next few years, investigation should be conducted into personal communications systems.

PERSONAL PROTECTIVE CLOTHING (PPC)

59. There is little doubt that the Personal Protective Clothing (PPC) available to volunteers during Black Saturday prevented serious injury. The Volunteers applaud the provision of such equipment and encourage further enhancement of clothing as material technologies advance.

[7] CFA.001.027.0244

EQUIPMENT DESIGN

60. Overall CFA's fire fighting vehicle fleet performed exceedingly well in difficult conditions during the 2008/09 fire season. In particular, the safety features of the newer models equipped with internal reflective/fire resistant curtains and external water spray systems protected a number of crews who were subjected to both radiant heat and flame impingement during the fire fight.

61. It is evident that the provision of internal reflective curtains protected the crew of the Upper Ferntree Gully Tanker from life threatening injuries when this vehicle was burnt over and subsequently destroyed during the Nixon's Road, Upwey fire on the 23rd February 2009.

62. These systems are now a standard feature on all new Tankers. CFA's Tanker fleet management program is based around a life span of 20 years. Accordingly it will take at least 13 years before the vehicle replacement program results in all Tankers being provided with these features. In 2006 VFBV initiated negotiations with the CFA to have existing vehicles fitted with these features rather than waiting for their eventual replacement.

63. Currently 844 Tankers require this retro-fit, at an estimated cost of $20M. It is understood that that CFA have made submissions to the Government seeking funds to undertake this program. VFBV considers that this is a priority issue for Government funding.

D. OTHER MATTERS

64. In addition to issues concerning firefighter safety in the performance of their role it is important to remember that there are post fire injuries and personal consequences that can have a debilitating effect on firefighters.

65. VFBV acknowledges the existence of some systems in place. It notes that following an event of the enormity of the Black Saturday fires the existing provisions were stretched beyond the scope of what have been up to that point regarded as normal level of service. There are two examples that are worthy of note.

FIREFIGHTER WELFARE

66. Volunteer fire fighters can be exposed to horrific scenes in carrying out their role. They can also be exposed to quite dangerous and life threatening experiences. In light of this, great attention is paid to ensure that fire fighters who have "bad" experiences are given all the professional assistance they need to overcome any trauma they may experience.

67. In CFA there are many critical incident stress peers. These people are usually the first to make contact with crews or individuals who have experienced traumatic events.

68. Volunteers have expressed satisfaction with the level of support provided by CFA following the 2008/09 fire season. In particular the support given by Mr. Bob Potts in Region 12 (Seymour), Mr Lex DeMan (General Manager, Yarra Area) and Mr Peter Davis working on behalf of CFA has been described by many volunteers as outstanding. Other CFA staff have also been supportive by ensuring that volunteers who may have been affected are offered initial and continuing support.

69. Fire fighters also have available to them chaplains, doctors, psychologists and other specialists as required. Following the Black Saturday fires a two year welfare programme was put in place to cater for the needs of those volunteers who experienced some form of trauma during or after Black Saturday. Many volunteers experienced trauma from circumstances other than fighting fires such as loss of family members, friends or property. These people are provided with the appropriate counselling for their needs.

70. VFBV also maintains personal contact with a number of key volunteers who were involved in or affected by the circumstances of the fires that occurred during the 2008/09 fire season not only to ensure that they are adequately supported but to remain appraised of the general health of the broader CFA volunteer community.

71. CFA has introduced an emergency service volunteer healthwatch program which provides health checks for volunteers and a website based self assessment tool for quantifying health risk factors. This program is being copied by other emergency services throughout Australia.

72. In the discussion about firefighter safety, the Volunteers strongly support the maintenance and extension of these welfare services.

FINANCIAL ASSISTANCE

73. With support from the state government, VFBV operates a welfare fund to help volunteers, and their families who find themselves in necessitous circumstances for one reason or another.

74. To be eligible to submit a claim, a volunteer must be a member of a brigade affiliated

with VFBV and VFBV's Welfare fund. 665 of CFA's 1200 volunteer fire brigades are affiliated with the Welfare Fund. Last financial year the fund made 45 grants to applicants totalling in excess of $100,000.

75. Following Black Saturday VFBV established the Black Saturday Volunteer Recovery Fund to assist volunteers and their families who had experienced losses during this time.

76. Approximately $860,000 has already been disbursed to 238 volunteer fire fighters and their families to assist them in their recovery from the fires.

77. VFBV acknowledges that the trauma suffered by some volunteers has been a life changing experience.

78. VFBV will continue to work with CFA to ensure that those members affected continue to receive support for as long as is necessary.

SUMMARY

79. Both examples illustrate the services that firefighters need access to after the fire event has passed. They do not strictly relate to firefighter safety in the field, but are more related to firefighter welfare and morale, particularly among the Volunteer ranks.

80. VFBV acknowledges the efforts and contributions made in this respect to date, but encourages further discussion about the expansion of these services in the future. It is an important part of the discussion and should not be forgotten in the Commission's review of the firefighting.

CONCLUSION

81. The Volunteers trust that this submission is useful to the Commission in its consideration of the issues.

82. In the event that the Commission requires any further assistance or elaboration on any point raised in these submissions the VFBV stands ready to assist.

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