Key Issues Identified of Major Fires in Victoria 2006/07



Department of Sustainability and Environment

from Operational Reviews

Ross Smith July 2007

A Victorian Government initiative



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Key Issues Identified from Operational Reviews of Major Fires in Victoria 2006/07

Report by Mr Ross Smith

Response by Russell Rees, CFA Director Operations/Chief Officer and Ewan Waller, DSE, Chief Officer, Fire and Emergency Management

The Great Divide Fires of 2006/07 were the longest in Victoria's fire history. The fires lasted 69 days with many people making sacrifices to ensure that the fires were eventually brought under control. First and foremost we would like to thank the thousands of DSE and CFA personnel who contributed with great passion and professionalism to the campaign efforts. We would also like to acknowledge and thank their families along with the communities across Victoria for their support and help during the campaign. Furthermore we would like to acknowledge the support and assistance from our New Zealand, US, Canadian and interstate colleagues. Their skills made an invaluable contribution to our campaign effort. The Great Divide Fires have impacted on many peoples lives from social, economic and environmental standpoints. Homes, stock, crops and natural assets have been impacted upon. However, despite the protracted nature of the fire season, the losses were thankfully not as significant as they potentially could have been. No lives were lost as a direct result of fire activity.

Wildfire management requires government and non-government organisations to act in true partnership with communities and each other. Recent experiences in being prepared for and responding to wildfire have proved that our partnerships are strong. We would like to thank all those organisations, groups and individuals who worked with us to prepare and plan for, respond to, and recover from these fires. We have learned a great deal from our experiences and both our organisations are committed to incorporating improvement into our strategies and planning.

Each fire season presents us with the opportunity to review, improve and learn from our experiences. After the fires, and in line with good practice, CFA and DSE jointly commenced a series of operational review processes. The review process was far reaching. It identified where the agencies and our emergency management partners had performed well, where improvements could be made and how we can further consolidate our partnership. This included a comprehensive, coordinated series of debriefs, operations analyses, and investigations of accidents.

Additionally, DSE and CFA commissioned Ross Smith, an independent consultant with extensive experience in wildfire operations, to attend the major fire debriefs and review the outcomes of the operational reviews. Mr Smith reviewed the information derived from other debriefs, and reported on the matters of state-wide significance that arose. Many staff and volunteers have participated in these processes. They have provided valuable insights into things that went well during the fire season and provided us with an agenda of issues for improvement. Work groups have been convened to identify action items to address these issues from the operational review process. These actions will be considered by senior management.

We would like to take the opportunity to thank Mr Smith for his detailed and professional approach to the task and for the preparing the report with due diligence. The report is a key reference document for the Great Divide Fires of 2006 / 07.

The report recognises that CFA and DSE have learned to respond positively to previous reviews to ensure that good practice is built into our core business. Interagency integration and cooperation, provision of information to the community, and the enhanced integration of response and recovery functions worked well this year. These practices can be attributed to projects and initiatives that have been implemented since the major fires of 2002 / 2003. Internal agency operational reviews coupled with past experiences of working together have also informed how we do business.

CFA and DSE are learning organisations. Our post-incident and post-season business processes all contribute to our learning and future development. External and independent reviews, such as this report by Ross Smith are another valuable source of constructive feedback, observations and learning potential. The report identifies a number of areas where our organisations need to enhance our performance. Some of these issues have been identified previously, and are subject to development initiatives that are either planned, or underway. In many cases, these processes have already resulted in improvements in our practices. Importantly, the report provides additional guidance about lessons to be learned from the fire season, and will be used to assist us to better target our performance improvement programs.

DSE and CFA have jointly considered the key findings identified in this report, along with the observations from other operational review processes, and have identified five strategic themes that require priority and strategic action. These themes are:

- 1. Sustainability of Community Information Flows
- 2. Integrated Emergency Planning
- 3. Information Technology and Information Flow
- 4. Incident Management Refinement (Logistics)
- 5. Incident Management Refinement (Planning and Fireground)

DSE and CFA are progressing these themes within the context of their agency business planning processes, and, where appropriate, with other emergency management agencies.

We accept the report of the findings from the "Key Issues Identified from Operational Reviews of Major Fires in Victoria" for the 2006/2007. We are pleased to present it as a basis for further learning and for wider viewing.

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BAULKHAM HILLS NSW 2153 25 May 2007

The Chief Officer Fire & Emergency Management Department of Sustainability and Environment 8 Nicholson Street MELBOURNE VIC 3001

The Director Operations/Chief Officer Country Fire Authority P.O. Box 701 MT WAVERLEY VIC 3149

Dear Sirs,

Attached is my review of the debrief outcomes and operational analyses of associated improvement programs related to the fires that Victoria experienced during the 2006/07 fire season. This review has drawn primarily from debriefing activities of the fires occurring from the beginning of the fire season until late February 2007, with much emphasis on the series of fires that generally amalgamated and became known as the Great Divide Complex. In accord with the Terms of Reference I forwarded my preliminary report to you on 30 March 2007.

Whilst some analogies can be drawn from the debrief process utilised in 2005/06, the process undertaken for this 2006/07 review was quite different. The debrief process in 2005/6 was essentially a series of separate debriefs, each of which related to an individual major fire or complex, whereas in 2006/07, although not exclusively so, the major regional debriefs focussed on fire service input into the Great Divide Complex - in essence six major debriefs for a single complex of fires. The 2005/06 debriefs included representatives from the wider emergency management family and for the major fire complexes they served effectively as "Joint Emergency Services" regional debriefs whereas the 2007 debriefs were solely joint fire services debriefs.

To assist the completion of this review and capture important issues, I attended the six major regional debriefs and the USA contingent debrief. I reviewed approximately 80 records from underlying debriefs, functional area and specialist debriefs and associated improvement programs. I had the opportunity to meet and discuss key issues with 45 representatives from the joint fire agencies, generally being those charged with responsibility for implementing identified programs or initiatives. The review process was also broadened for this 2006/07 review to include consideration of the outcomes from three associated improvement programs:

-Real Time Performance Monitoring, -Near Miss and Accident Investigation, and, -Operational Analyses.

I also held briefings with representatives from other agencies to inform those agencies about the key preliminary findings from the review, and to consult with them about matters that require further dialogue and clarification between them and the joint fire agencies. Agencies consulted were:

- Office of the Emergency Services Commissioner,
- Victoria Police,
- Victoria State Emergency Service, and,
- Department of Human Resources.

Despite the severity of the fire season, particularly the protracted nature of the major campaign lasting for nearly ten weeks and the extremely droughted conditions that prevailed, losses were restricted to relatively low levels. No lives were lost as a direct result of fire activity, although tragically one person died in a vehicle associated accident en route to a fire. Unfortunately 51 houses, including 21 principal residences were lost. As significant as these losses are, their extent is much lower than the losses recorded in severe fire seasons elsewhere in Australia over the last decade or so, when multiple fatalities have occurred and housing losses have reached into the several hundreds from comparatively short lived campaigns.

It is apparent that many Victorian communities are now much better informed about fire risk and potential than they were as little as five years ago. This has arisen as a direct result of sustained information flow to communities before and during fire incidents and the ongoing activities of the Fire Ready Victoria program. Concomitant with a better understanding of fire comes an understanding of the activities that residents can personally undertake to mitigate the risks they individually face.

Potential for serious impact into major water catchments was very high. Fortunately, no serious incursion of fire into the major catchments occurred, although catchments for a number of rural communities were affected. Whilst community information flow was instrumental in assisting to maintain community losses to relatively low levels, the efforts of fire management staff at all levels must also be acknowledged as a major contributing factor to minimising community losses and potential impacts onto major public assets.

There will no doubt be calls for a range of inquiries in the aftermath of this fire season, in addition to the Environment and Natural Resources Committee inquiry by the Victorian government. Proposed inquirers would do well to acknowledge the way in which the fire game has changed. Victoria continues to rate among the most fire dangerous parts of the globe and there are no indications that picture is likely to change in the foreseeable future. The impact of climate change, however it has, and is being caused, is now well established. The effects of deep drought have been experienced to an extent that goes beyond living memory through much of south eastern Australia and the firefighters of 2007 had to contend with fuel loads that were as dry as can be practically attained, generating very difficult suppression conditions.

The immediate outlook for the 2007/08 fire season promises no encouragement for any significant improvement to the seasonal conditions that prevailed during 2006/07. Even if Victoria experiences average rainfall during the winter months, Spring 2007 and Summer 2007/08 will likely emerge with a serious long term moisture deficit still evident. The streamflow analysis for Victoria at the close of March 2007 indicates much of the state with streamflows of less than 10% of the long term average for March. When coupled with some none too subtle demographic changes and significant changes to mobility of people, the total fire risk to the community has altered enormously over the last several decades.

Bearing these facts in mind, the inquirers and persons seeking inquiries must understand the level of resources that are necessarily drawn down from fire service core business whilst attending to the demands of inquiries and the impact of those drawdowns. The natural corollary is that long running inquiries, extending across one fire season to the next, need to be managed with some caution. Whilst there are always lessons to be learned, there are always serious questions about multiple inquiries and how much they actually contribute to the improvement process, apart from satisfying the inquirers and specific interest groups, whose agendas sometimes do not match the developing needs of the State. Perhaps the more productive approach is to acknowledge that significant change and innovation has been introduced in response to changing fire management demands and that rather than looking backwards, it is essential to now adopt a forward looking approach. It is important to understand that circumstances may continue to change, and that a continuation of innovative approaches will be necessary to effectively manage current and future risks.

Whilst much of the material raised during debriefs and examined under the auspices of the associated improvement programs will be further developed by joint strategic groups from CFA and DSE, there are matters of clarification that have been identified for further discussion and resolution, between the fire services and several support agencies. It is my view that these matters warrant separate treatment outside of the strategic review process to define and agree the respective agency positions, which, when settled can be incorporated into the strategic processes. Relevant matters were identified in consultations with external agencies - Victoria Police, Victoria SES and the Department of Human Resources - but further dialogue at senior levels is indicated.

Actions to address issues identified in this review need to be put into practice as soon as is reasonably practicable. It would be disingenuous to suggest that all or even most of the issues identified either can, or ought to be addressed, prior to the 2007/08 fire season. Those that can realistically be adopted before then should be, but those requiring a longer time frame for implementation must be allocated adequate time for development, consultation and implementation.

I noted in my report on the 2005/06 fires that provision of community information and the actions of communities were effective, but that it would be "*critical that communities and individual residents continue to observe good community protection principles*". I have no hesitation in recording that the Victorian fire agencies and communities have again 'raised the bar' in this matter and continue to engage productively with each other in bushfire prone areas.

Yours sincerely

Ross Smith 25 May 2007

In 1994 he transferred to the NSW Rural Fire Service as Manager of Planning and Research and was subsequently appointed as Assistant Commissioner. During the latter part of his career, from 1995 onwards, he worked extensively on forest and rural fire projects in Asia, SE Asia, Europe and North America, representing the NSW Rural Fire Service. He retired n 2002 but remains active in rural fire management and continues to work professionally, both offshore and within Australia.

In 2002 he was awarded the Australian Fire Service Medal for services to forest and rural fire management.

^{*}Ross Smith is a professional forester with extensive rural fire management experience. He worked in forestry in New South Wales between 1963 and 1994. His field work was principally in exotic plantations areas in the Central West Slopes and South West Slopes until 1983, when he transferred to the Forestry Commission Fire Management Branch. He held the positions of Deputy Fire Management Officer and later, Manager of Audit and Review and then Chief Forest Inspector. He worked closely with rural fire brigades in his field career and later forged strong links with the Rural Fire Service, representing the Forestry Commission in several inter-agency coordination groups.

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EXECUTIVE SUMMARY

Introduction

This section sets out a brief summary of key issues that were identified in the review. It does not include all issues. The relevant sections list the full array of issues that are identified in the report. Any person who seeks to utilise this report for further examination of issues raised should refer to the individual sections.

Information flow to the community

Community engagement, and the resultant display of community understanding of fire and appropriate reaction to it, was a standout highlight of this campaign. There was massive fire agency and community interaction. Major improvements in delivery of the community program have occurred since 2002/03 and further initiatives are well developed for implementation prior to next fire season.

The Victorian Bushfire Information Line capacity was significantly upgraded after 2005/06, with ability to accept high load calls at an overflow centre, rerouting of non fire calls, casual staffing availability/training increased threefold and training commenced three months earlier than 2005/06.

Issues identified for further action include the need for one website (IT compatibility), emphasis given to inclusion of local people into community briefings, and statewide consistency in messaging and terminology to convey fire information to the public.

Resourcing of fireground personnel

Local personnel

Equipping fire areas with adequate resources required innovative methods to attract fire fighters without causing them to be absent for lengthy periods. The exigencies of the season demanded that rurally based volunteers could not be absent for extended periods and the techniques of quick turnaround strike teams and rapid transport solutions employed are worthy of adoption, formalisation and documentation of existing practices into guidelines.

Some concern was expressed about withdrawal of significant levels of resource from fire free parts of the state to fire affected parts and a need was identified for the ability to pre plan the order in which to draw down resources whilst maintaining adequate fire cover and to develop mutual assistance arrangements/agreements with other agencies such as MFB and VicSES.

Interstate/international personnel

Extensive levels of interstate and international resources were utilised. The lessons of 2006/07 should be formalised into a structured management and liaison process to incorporate effective practices that were developed and implemented during 2006/07.

The DSE North Altona Equipment Centre was recognised for its utility and ability to kit out interstate/international resources with a full complement of equipment. Review of the centre is indicated to assess its capacity and determine adequacy to support future events.

Coordination arrangements

The need for understanding of emergency management arrangements, particularly role clarity both vertically and laterally – between fireground commanders and IMTs, IMT and IFACC, IMTs and MECCs – was identified in each of those arenas with the need for role occupants to understand not only their own roles but also the roles of those with whom they communicate. Training and exercising between the respective elements is indicated to foster relationships and understanding, incorporating formal guidance based on existing protocols and the learnings from recent fire seasons.

Further dialogue with external support agencies to determine relevant MOUs and clarification of the implementation of access restrictions is indicated.

Joint versus integrated operations

The principal agencies responsible for rural fire management, DSE and CFA cooperated at very high levels and mounted many joint operations. Examples of highly integrated and effective operations included the establishment of the Strategic Planning Unit and the Joint IMT Desk in the DSE ECC. Noting that, there is still room for further integration of the two services to operate in a truly integrated manner rather than jointly in all aspects of their operations.

Proposals to establish a single state coordination centre should act as a catalyst to further the integration between the services.

Planning

The Integrated Fire Management Planning (IFMP) process has recently been approved by Government and implementation will now proceed. There is opportunity to utilise case studies about smaller community protection from 2006/07 to assist in implementation.

The integrated Strategic Planning Unit, created during the Great Divide Complex fires operated effectively providing critical information to both internal and external stakeholders and this function is acknowledged one that ought to be continued in future events.

Incident planning processes (incident action plans) require review to achieve a standard format for statewide implementation. There is a need to consider how the services can provide ancillary information (remotely sensed data and fire predictive services) for the broad spectrum of planning processes, including IAPs.

Fireground

Several major public infrastructure assets were threatened. In the first case a fire in the Morwell open cut mine area threatened power supplies but resolute firefighting averted that threat. A second threat to power supply was realised when major lines were cut on 16 January 2007, severely disrupting Melbourne power supplies. On the same day a large fire also threatened to close Tullamarine airport. A major plus during the season was the ability to keep fire out of major water catchments, noting of course that every fire affects a catchment in which people live or source their water supplies.

The efforts of the personnel at the fireline in successfully implementing two massive control lines of 107 km and 200 km on the Great Divide Complex fires, under arduous conditions is testimony to the management processes and especially the efforts, skills and training of the many fireground personnel who completed these activities.

A number of issues are identified for further resolution under the following topics:

- Fireground command role clarity, resourcing and fireground management.
- Fireground safety maintain high standards, reinforce safety awareness.
- Staging areas dedicated management.
- Non-Combatants resolve access restriction powers for residents and other non-combatants, undertake dialogue with media with a view to development of a Memorandum of Understanding regarding fireground access.

IT compatibility

Resolution is needed to the long standing barriers imposed by two separate IT platforms and software configurations that contribute to perceived inefficiencies in communication, in turn impacting on a wide range of fire management operations and community involvement.

There is need for examination of information technology systems to overcome the existing impasse and to determine how effective and integrated information systems can be established. This examination should occur concurrently with consideration of proposals to implement a single state coordination centre

Logistics

A key message is the need to undertake clear definition of roles in logistics and specific cross agency training to enable more effective execution of the logistics function at IMTs, Staging Areas and Base Camps.

Resource and finance tracking – there is need for a transparent and efficient methodology for tracking resources and finance on a statewide and IMT basis and this issue relates very closely to IT compatibility between DSE and CFA.

Catering is a subject that although there were some issues raised with standards, timing and nature of catering, there were many debriefs that did not raise any issues. Interstate and international agencies reported very favourably, indicating that Victoria maintains a high standard. Although there are no specific issues to address at state level, it is prudent to ensure that catering remains as a matter that is continually monitored.

Communications

The importance of including qualified and trained communications planners at ICC level cannot be overemphasised. When these planners were inserted and utilised standard procedures, positive results emerged. It is important to ensure that there are adequate numbers of trained communications planners are available.

There is a need to ensure that a single standard template is used statewide for developing communications plans.

On the fireground all command vehicles should have command and operational channels. The ability to communicate with external contractors needs to be investigated further, at least in parts of the state where that current ability is limited.

INTRODUCTION

The purpose of this report is to focus on the key matters that were raised during reviews of fire management operations and associated continuous improvement programs, resulting from the fire activity in the 2006/07 fire season. The report is intended to capture opportunities that have been identified for consideration by an extensive self examination process involving experienced and competent local fire management personnel.

Victoria experienced a very adverse fire season during 2006/07. The area burnt, anticipated to be between 1.2 and 1.3 millions of hectares by the close of the season, matches other very severe and notable fire seasons in extent of area burnt.

There were no lives lost as a direct result of fire activity, although tragically, one person died in a vehicle accident near the Coopers Creek fire, a suspected deliberate light, when the victim was assisting a property owner to prepare for fire impact. Given the circumstances under which severe fire conditions prevailed for almost 10 consecutive weeks, housing and private asset losses were restricted to remarkably low levels. In total 51 dwellings, of which 21 were classified as primary residences, were destroyed. These levels of loss are attributed to two key areas – the efforts of many thousands of fire fighters and the understanding the Victorian community now has about the likely extent and impact of fire in bush fire prone areas, and the preparations implemented by "at risk" communities.

A number of significant fires occurred, burning extensive areas as extremely droughted conditions and favourable burning conditions brought intense fire behaviour from August onwards. Conditions conducive to rapid fire spread and difficult suppression conditions are rarely experienced at that time of year, regarded as the pre fire season period. An unusually prolonged period of intense fire activity occurred between 1 December 2006 and mid February 2007 when multiple fires, caused by lightning on 1 December 2006, eventually merged to form the "Great Divide Complex". Subsequent to the ignition of the complex of fires, other serious and large fires also occurred.

As a consequence of this fire season the Country Fire Authority ("CFA") and the Department of Sustainability and Environment ("DSE") implemented a number of joint debriefing and operational review processes to identify those matters impacting on their capacity and ability to manage high fire loads under severe fire weather conditions. These are described in Appendix 2. The agencies agreed a process to independently analyse the outcomes from the fire season and jointly commissioned this report, in accordance with Terms of Reference that provided for the following activities:

- 1. Meet the Chief Officer (CFA), Chief Officer Fire and Emergency Management Division (DSE) to discuss issues and expectations early in the process.
- 2. Attend the regional debriefs of the Great Divide Complex fires.
- 3. Review strategic issues identified in local debriefs of the Great Divide Complex fires.
- 4. Provide a preliminary report to both Chief Officers indicating key strategic issues identified that need to be immediately addressed.

- 5. Attend or review the outcomes of other debriefs conducted in 2006/2007.
- 6. Review the outcomes of real time performance monitoring visits.
- 7. Review the outcomes of near miss and accident investigations.
- 8. Meet with key internal and external stakeholders.
- 9. Review operational performance in the 2006/2007 fire season against issues identified in previous years to identify areas where improvements have been made and areas that require ongoing attention.
- 10. Provide a final report on operational performance for the 2006/2007 fire season in an agreed format.
- 11. Assist in the presentation of outcomes to key internal and external stakeholders.

The complete Terms of Reference is attached as Appendix 1.

Many underlying debriefs, from crew/unit level through to state-level coordination centre level, were conducted to inform the major debriefs. Similarly, debriefs were held in each key ancillary/functional unit. A number of associated operational review programs and initiatives implemented by CFA/DSE have also contributed to this review. These programs include: Real Time Performance Monitoring, Near Miss and Accident Investigation and Operations Analysis.

Much of the firefighting effort expended by the joint agencies was necessarily devoted to the Great Divide Complex and as a consequence of that, many debriefs focussed heavily on this fire. Indeed, in setting up the debrief process, it was recognised that a significant proportion of the efforts during the season had been directed to one major fire so the major joint agency debriefs were regionally focussed. In some regions, input to fire management occurred directly by managing the fire suppression response effort at Incident Management Team, Regional Emergency Coordination Centre or Integrated Fire Agency Coordination Centre levels. Other Regions primarily provided support roles to the Great Divide Complex by supply of fire fighting resources to the combat areas. It is important to note that despite the massive resource needs of the Great Divide Complex, regions geographically separate from it still experienced a severe fire season with many other large and potentially damaging fires.

It is important to highlight several matters:

- Solutions or changes to procedures can only derive from those who possess an innate understanding about how Victoria implements its fire management business. It is they who understand the political, cultural, environmental and financial boundaries within which fire management occurs in this state. It would be counter-productive to obtain external recommendations for change without an in depth understanding of the whole gamut of fire management in the Victorian context.
- 2. This is a report about the key issues identified from operational reviews it is not an operational analysis of the suppression and management efforts and the author makes no value judgements about those efforts. Operational matters are reported if raised as an issue during debriefs. Key issues identified in each section are highlighted at the beginning of each section, immediately following the introduction, and are also repeated at or near the end of each section.

- 3. Comments, opinions and attitudes reported herein, whilst reflecting the views of the persons or organisations who were involved in preparedness, response, recovery activities and the debrief process, may not necessarily represent the views of Victorian State Government Agencies. For the purposes of probity and accuracy in recording debrief outcomes, no value judgements were made about any issues other than recognising them as significant matters that may warrant further attention.
- 4. This report expresses certain views and opinions that were formed during extensive review, observations and discussions. Whilst they constitute the views and opinions of the author, they do not necessarily represent the position of the agencies commissioning the report or of the contributors to discussions with the author.

Every separate item raised or discussed during debriefs or noted on data collection documents is not addressed within this report. Records of each debrief were prepared by the convenors and during the debrief process matters recorded were identified for resolution at local level, regional level or state level. For the major Regional debriefs, the results of facilitated debriefs were collated by the Joint Debrief Team and copies of the outcomes ("minutes") distributed to participants.

This report focuses on those matters impacting, or potentially impacting, at whole of state level. The non-inclusion or discussion of matters that impact at local or regional levels diminishes neither their importance to specific local or regional areas, nor their importance to the people who raised them as issues. It is incumbent upon the joint fire agencies and emergency response and coordination bodies to ensure that appropriate attention is afforded all issues raised, not only those that have a state-wide impact.

This report is a part of the review process and will serve as a catalyst for strategic working groups to undertake detailed analysis of the outcomes of the review to determine if any changes are warranted to systems and processes currently applied to fire management in Victoria. In that regard, it will be important for the strategic work groups to scan selected debrief and review records to place each issue into context and capture the intent of the contributors.

DESCRIPTION OF EVENT

Introduction

This section provides a brief summary of seasonal conditions leading up to the 2006/07 fires, focusing on the extremely droughted nature of the Victorian landscape, the unusually early onset of severe fire activity, the occurrence of extensive lighting activity on a single day causing multiple fires that ultimately led to a major fire complex and the attendant need for significant resources. A short chronology of major fires is included for illustrative purposes to demonstrate the lengthy and severe nature of the fire season. As indicated, a detailed analysis of the fire season is being prepared separately.

Antecedent Conditions

Early development of the fire season was prompted by exceptionally dry conditions, Victoria effectively remaining in the grip of a decade long drought.

Rainfall deficits for 3 years to 31 December 2006 illustrate "lowest on record" to "serious deficiency" for most of the state, but in the view of many long term and experienced land and fire practitioners, even this data fails to adequately underscore the serious deficits that have accrued over a decade.



Figure 1 Rainfall Deficiencies 36 months to 31 December 2006

Spring Rainfall

Rainfall for the three months of Spring 2006 (September to November) was very much below average across most of the State, with the areas between Ballarat and Geelong and between the Latrobe Valley and Bairnsdale receiving the lowest spring totals on record.

About 30% of the State received totals that were 20-40% of the monthly average and the highest rainfalls recorded were less than 60% of the monthly average.

The very serious moisture deficit facing the entire state is graphically demonstrated by an appreciation of stream flow position in November 2006. Apart from two monitoring stations, the average flow for all monitored streams and waterways was less than 10% of the mean November flow. The only stations to record flows above 10% of the long-term November average were on the Snowy River downstream of Basin Creek, and on the Yarra River at Milgrove. These latter two flows were effectively artificial and were maintained by environmental flow releases from major storages.

At the end of November, 93% of the State had streamflows that were below 10% of the long-term average flow for the month. Flows recorded at a third of the gauged stations are the minimum ever recorded during November. Half of the stations recorded flows which translate to 0-1% of the November long-term average, i.e. there was no effective flow.



Figure 2 Streamflow Status Victoria November 2006

This position improved only marginally during December 2006 as a result of some late December rainfall. A meteorological feature during November was wide fluctuation in temperatures. On 15 November 2006 snow fell down to low levels in the Dandenongs and outskirts of Melbourne, whilst on 21 and 22 November temperatures rose over 40° C in the northwest of the State.

These rainfall and streamflow descriptions emphasise the very droughted conditions that prevailed.

Lightning Activity

The scene was set with extremely dry fuels loads and most of the large and heavy fuels – the "1000" hour fuels – sufficiently dry to easily burn. It is likely that the finer fuel fraction exhibited such low fuel moisture content that practically the entire fuel profile was available for combustion. Many descriptions of the difficulty in achieving effective suppression, and ensuring that controlled fires remained under control, is testimony to the desiccated nature of fuel profiles in most fire areas.

Victoria was able to effectively deal with fire activity up until 1 December 2006 when 83 separate fires were reported from lightning strikes. Of these reports, over 70 were confirmed as actual fires. It is likely that some lightning strike fires merged before they could be fully reconnoitred and precise points of origin identified.

The actual number and extent of fires during this period is the subject of a separate analysis being prepared jointly by DSE and CFA and a detailed document is in preparation to record the circumstances and outcomes of the 2006/07 campaign.

The early onset of large and significant fires from August onwards was atypical. These early fires included:

16 August 2006	Lake Connewarre (Moolap) – 300 ha;
19 September 2006	273 fires – Murray Sunset National Park, 23,000 ha
12 October 2006	Yallourn North - 300 ha;
	Morwell Open Cut, threatened state power supply
20 November 2006	Little Desert National Park – 10,800 ha;
21 November 2006	Casterton Complex, 12 500 ha;
	Waubra– 300 ha; Wooroonook – 700 ha;
1 December 2006	Massive lightning strike activity leading to major fires.

A significant feature of the 2006/07 season was the nature and extent of the series of fires emanating from the lightning strikes on 1 December 2006. Many of these fires ultimately merged to create the Great Divide Complex, eventually burning across approximately 1,048,000 million hectares in a period of almost 10 weeks.

As well as significant fires elsewhere in the State, with potential to cause high levels of damage and loss prior to the burning period of the Great Divide Complex, many other significant fires occurred after 1 December 2006, including:

10 December 2006	Tawonga Gap - 33,500 ha;
	Stoneyford fire – 3,300 ha;
14 December 2006	Coopers Creek - deliberately lit, causing one fatality
	in a vehicle related accident; are recorded with
	Great Divide South
03 January 2007	Boulder Creek – 2,040 ha;

04 January 2007	Yambuk - 1,200 ha;
10 January 2007	Purnim/Framlingham – 1,600 ha;
11 January 2007	Seaton – 650 ha;
11 January 2007	Tatong – 33,000 ha;
12 January 2007	Hermit Mountain – 2,770 ha;
16 January 2007	Steiglitz – 190 ha;Greenvale – 150 ha;
5 February 2007	Eversley – 1,200 ha;

Resourcing

This was a fire season with a difference. Practically the entire state had potential for intense and devastating fires activity from a point much earlier than normal. Interaction with North America, which was also experiencing a severe season, necessitated the deployment of Victorian firefighters to USA to assist with fires in Western USA during August – October. Similarly droughted conditions to those being experienced in Victoria prevailed in NSW and Victorian firefighters were called to assist NSW during November 2006.

Prior to the severe lightning event of 1 December 2006, it became clear that Victoria could no longer sustain significant resources to be absent and the fire agencies began to review the capability to continue to provide resources to NSW. As a result, a decision was made that all Victorian deployments to NSW would be terminated at the conclusion of their current assignment. It also rapidly became evident soon after the lightning event of 1 December 2006, that extensive external resources would be required to assist Victoria. Through the fire season, to the close of February 2007, assistance to Victoria was provided from:

ACT	37
NSW ¹	1,050
NT	108
SA	10
Qld	14
WA	20
Canada	52
New Zealand	115
USA	114

International deployments to Victoria were the highest ever implemented and many other Australian States and Territories assisted. Resources assisting from out of state included fire fighters, IMT members and aviation and fire behaviour specialists.

¹ NSW figures (NSWRFS Bushfire Bulletin 01/07 <u>www.rfs.nsw.gov.au</u>) are estimates only as some NSW resources self responded into Victoria to fires close to the border, in accord with cross border arrangements.

KEY ISSUES ARISING FROM REVIEW PROCESS

Introduction

CFA and DSE implemented a joint review process to identify key lessons emerging from the 2006/07 fires in Victoria. The review process comprised six major regional debriefs, a series of underlying debriefs at local/unit/district level, debriefs at key functional unit level and consideration of three related continuous improvement programs that have been consistently implemented since 2003. The review process is described in more detail in Appendix 2.

Key issues emerging from the major debriefs were collated with data from underlying debriefs, the associated improvement programs and data and views obtained during discussions with key CFA, DSE and other emergency agency personnel. This section discusses the key issues identified under each topic to indicate whether there are issues that ought to be adopted or where there are opportunities and needs for improvement.

INFORMATION FLOW TO THE COMMUNITY

This section acknowledges that information flow to the community was a very positive feature of this fire campaign. Significant advances in timeliness and methodologies used to provide effective information and notice about potential and imminent fire impacts are regarded as contributing to the relatively low level of loss incurred to private assets.

It is considered that communities and residents in bushfire prone parts of Victoria have a much stronger understanding of fire and a better appreciation of actions they can implement to achieve a more robust and safer delivery of preparedness and pre-determined responses at or prior to the time of likely fire impact.

VBIL capacity was significantly upgraded after 2005/06 - including ability to overflow high load calls to another centre, re-routing of non fire calls, a threefold increase casual staffing and training and commencement of training three months earlier than 2005/06.

Issues identified for further action include the need for:

- One website (IT compatibility).
- Inclusion of local people into community briefings.
- Statewide consistency in messaging and terminology to convey fire information in a credible and consistent manner to the community.

Information flow to the community comprises three separate phases:

- During the non fire season as fire services and communities prepare for the forthcoming season.
- During fire incidents that have potential to impact into communities.
- Post fire during recovery operations.

Pre-fire information flow

The Fire Ready Victoria (FRV) program deals with community preparedness, and was initially setup as a joint initiative by CFA/MFB/DSE, arising from the Victorian Bushfire Inquiry². It initially constituted a consolidation of community education programs

² Recommendation 13.23 "*That CFA further develops the information supporting the decision to stay or go to incorporate a better understanding of both the*

previously conducted by each agency. The 2007 model is a much expanded, altered and refined version of the original CFA Community Fireguard concept introduced in 1993. The objectives of FRV are to ensure that people living in fire prone areas:

- Understand their responsibilities for bush fire safety and implement necessary action to place their assets and communities into a state of readiness.
- Acknowledge, contribute to and support fire management planning.
- Are proactive in sharing the responsibility for their protection with the fire services.
- Understand how and where to access timely and accurate information about fire location, extent and potential threat.

In concert with fire authorities nation wide, one of the major platforms of effective community interaction is to provide residents with sufficient information so that the community members can judge for themselves whether to "stay or go" if fire is likely to impact, and what provisions they need to implement to support their decision. This is achieved by providing communities in fire prone areas with the tools that enable its members to better understand the nature of fire and its potential impact into their communities.

It is acknowledged that well informed and prepared communities can play a significant role in ameliorating the impact and consequences of fires. When extreme conditions occur with high fire loads, fire services can never guarantee an ability to be the only source of protection for communities at risk. Communities must operate in partnership with fire and emergency services and this is the essence of FRV. Under the circumstances of the 2006/07 fire season, asset losses were restricted to comparatively low levels. A major contributor to this level of loss is believed to be due to a much better understanding of fire, better appreciation by those who do live in high risk areas, of actions they can implement and hence a more robust delivery of preparedness and predetermined response at the time of the fire.

Information flow during incidents

During the run of fire incidents information was disseminated to communities by a variety of media – radio, television, VBIL, fire websites and community meetings.

Information provided to communities was widely regarded as a real success story to emerge from this campaign, building on the experiences of the 2002/03 and 2005/06 campaigns. There was massive increase in the level of interaction with the community during periods of potential and actual fire threat. During the run of the major fires from early December 2006 until early March 2007 these interactions attained their highest levels ever. For example, calls to the Victoria Bushfire Information Line (VBIL) reached 49,000 in round figures during this period.

Over the course of the fire season activity approximately 32,000 people attended more than 300 community meetings. By way of comparison, during 2005/06 in the peak period of fire activity, the VBIL received approximately 17,400 calls and community meetings numbered about 100 with 15,000 attendees. In addition, visits to the CFA website increased markedly. During 2005/06, monthly visits peaked at 422,056 in January 2006, from an underlying

likely consequences of leaving home at inappropriate times, and the conditions and emotional impacts likely to be experienced during the passage of the fire front." base monthly level of about 35,000. In 2006/07 visits accelerated to 1,237,189, up from a base monthly level of about 60,000. Visits to this website during the fire season September 2006 to March 2007 totalled 3,006,896, highlighting the importance of web-based information.

A measure of the effectiveness and impact of community interaction can be gleaned from the statistics associated with a fire season. Whilst there is no accepted methodology for assessing the severity of a particular season or comparing the results between seasons, there can be no greater loss than that of fatalities to people. By this measure alone, the 2006/07 fires in Victoria can stand the closest scrutiny for the information provided to many communities over an extended period of intense fire activity. It is no doubt with a very strong level of satisfaction that the fire agencies recorded no fatalities from bush and rural fires during 2006/07.

Unfortunately, 51 houses (21 principal residences, 30 other than principal residences) and other private assets were lost during the fires. The levels to which housing losses were restricted, as critical as those losses were for the owners and occupants, in comparison to the numbers at risk and the longevity of that risk, can also stand close scrutiny against other severe fire seasons across Australia during the last decade when much shorter periods of severe fire activity have occasioned far more substantial losses. In the Great Divide Complex Fires, losses of agricultural lands (approximately 19,000 hectares), represented less than 1.5% of the total area burnt.

A number of small isolated communities and towns were spared major losses. Real time defence assessment and planning by the fire services, aided by resolute decisions, preparations and actions instigated within the communities were instrumental in the Fire Service – Community partnership succeeding. Walhalla, Licola, Dargo, Woods Point are all examples of small communities where an understanding of fire and appreciation of their vulnerability by the community contributed to successful defence.

Upgraded information flow

A significant effort has been devoted to upgrading community information flow. During the 2003 Alpine fires systems were developed to transmit information that would enable communities to make informed decisions. By the time the 2005/06 fires had occurred those systems had been refined and formalised but despite the acknowledged success of the 2005/06 campaign where information flow to the community and media became a major part of the management of the fires, the fire services considered that elements of the information flow system required further examination and improvement.

As a result of the 2005/06 debriefs and a joint CFA/DSE strategic workshop in July 2006 to analyse and progress key issues identified, "Sustainability of Information Flow during Emergency Events" was identified as a key theme.

Part of the initiatives arising from 2005/06 concerning the upgrading of capacity of the VBIL and provision of overflow and redundancy were implemented to good effect in 2007 and the further development of this theme remains underway.

An additional activity undertaken directly from the 2005/06 fires was an independent review (the "Schauble Review") of the effectiveness about how information is transmitted to the community.

This review had particular regard to:

- The existing guidelines and tools for the process.
- The definition of the critical information needs and communication process between the CFA and DSE emergency control centres.

- The definition of the critical information needs and communication between ICCs, Regional Information Units and the state emergency control centres.
- The communication process between the agencies and the VBIL.
- The use of the web.
- The use of SEWS.
- The use of community meetings.
- Definition of information needs for community and media and tools and processes for delivering to them including the role of the ABC and the management of the media on the fireground.
- Matters affecting the flow of information from the ECC & SECC to the media and the community.

Improvements since 2005/06

The outcome from the Schauble review of information flow during the 2005/2006 fire season was a series of 29 recommendations which have been adopted by CFA and DSE. To progress these issues, a Steering Committee with joint agency representation, and Project Officers to aid implementation, was established. Using the outcomes from 2005/06, the Steering Committee has developed proposals to refine existing community information processes and has developed a timeline for implementation of amended procedures, training and templates. Many of these activities were underway at the onset of the 2006/2007 fire season, and are continuing to be progressed prior to the fire season 2007/08.

Part of the initiatives arising from 2005/06 concerning the upgrading of capacity of the VBIL and provision of overflow and redundancy were implemented to good effect in 2007. A significant improvement to VBIL services occurred in comparison to 2005/06 as a result of developing a seamless overflow capacity with a Centrelink call centre, the availability of additional trained staff and the ability to accept only fire related calls into the centre. The VBIL centre is a customer service centre for DSE. During periods of non-peak fire activity, routine DSE non-fire business calls may be routed into the centre. When high fire load demands occur, the DSE non-fire calls are routed to a back up site at Sebastopol, which can also take over the VBIL role in the event of a catastrophic failure at Wendouree. Although the Sebastopol site was established during 2005/06 its function was not fully utilised until 2006/07.

The core team from VBIL undertook training in the Australian Interagency Incident Management System (AIIMS) during the off season, to give them a better understanding of fire and emergency management operations. In recognition of the likely earlier start to the season, training of casual staff commenced much earlier, in October 2006, in comparison to 2005/06 when it commenced January 2006. The number of casual staff trained was also significantly increased, from 30 in 2005/06 to 90 in 2006/07.

The centre is able to react immediately to any significant change in call numbers, by initially overflowing fire calls to Centrelink, redirecting non-fire calls to Sebastopol and by bringing additional staff on line from the pool of trained casual staff. During 2006/07 approximately 6% of callers to the VBIL, in peak periods, disconnected before their calls could be answered. This compared to an abandonment rate of 19% in 2005/06.

Notification and advice to the community about potential impact of fires was effected in a more tiered structure during 2006/07. The use of the State Emergency Warning Signal (SEWS) during 2005/06 reached very high levels and there were often multiple SEWS issued, to the extent that communities were subject to several episodes of "barrage" warnings. During 2006/07 efforts were made to clearly distinguish between three levels of messaging to ensure that communities were aware of the appropriate time to activate defensive measures:

- Alert (fire is in the area, no immediate threat, remain alert for further information, begin readiness preparations).
- Threat (fire or embers may pose a specific threat at a short/near future time, ensure readiness preparations are completed).
- Warning (SEWS message Fire impact is imminent/highly likely, prepare to activate plans).

Observations from 2006/2007 operational reviews

Items identified during the 2006/07 major debriefs and community information specific debriefs as requiring some strengthening prior to next fire season included:

- Need for consistency in messages and terminology used to convey fire information in a credible and consistent manner, to the community, by IMT community information units.
- Need for recognition of the Information Unit role in the IMT and determination as to where it fits in the IMT structure – reporting directly to the IC or as a subset of another portfolio (currently the Information Unit sits under Planning). They are not "agency" units and it was generally recognised that one of the strengths of information units was their "one-voice" approach. There are strong moves to regard the Information Unit as a separate section in IMTs, reporting directly to the Incident Controller.
- The importance of using local people during community briefings where possible.
- The need for one website³ (the use of separate DSE/CFA websites that are not easily interlinked was raised on a number of occasions regarding community information, in addition to impact on other facets of the fire management operation).
- The issue of the time necessary to display updated messaging on public websites and transfer to the VBIL, following the release of information direct to local media from an ICC. This activity is managed through the ECC/SECC after receipt of data from ICC Information Units but the question posed by Information Units is "*Why can't personnel at the ICC post their releases direct to the website rather than relaying it through the SECC?*" It is noted that there should be minimal delays between the release of information by an ICC and subsequent posting it can be counter-productive if information is provided to local media (and hence the public) following changed circumstances but this is contradicted by different and out of date information on the official web sites.

The matters raised during 2006/07 are covered generally within proposals stemming from the 2005/2006 review, with exception of a need to determine where the Information Unit should sit in the IMT, either as separate entity reporting direct to the IC or reporting to one of the other functional areas of

³ *This need was eloquently expressed by a Community Information Officer:

[&]quot;In the middle of a fire season the public shouldn't have to try to work out who manages the land, who manages the road, whose jurisdiction the fire falls into..... and therefore which website or phone number to ring." - a view expressed in a debrief data collection form provided to the DSE ECC.

the IMT. There is a strong preference from information unit members to become a separate functional area.

Whilst there are many issues identified that require slight modification or amendment, the matter of maintaining a sustainable information flow to the community is demonstrably progressing in accord with the strategy set in 2006.

RESOURCING OF FIREGROUND PERSONNEL

Introduction

This section describes the personnel resourcing processes that Victoria implemented to provide and deploy Victorian based fire response and management resources to meet the demands of an exceptional fire season. It discusses key issues relevant to the acquisition and management of significant numbers of interstate and international resources.

Key issues

Victorian based resources:

- Adoption, formalisation and documentation of existing practices into guidelines, for alternative methods of rapid deployment of short term response capabilities.
- Development and communication of a risk analysis process to determine the most appropriate order in which to draw down resources from within the state, while ensuring that local Mutual Aid Plans provide for reciprocal fire cover.
- Development of mutual assistance arrangements/agreements with MFB for provision of IMT trained personnel.

Interstate/International resources:

- Document and formalise a structured process, incorporating effective practices that were developed and implemented during 2006/07.
- Recognise the utility of the DSE North Altona Equipment Centre as a central point for equipping long distance interstate and international support teams and determine whether the services provided by the centre should be expanded (Logistics).
- Review international and interstate agreements in light of the 2006/07 fire season (especially in relation to limitations of authority placed on visiting crews [USA] and OH&S issues).

Local in-state resources

The nature of the fire season and its rapid onset exposed the entire state to potentially high threat levels. This limited the ability of all fire agencies to relocate resources within the state to deal with existing threats. In view of the likely early start to the fire season, DSE took steps to augment its normal staffing complement by employing Project Firefighters (PFF) earlier than is usual. Recruitment commenced in earnest in early October and the weekly intake was 168, 181, 221 and 235. By 30 October 2006, 339 PFFs were employed and this figure rose to 845 by February 2007.

In previous years, the peak recruitment of PFFs was:

•	2002/03 - 741, the peak occur	ring in the week ending	19 Jan 2003
•	2003/04 - 733,	w	26 Dec 2003
•	2004/05 – 559,	w	24 Dec 2004
•	2005/06 - 616,	W	11 Jan 2006

DSE is more easily able to move a high proportion of its firefighters across the state to respond to incidents. This may be done irrespective of the fire potential across the state and may be based on the principle of "*fighting the*

*fire you have got, rather than the fire you might hav*e". Naturally, DSE needs to make some provision for how to deal with future outbreaks in those areas where fire management staff are heavily drawn down to respond elsewhere.

This matter was discussed at length and it was agreed that some state guidance is required on how an individual agency should provide itself with appropriate levels of fire cover when a substantial proportion of its local fire fighting resources are moved elsewhere in the state. There are three things that any fire authority must do whenever a fire is recorded on its area of responsibility:

- The authority must gather reasonable intelligence about the fire location to identify where and in what it is burning (e.g. aerial reconnaissance, remote sensing, on ground investigation, lookout tower observation, verified/verifiable public reports).
- The authority must either initiate suppression action against the fire or undertake investigation and/or observation to determine what suppression action is feasible and what an appropriate strategy is.
- If there is a threat or a potential threat to the community, the fire authority must provide timely public advice, alerts and warnings to the community.

In practice, informal arrangements are in place whereby the CFA assists DSE if DSE has despatched resources elsewhere, however regional officers believe the matter should be formalised by way of an MOU or other formal instrument to more clearly spell out how such fire cover needs can and will be resourced.

The position with CFA resources is different and relates directly to the volunteer base of the CFA. Any response to other parts of the state are voluntary, and although there may be no current fires in a specific part of the state, the volunteers in an area, particularly if they are rurally based may be loathe to go far from that area and leave their properties unguarded. Quite understandably, under difficult seasonal conditions, where activities such as stock feeding and watering cannot be put on hold for several days, rurally based volunteers are simply not in a position where they can leave their holdings for longer than a day or two at the most. Under seasonally benign conditions, those types of restrictions don't present as major hurdles, and the CFA can easily mount very sizeable out of area strike teams and response units that can and do absent themselves from their local areas for a number of days.

To overcome the difficulties imposed by extraordinary seasonal conditions some innovative arrangements were established that enabled short term, quick turnaround strike teams to contribute effectively to the fire effort during peak fire activity while only being absent for very short periods. These arrangements included the concept of quick turnaround strike teams that were moved in, directly to work on the fireground and then returned home at the end of a shift. In some instances such teams were bussed out and back, driven to the deployment and back (with separate drivers to ensure the strike teams were not driving while fatigued) or transported by aircraft.

A number of IMTs envisage a role for flying firefighters in and out on quick turnaround deployments and did utilise this methodology. Whilst this is an apparently attractive option, the State Aircraft Unit, sounds some caution about the advisability of using light aircraft for extensive commuting purposes during active fires. These concerns relate to the operation of light aircraft in less than optimal flying conditions and the need to utilise smaller rural airfields. On very adverse fire days, when weather is normally very hot with strong gusty wind, conditions for flying may preclude operation of aircraft to full capacity; indeed, conditions may totally preclude operation of some aircraft. This is a matter that does need to be further explored with very clear and concrete ground rules established to govern large scale use of light aircraft to move large numbers of people. It is therefore critical that any subsequent discussion and/or policy determination about this matter should involve the State Aircraft Unit.

Extensive use of bus/coach to transport personnel had unintended, but very positive consequences. Irrespective of whether the personnel were destined for action on the fireground or in an IMT, their "forced" travel together by bus/coach provided opportunities for the members of the group to exchange experiences and learn about each other. Numerous debriefs discussed the advantages that derived from this whereby individuals were able to glean a much better understanding of their fellow team members capabilities and strengths, enabling a more effective strike team or IMT to be deployed. Some very strong recommendations emerged during the review to continue this process. It is seen as an excellent catalyst for true "integration" as opposed to the conduct of "joint" operations. Although the firefighters generally applauded the concept, some misgivings were expressed about the standard of bus/coaches used. For long hauls, a minimum fit-out and facilities package needs to be developed (e.g. a basic bus designed for short distance transport on a local basis is not a suitable for a 4-5 hour haul under hot conditions.)

Other benefits of coach/bus/fly arrangements included:

- The maintenance of a fire fighting fleet at the supplying location.
- Reduced or no fatigue management issues with firefighters driving long transport runs.

During joint post fire discussions with CFA/DSE, the MFB indicated that it had made Level 3 Wildfire accredited IMT personnel available but they were underutilised and that there has been little interaction hitherto between MFB and DSE/CFA. MFB indicated willingness to integrate into joint exercising and to take on IMT roles.

A number of participants at debriefs lamented their inability, because of their ongoing primary commitment to key incident management roles, to provide mentoring opportunities for less experienced staff. Without debating the intent of mentoring and whether or not the right conditions for mentoring present themselves during major fire campaigns, it is clear that resources were stretched to the limit and on some occasions people had no option other than to allocate newly trained or less than optimally trained persons into key roles.

The reality was that there were not too many unallocated people available for mentoring, in either learning or mentor roles. Parks Victoria provides a salient example of the extent of resourcing applied to the fire effort. Its normal complement of staff is about 1,000 people. During the fire effort, approximately 850 were assigned to fire duty, leaving a skeleton staff of 150 to carry on with routine core business and to keep critical business components operational.

A related issue concerned personnel trained in a role or roles, being allocated to a different role in an IMT because there was no other person available. This raises the question of cross training into multiple roles to ensure that individuals don't necessarily become specialists in a single role. It is acknowledged that individuals may have a preference for a specific role but there needs to be some flexibility available at IMT, IFAC and Division/Sector levels.

Issues for further examination include:

- Development and communication of a risk analysis process to determine the most appropriate order in which to draw down resources from within the state when the entire state is potentially at risk⁴.
- Ensure that local Mutual Aid Plans provide for reciprocal fire cover arrangements in the event one agency substantially draws down its resources from an area of the state.
- Development of a policy in conjunction with SAU concerning large scale deployment of fireground personnel by charter aircraft.
- Formalisation and documentation of existing practices into guidelines, for alternative methods of rapid deploying short term response capabilities (bus/coach transport, aircraft) in lieu of teams travelling in the normal response vehicles, where appropriate, and formal adoption of this initiative.
- Development of mutual assistance arrangements/agreements with MFB for provision of IMT trained personnel. To progress this, initial discussions at Chief Officer level are indicated.

Interstate and international resources

A direct flow on from personnel resourcing requirements led to the implementation of significant deployments from interstate and internationally.

International assistance from fire agencies exceeded previous (2002/03) levels with New Zealand (115), Canada (52) and United States (114) providing fire management personnel. Total deployments of international resources in 2006/07 represent the largest and most significant international deployment of fire personnel that has ever occurred into any State or Territory within Australia.

Interstate assistance was also provided, as has been the case in some previous fire seasons. Assisting personnel were drawn from NSW $(1,050 \text{ est.})^5$, SA (10), NT (108), ACT (37), Qld (14) and WA (20).

⁴ This process must include an understanding of the whole suite of assets at risk. There are times when there is a divergence within the fire agencies and communities about the definition of "assets". Major public infrastructure, water catchments, community assets and individual assets are usually obvious. Not so obvious always is the value to the community, and to the State, of more abstract assets such as tourism and ecological values and the critical flow on impacts to those communities when infrastructure and appeal associated with those values is diminished. Sometimes the bush is not "*just another bit of bush that needs a good fire through it*" and deserves, in community interest, similar levels of application of resources and strategies as do more readily identifiable "assets".

⁵ The NSW deployment number is indicative only, as an unknown number of personnel responded directly into Victoria in accord with cross border agreements to attend fires close to the border to meet short term local needs. Larger groups in Strike Teams and Task forces were negotiated with NSW for longer term deployments to specific fire areas.

To manage the assisting groups and to provide adequate liaison, DSE/CFA established a joint CFA/DSE International/Interstate Liaison Unit (ILU) in the DSE ECC. This section operated as the key point of contact for all visiting groups. Issues emerging from this include the need for consistency in staffing so that liaison officers from the various assisting agencies can readily identify a "go to person" to help them manage unforseen and unusual circumstances. Initially the liaison section was staffed on a rotating basis but very quickly it was recognised there was a need for continuity of staffing. Leading the ILU was a major task but it was nonetheless an essential role to ensure that the unit established and maintained workable procedures and continuity with supplying agencies as the fire event unfolded.

Whilst there are significant differences between interstate and international assistance, there are synergies that demand a common approach. Because interstate assistance can range from enactment of cross border arrangements, including self deployment by a neighbouring state agency to attend fires near the border, to more comprehensive assistance being actively sought for specific fires or complexes, there is no lesser need for liaison officers to be appointed by both the donor and recipient agency. For several reasons, resources from adjoining states are more readily able to operate as discrete self contained crews and don't necessarily need to be split into smaller groups, although local personnel assigned to interstate crews are extremely valuable from a local knowledge perspective. Ideally, interstate crews will all operate under the provisions of the AIIMS and should use identical terminology between states. Additionally, interstate crews should possess an innate understanding of the critical fire behaviour thresholds that prevail within the various fuel and topography classes in Victoria.

From an international perspective and although AIIMS was initially a direct mirror of the North American National Interagency Incident Management System (NIIMS), utilised by both USA and Canada, there are now some key differences in structure, terminology and understanding of meanings. Although Australia and USA/Canada use English as the first language, differences in "lingo" and interpretation of certain terms now conveys quite different meanings. This was recognised at the Third International Wildland Fire Conference in 2003 from which a recommendation stemmed to standardize fire terminology globally, in recognition of the likely greater emphasis on international deployments. As a consequence it was necessary to allocate local people to visiting international teams to ensure some local knowledge was "built in".

The US contingent specifically raised the need, from a safety perspective, of integrating local and visiting crews as the visiting crews do not necessarily understand the triggers for "watch out" situations on the fireground, given some significantly different fire characteristics between North America and Australia. This worked well, but in the view of several interstate visiting teams, there was not a need to constantly "shadow" them once they had the lay of the land and understood any nuances of the operational systems in Victoria vis-à-vis their own processes and structures.

Many of the visiting crews occupied a full range of operational positions from IMT to frontline fireground. Each of the international contingents operated under the provisions of separate agreements between Victoria and the supplying countries. Some differences exist in these agreements, e.g. members of the Canadian contingent were able to occupy decision making roles within IMTs whereas the provisions of the Victoria – USA agreement precluded USA staff from making operational decisions and strategies, because of USA concerns regarding liability. Similarly, the USA agreement did not provide for USA personnel to cross over into other states, even though they were in positions where Victorian resources could automatically deploy under the terms of cross border agreements. These were recognised as matters to be addressed in reviewing international agreements to provide flexibility for skilled personnel to be able to undertake and complete necessary tasking effectively.

Each contingent conducted debriefs about their deployment jointly with DSE/CFA prior to departure. Where the visitors had comment about specific matters dealing with operational issues, these have been incorporated into the relevant discussions in this review. Matters that are specific to interstate/international assistance are examined below.

Preparation, ordering and lead time

Particularly the International and more distant interstate teams would appreciate more lead time (note - this issue relates not only to the lead time for requests from Victoria but also to how quickly the supply agencies disseminate the details of the request and begin assembling teams). Nonetheless, assisting agencies accept that often an element of urgency is part and parcel of fire response and there is generally not the luxury of an overlong lead time.

There is a need identified for the requesting agency to be quite specific about the skills sets they need, to enable rapid identification of the team structure and composition by the supplying agency. The "shopping list" of skills should recognise that a strong likelihood exists that individuals may be multi-tasked and required to fill several different roles during the course of deployment.

Some formality is necessary in how assistance is requested. Victoria maintains agreements or MOUs with other states and territories within Australia and agreements with NZ, USA and Canada. Whilst generally the international arrangements were effected via formal documentation, some of the interstate deployments were arranged by teleconference, e-mail or facsimile. It is accepted that assistance requests might be initiated in a less formal sense but ultimately each deployment request ought to be backed by agreed formal documentation. In a similar vein, MFB raised issues about the necessity to raise appropriate deployment orders and ensure that are transmitted in a timely fashion to the receiving IMT. MFB cited an instance where a contingent of accredited MFB personnel were despatched to an IMT but when they arrived, the IMT had no knowledge of their impending arrival and had, consequently, not made any provision for their utilisation and management.

International agencies indicated that a comprehensive pre-deployment package, describing not only fire matters but other essential issues that members are likely to encounter should be prepared and accompany initial orders. E.g. health information – snakes, spiders, medical services; traffic rules – brief description of key differences between Australia and supply country.

Detail of gear needed

Many visitors brought equipment they either could not use or did not need, and it was suggested that more detailed briefing notes available in country before they departed could assist in bringing the right mix of gear and clothing. Alternatively, some "hot-shot" crew members from USA were advised not to bring portable radios. They did anyway and found that their units could be reprogrammed to local frequencies. There needs to be some relaxation of rigidly enforced conditions about specific equipment e.g. personnel do not need field boots if their only role is office based. There should be an ability by the receiving agency to accept routine equipment that meets the OH&S standards of the supply country (or state), provided the respective agreements allow this to happen – this could occur by a "pre-approval" process or by recognition of the relevant OH&S standards that prevail in the supply country/state. This could alleviate the need for fireground personnel to "break in" brand new equipment on the job. This matter should be addressed in the respective international and interstate agreements.

As soon as "dependent" teams, i.e. those without their own vehicle support arrive at firegrounds they need on site liaison and provision for safe storage of their equipment, for example, a portable locker or container or suitable secure premises.

Equipment supply

Adjoining states usually provide a full complement of assistance insofar as their resources usually travel independently to the fire area from their home, complete with firefighting equipment and/or vehicular support. Long distance interstate and international crews generally fly to Victoria and are thus able to bring only small items of hand held equipment. A notable exception was a contingent from the Northern Territory that arrived complete with fire trucks – a massive logistics exercise.

DSE maintains an equipment development and supply centre at North Altona and carries a \$9.5 million inventory of minor and major equipment, ration packs, foam and retardant, self contained mobile camping units including kitchen, laundry and re-supply containers, smaller mobile kitchens and containerised equipment lockers. It is able to fully kit out a visiting strike team or establish a major camp. Irrespective of local, interstate or international sources, if a strike team arrives at the fireground with little or no equipment, this provides difficulties for fireground commanders in effectively using them. This type of event occurred on several occasions. The USA contingent noted the matter of equipment supply to visiting teams was adequately sourced from the DSE equipment centre and made the following observation: "Don't leave Altona without all vehicles, radios, saws, and tools. Local units could not support large numbers of people – and ended up ordering them from Altona anyway."

The Centre provides an effective one-stop shop where international/interstate strike teams can be fully kitted out with all necessary fire fighting equipment and removes the inevitable delays that occur when logistics sections must go to normal commercial suppliers for replacement or additional equipment supplies during fire campaigns. The centre provides an extremely useful back up facility for supply and is routinely extensively used by both fire agencies. It is worthwhile to review the services provided by the North Altona Equipment Centre and to consider whether the range and quantity of containerised services is adequate or ought to be expanded.

Size of contingent

Internationally, there was general agreement that each team ought to be restricted to about 50 persons. This was for reasons of maintaining adequate administrative support to the unit. If 100 are required they should constitute 2x separate teams of 50. The USA contingent exceeded 100 and the team leader expressed some concerns about managing a group of that size. No restrictions were deemed necessary on self sufficient interstate contingents as they typically respond in accord with their standard procedures for task forces or strike teams.

Terminology

This can be critical. Although AIIMS was derived directly from NIIMS, as a consequence of the 1985 fire study exchange to USA/Canada, there has been significant evolution in the meanings of certain terms in both systems since then. This highlights the need to fully integrate teams, mixing locals with visitors, and also enables the fireground managers to know the skills sets of the visitors.

The Interstate/International Liaison Unit identified the need for:

- The section should be viewed as an integral part of the ECC / SECC.
- There should be clearly documented procedures about establishment of the section and its operation and structure. The ILU leader indicated intent to fully document the procedures, structure and systems that were developed, and which need to apply, incorporating input from the ILU debrief. When prepared these "business rules" need to be formalised.
- The ILU needs empowerment with authority to make decisions, including expenditure of funds, to permit efficient operation.
- Copies of international agreements should be always available in the ILU.
- There is a definite requirement for a constant "face" in the ILU.
- The ILU accommodation must be large enough to accommodate the ILU team and at least one liaison officer (often two) from each of the assisting agencies.
- Depending on numbers of assisting agencies the ILU requires at least two administrative staff.

The issues identified above are best encapsulated by documenting and formalising a structured process, incorporating effective practices that were developed and implemented during 2006/06.

Other key issues identified

- Recognise the utility of the North Altona Equipment Centre as a central point for equipping long distance interstate and international support teams and determine whether the services provided by the centre should be expanded (Logistics).
- Review international and interstate agreements in light of this fire season (especially in relation to limitations of authority placed on visiting crews [USA] limitations).
- Issues regarding requesting of external assistance preparation and lead time; routine gear and OH&S issues; contingent size for international deployments; differences in terminology and need to allocate local "guides" for several days.

These tasks may also be informed by relevant outcomes from debriefing of the Australian contingent to US during 2006.

COORDINATION ARRANGEMENTS

Introduction

This section describes the coordination arrangements that operated within and between the fire agencies and between the fire agencies and Municipal Emergency Coordination Centres. Municipal Emergency Coordination is a key function provided for in the Emergency Manual, Victoria and is an intrinsic component of emergency fire management. Whilst interaction with the wider emergency services and other support agencies is critical, many other agency aspects were not considered in this review pending a whole of state, all agencies debrief. Consultation was arranged with VicPol, VICSES and DHS and some issues are identified for resolution or adoption with those agencies.

Key Issues

IFAC

• Revise the current IFAC guidance based on the learnings from this fire season, formally include them in the Partnership Guidelines, and educate all relevant personnel of the role of IFACC. Exercising at potential IFAC centres and between ICCs and IFAC centres is indicated.

ΙΜΤ

- Review the template for IMT composition (and the IMT Toolkit) to provide guidance on appropriate staffing of the functions required.
- Evaluate number of personnel required per shift for each function that will be filled.
- Reinforce the need for continuity of IMT membership and return of earlier IMT personnel for subsequent deployments.
- Composition selecting the best qualified and experienced staff for positions.
- Division of duties, and staffing, between IMT and fireground commanders, to ensure that fireground commanders have adequate resources.
- Training to ensure that IMT and Division/Sector Commanders understand their own and each others roles.

MECC

- Establish between the fire agencies and Police a clear understanding of roles and responsibilities at each level and at each centre.
- Engage in pre-season exercises and conferences in suitable premises (MECC or RECC) with key stakeholders, including appropriate municipal representatives.

External support agencies

• There is a need to re-engage with VicPol on the issue of road closures and continue the dialogue to ensure that the fire services, Police and support agencies understand and implement the provisions that apply, and communicate those provisions to the community using pre-fire education tools. • There is a need to consider the development of standard operating systems and protocols between the fire services and SES, to cater for support roles that SES is willing and able to undertake.

There are several arms to the question of coordination within and between the fire agencies and externally to support agencies. The key matters raised during this review process identified coordination and management between the IMT and fireground, and the relationships from IMT to regional and integrated fire agency coordination centres (RECCs and IFACCs), thence to state level coordination centres and externally to Municipal Emergency Coordination Centres (MECCs). There is a strong correlation between the coordination issues faced between the fire agencies and the fact that they operate on separate IT platforms The two platforms are not obviously transparent and although there are operators who can extract information from either platform, there are many who cannot.

The principal (and supporting) fire agency debriefs and real time performance monitoring reviews focussed primarily on the activities of the joint fire agencies and like interstate and international agencies who provided assistance, and their links to the MECCs, the normal providers of logistics services. The wider issues of emergency response coordination generally was not specifically targeted during this process and, to date, there that no combined state level debrief of the wider emergency management family (Fire agencies, Police, DHS, municipal, SES and other support organisations) convened to review these areas. Therefore, there may be issues relating to coordination with other emergency services and between other emergency services that emerge from any future debriefs or workshops involving the full suite of emergency and support services who were involved with the 2006/07 fires.

Although this series of debriefs did not include representatives from external agencies there was significant discussion about what the role is or ought to be for Municipal Emergency Coordination Centres (MECC). Input from the State Emergency Service (SES) was discussed at two debriefs in the context of matters that operated well. Inputs from St John Ambulance and DPI were also discussed in a positive light.

There is a need for all participants in an incident to clearly understand not only their own role but also the role of other positions or agencies within the emergency management umbrella. Very probably, role clarity and a good understanding of it by all the participants in an ICC, RECC or IFACC contributes hugely to whether or not an incident is successfully managed. Many observers opine that incidents were managed successfully in spite of sometimes less than full understanding of role clarity both vertically within agencies and laterally between agencies.

By far the bulk of discussion centred on the role of IFACC, the relationships between IFACC and ICCs and the need to define their role as well as the roles and responsibilities of MECCs. Additional discussion focussed on the roles played by IMTs, how they interacted with their Divisions and Sectors and how they managed the incident action planning process. These matters are further discussed in this and the Planning Section.

IFAC-ICC

Integrated Fire Agency Coordination (IFAC) was established during the 2002/03 fires to overcome regional coordination issues when an extensive fire or complex of fires simultaneously affected several regions. The concept was formalised in late 2003 and described in detail in a schedule entitled
"Integrated Fire Agency Coordination (IFAC)", attached to the CFA/DSE Cooperative Agreement. The Cooperative Agreement was replaced by "DSE-CFA Partnership Guidelines"⁶ in October 2006. During the intervening years no IFAC centres were established, but formal IFAC centres were established in 2006/07 in NE Victoria and Gippsland.

There was a wide divergence of opinions expressed about the utility of IFAC centres and their linkages vertically to ICCs, ECC/SECC and laterally to MECCs. These opinions ranged from:

- "We need to clarify if we need IFAC, clarify its roles and responsibilities and relationship with IMT, MECC, SECC/ECC..."
- "Night IFACC didn't have people who could help much, IFAC hindered the process, role clarification needed..."
- "IFACC assisted aircraft coordination, confusion about ongoing role of IFAC resourcing – need to review IFAC resource request process..."
- "No clear understanding of role of IFACC with duplication of roles at3 x RECCs, and 1 x IFACC")..."
- "communication links SECC/ECC to IFACC did not go well from field perspective, need better understanding of the role of MECC & IFACC, need communications business rules for the link ECC/SECC to IFACC..."
- "IFACC and MECC need to understand each other..."
- "IMT requests altered by IFACC, need to define IFACC procedures and train personnel, lack of role clarity, IFACC closing at night..."
- "IFACC shut down overnight so IMT unable to action resource request, no decision makers available, Incident prediction (IFACC overlay) too many days where we got it wrong. "We want to abolish IFACCs..."
- "...the IFACC role is not clear...'
- "the role of the IFACC needs to be clarified to confirm how and where it fits in..."
- "...the IFACC is considered to be a necessary link in the coordination process but once resources are allocated to an IMT the suggestion is that the IMT should liaise directly with the supplying Region..."
- "...the IFACC worked well..."

Perhaps not surprisingly, those personnel who operated in a non-IFAC environment and were used to their conventional reporting lines through their agency chain-of-command tended to view the IFAC centre as an unnecessary link in the coordination chain. To the contrary, those personnel who operated as members of an IFAC team saw their role in a totally different light and recognised value in establishing an IFAC centre that operated as the model intended, with positions filled by the best available persons irrespective of agency origin. The NE IFAC centre (DSE Benalla) took up its role in early December 2006 and did not disband until late February – members acknowledging that the transition to IFAC occurred smoothly and seamlessly in accord with the plan.

Without exception, the six major regional debriefs addressed the issue of IFAC, almost exclusively in the context of viewing the IFAC issue as a matter where strengthening is required. It is clear that many people do not understand that the real role of an IFAC centre is to effectively replace the functions that would normally be conducted by the CFA and DSE RECCs within the area of the IFAC centre responsibility, to ensure that a coordinated (and integrated) support mechanism is in place. The IFAC centre is not an adjunct to RECCs; it is there instead of the RECCs and is the direct conduit between IMTs and the ECC/SECC.

⁶ Available at <u>www.dse.vic.gov.au</u>

With an IFAC centre in place the reporting chain is thus IMT \rightarrow IFACC \rightarrow SECC/ECC.

With no IFAC centre in place, the chain is IMT \rightarrow RECC \rightarrow SECC/ECC.

Whilst the IFAC centre takes on a coordination role conducted by regional centres during "normal" operations, it is not a "super ICC" with direct functions extending beyond the ICCs to Division and Sector level, although some instances occurred where an IFAC centre effectively bypassed the ICC and dealt directly with fireground levels. It is evident that there is a real need to clearly restate the roles and responsibilities of IFAC centres and how they fit into the reporting and chain-of-command structures. While substantial effort has been made to brief personnel on the role and functions of IFAC, the high level of comment about them suggests that a process is needed to inform critical people in the response and coordination chain.

Issue: The agencies need to revise the current IFACC guidance based on the learnings from this fire season, formally include them in the Partnership Guidelines, and educate all relevant personnel of the role of IFAC. Exercising at potential IFAC centres and between ICCs and IFAC centres is also indicated.

IMT relationships to Division/Sector

Again there is a lack of role clarity evident. Not all IMTs and fireground commanders attracted this classification but there was sufficient discussion during debriefs to warrant further work on ensuring that IMT/fireground members clearly and fully understand each others roles.

IMT size can, and sometimes did, operate to the detriment of adequately resourcing field commanders – they often need an assistant or a penciller but often must undertake all field command tasks themselves as well as maybe managing a staging area. For example, a number of participants in the regional debriefs commented:

"Sector command was ineffective, the sector was too large and there were no offsiders..."

"Resource allocation for Division and Sector Commanders was inadequate – either ICCs are not listening or they have insufficient resources themselves..."

"Results are positive when divisional management and divisional operations are treated and resourced well..."

This is a matter that was raised during the fire season⁷ but the information may not have been sufficiently disseminated to the target audience to achieve its maximum potential impact prior to the conclusion of the fire season, and obviously couldn't address instances where this issue had occurred prior to its distribution. Those areas where a dedicated Staging Area manager was appointed generally functioned well and very positive feedback came from the

⁷ In late December 2006, the CFA Chief Officer mailed a short DVD entitled:

Strike Team Leaders and Sector Commanders Improving Operational Management & Performance 2006

The DVD was accompanied by a double sided single sheet of A4 notes and was distributed to every Brigade and Region, with sufficient additional copies for each endorsed Sector Commander and Strike Team Leader.

related fireground commanders who did not have to undertake the role themselves and from firefighters using the staging areas for their intended role.

A number of fireground commanders indicated that IMTs were sometimes reluctant to place trust with the fireground commanders. For example:

"IMT not taking advice from the fireground" and *"Operations command in IMT was tactical rather than strategic..."*

These instances clearly contributed to levels of dissatisfaction expressed by field commanders who were either inadequately resourced or whose tasks were prescribed at sufficiently definitive levels sufficient to remove most decision making from the field commanders.

The set up and establishment of IMTs, including how the teams are formulated and staffed and the IMT relationships to fireground command positions needs a hard review with respect to:

- Composition selecting the best qualified and experienced staff for positions.
- Division of duties, and staffing, between IMT and fireground commanders, to ensure that fireground commanders have adequate resources.
- Training to ensure that IMT and Division/Sector Commanders understand their own and each others roles.

The relationships between Divisions/Sectors and IMT is further discussed in the section entitled "Fireground Command". This includes discussion on the role of these fireground positions taking responsibility to effectively and proactively manage the resources at their disposal.

Key Issues

- Review composition of IMTs to ensure selection of the best qualified and experienced staff for positions.
- Review the division of duties, and staffing, between IMT and fireground commanders, to ensure that fireground commanders have adequate resources.
- Implement training to ensure that IMT and Division/Sector Commanders understand their own and each others roles.

IMTs

Set-up and rostering

Establishment and maintenance of effective IMTs is critical to successful incident management. Many IMTs have been pre-planned or may be specifically established at the start of a major incident to ensure that representatives from both rural fire agencies provide the best equipped IMT in terms of capabilities and experience – it is not a process to ensure equal agency representation on the IMT but one designed to achieve competent and well balanced IMTs in terms of accredited and experienced staff.

IMTs that had been pre-planned and had exercised together operated effectively, particularly those who operated as integrated units and selected the best qualified persons for the task required. Several debriefs recognised the need to disregard "turf" and to apply the best available skill to tasking.

A key issue that was identified in 2006/07 was some lack of continuity in staffing, e.g. where staff occupying important roles were available only on a short rotation or were re-allocated to other tasks within the overall fire response so they had little or no opportunity to develop any synergy with other parts of a specific IMT and its processes. Field operators saw significant value in dealing with a reasonably constant team where the key personnel altered infrequently. Part of the rationale for this concerned the output of the IMT – short rotations of IMTs meant that people had only just got to know the area and the fire by the time their tour of duty ended. If they did not return to the same IMT for the next tour or different people were chosen, there was no leverage from the knowledge that had built up on their previous tour.

Some IMTs have become very large, approaching a total staffing of 100 persons. In one instance during this campaign there were more people in the IMT than there were fire fighters on the ground. It was the view of some review participants that IMTs of this magnitude have become far too unwieldy to be effective. The time necessary to locate the occupants of critical positions in a timely manner within a 100 person strong IMT becomes difficult and time consuming with effects that impact further along the command chain if decisions and approvals, or communication of critical information is delayed. There is opportunity to review IMT size to determine if some of the planning and logistics functions currently held at ICC can be devolved to Divisions.

The observation is made that Victoria is not the only state in Australia to staff IMTs to this level. Some other states have reached a point where extraordinary numbers of staff are allocated to IMTs, creating an imbalance between the levels of resourcing at IMT and fireground levels, in extreme cases with two IMT members for each active firefighter. This is partly brought about by observing a perceived need for particular functions to be undertaken, and the belief that a separate individual, and often several individuals, are needed to deliver each function. AIIMS acknowledges that in some circumstances an individual may hold more than one function but there are increasing functions that are added to the responsibility of IMTs, impacting on both the staffing levels complexities of operation.

Victoria operates its emergency fire management within the nationally agreed AIIMS framework to ensure interoperability with other states. This is important to obtain maximum national consistency in development of training materials and application of systems and procedures. This effectively constrains Victorian agencies from significantly changing how the component parts of AIIMS are structured and trained. However, there is latitude in refining how it is implemented. Whilst a full blown ICS structure runs to many separate functional "cells", one of the key benefits of the ICS structure is that it nominally only requires the filling of the parts needed. There are several questions for the fire agencies to explore in setting up an IMT:

- Determination of which of the cells (functions) require staffing.
- Number of staff required per shift for each function that will be staffed.
- Continuity of IMT membership and return of earlier IMT staff for subsequent deployments.

Issues

- Need for review of the template for IMT composition to provide guidance on appropriate staffing of the functions required.
- Evaluate numbers of personnel required per shift for each function that will be filled.
- Reinforce the need for continuity of IMT membership and return of earlier IMT personnel for subsequent deployments.

Joint IMT Desk

DSE and CFA have agreed for a number of years to establish joint IMTs at regional level that can train together and are available for deployment as an entity. Although many joint IMTs have been established, then trained and exercised together in recent years, the duplicated requesting and supply arrangements in both agencies often resulted in a mismatch situation where a request for an IMT resulted in a DSE component not being matched to the same supplying region with its identified CFA counterpart, thereby losing the immediate value of a unified IMT that had exercised and trained together and contained the right balance of competencies.

To address this, a joint IMT desk was established at the DSE ECC early in the Great Divide Complex fires to manage all requests for IMT resources from any IMT, irrespective of which agency was in overall command or which state emergency coordination centre received the request. The Joint IMT desk then determined the potential donor region based on an understanding of available state resources and forwarded the request to an appointed regional IMT coordinator that managed IMT resourcing requests on behalf of both agencies. This process resulted in the "donor" region providing the best available IMT irrespective of agencies i.e. specific positions were filled by the best available qualified persons and the process was effectively "agency blind".

This was the first occasion upon which this facility has been established during a major event. Previously, requests for IMTs were handled by negotiation between the respective ECCs. The facility worked well on this occasion and should be earmarked for future implementation, in the absence of a jointly operated state coordination centre.

External coordination between fire agencies and MECC

There remains confusion about the respective roles of the fire agencies and the Municipal Emergency Control Centre (MECC), especially in relation to catering and accommodation issues. Emergency management procedures for Victoria are described and detailed in the Emergency Management Manual Victoria and in that regard the MECC is described as a primary municipal based emergency coordination centre. It is clearly described as being the focus for organising any support that may be necessary to assist the control agency nominated as the response agency to an emergency incident. The MECC is also clearly described as not being the controller to manage the response of control agency resources.

In particular, provision of various supplies (the logistics component), including catering and accommodation for emergency response personnel is scheduled in the Emergency Management Manual to be undertaken by the relevant Municipal Emergency Response Officer (MERO). There is a rider to this provision and it is that the manual specifically nominates that "Control and support agencies that have the capacity to provide emergency relief functions for their own personnel (for example catering) are to use their internal organisational resources before requesting emergency relief from the emergency relief system."⁸ The Victorian fire authorities (CFA, MFB, and DSE) and Victorian SES are later specifically identified in this category.⁹

The manual further identifies the problems that can emerge when the MECC is not updated about internal arrangements that are put into place by those agencies with capacity to do so. If the incident does not escalate and provision of services organised by a capable agency is adequate, then few or no problems will occur. When an incident does escalate and other response or support agencies bring in additional personnel who require basic services including catering and accommodation there may be competition for locally available services. In order to efficiently access the available services, indeed to know if they are available or not, the MECC must know to what extent those agencies who are self providing are drawing upon available resources and services.

This provision probably helps to cloud the issue of what the true role of the MECC is or ought to be, and its role is thus not clearly understood by many players at the ICC-IFACC level. It is apparent that in a "routine" fire situation where the MECC is not activated, that DSE and CFA should go about their business of fire management, directly sourcing the supplies they require. This includes sustenance and accommodation for firefighters and any other supplies such as plant. The picture is not so clear about what processes ought to ensue when a MECC is activated. As a general observation, responsibility for acquisition of support supplies (e.g. plant) is generally, although not always, handed off to the MECC but provision of catering and accommodation is not at all clear.

Some ICCs hand over the full range of logistics supply to the MECC, some continue to source for agency personnel only, some continue to source accommodation and catering but hand everything else to the MECC, and others hand off responsibility for any incoming additional resources whether they are inter-regional, interstate or international. In short, there can be any combination from total reliance upon the MECC for all logistics to almost no reliance upon the MECC for supplies such as catering and accommodation. This constitutes a very uneven display of how logistics supply may be divided. Interaction between the key players prior to the fire season in joint pre-season meetings and exercising in some areas resulted in effective relations between IMTs – MECC.

Whilst the MECC is municipally based, the Municipal Emergency Response Coordinator (MERC) is a senior local officer from Victoria Police, and is the person responsible for the efficient conduct of the MECC. There is a need to clearly establish between Victoria Police and the joint fire agencies, a thorough understanding about the circumstances under which the joint fire agencies will be responsible for sourcing their own services, how and when that information will be communicated to the MECC and whether or not a point will be reached where the joint fire agencies will transfer all, or part only, of the responsibility for provision of services to the MECC. This needs to be clearly defined between the fire agencies and the Police with standard conditions applying to every incident so that all parties understand responsibilities that can be consistently applied and can train their staff accordingly.

⁸ Emergency Management Manual Victoria. Appendix 2. P. 8-7

⁹ Emergency Management Manual App 9 Catering Arrangements P. 8-28

Although the MECC is managed by a senior police officer, the actual operations of the MECC usually involve municipal staff. It is important that municipal staff also understand the nature of the various roles and responsibilities and any agreements that are reached between Police and fire agencies. As a part of the consultation process, it is appropriate to include municipal representatives to enable them to communicate information through the municipal structure.

There is also a need perceived to establish clear understandings about the role of RECCs and (IFACCs) and how they relate to the MECC. Given the level of understanding within the fire services generally about the roles of an IFACC, it is a matter that must also be addressed with VicPolice to ensure that the rationale behind establishing an IFACC is clearly understood not only by the fire agencies but also by the key support agencies.

This relates directly to role clarity and understanding by participants of their roles and the roles of other participants above and below them in the command chain and the emergency management structure as a whole. The relationship between MECCs and IMT/(IFACCs) varied, likely to be in direct proportion to joint training and exercising during off fire season and the level of contact between the people staffing those centres during the event.

Key issues

- The need to establish between the fire agencies and Police a clear understanding of roles and responsibilities at each level and at each centre.
- The need to engage in pre-season exercises and conferences in suitable premises (MECC or RECC) with key parties.
- Consultations (and exercises) involving MECCs should include appropriate municipal representatives.

External coordination with support agencies (excluding MECC)

Although the debrief and review process focused primarily on the actions of the fire agencies and was not planned to be an overarching analysis of the emergency management arrangements within Victoria (as this process was considered to be the province of others), one on one agency discussions were held with SES, Victoria Police and Department of Human Services to identify issues of specific interest to the fire agencies. All agencies highlighted a number of issues where there is opportunity for the fire agencies to hold constructive dialogue with other agencies.

The outcomes of these consultations are included at Appendix 4. **Issues:**

• There is a need to re-engage with VicPol on the issue of road closures and continue the dialogue to ensure that the fire services, police and support agencies understand and implement the provisions that apply, and communicate those provisions to the community using pre-fire education tools. This matter is further addressed under the section entitled "Fireground."

There is a need to consider the development of standard operating systems and protocols between the fire services and SES, to cater for support roles that SES is willing and able to undertake. Cross-training and joint exercising is indicated.

JOINT VERSUS INTEGRATED OPERATIONS

Introduction

This section highlights that whilst DSE and CFA cooperate very well together there remain elements of a "joint operations" versus an "integrated operations" approach in some areas, with a perceived need for either service to have counterpart representation within a defined group such as an IMT or IFAC. To the contrary, other areas, including regionally based IMTs have adopted a fully integrated approach that is agency blind and focus on appointing qualified/experienced persons to positions without regard to agency.

Proposals to develop a single state coordination centre provide the opportunity to strengthen integrated operations.

Key issues are:

- In order to progress the single state coordination centre facility, significant decisions now need to be made concerning the initial operations. Matters that need to be addressed urgently include configuration, IT systems, staffing arrangements, robust business rules and consultation with all stakeholders.
- Consequent upon establishment of a single coordination centre effective operational practices identified in conducting an integrated centre can be translocated to integrated incident management and IFAC functions – these practices could include the concepts introduced via the Strategic Planning Unit.

Whilst there are very strong indications that CFA and DSE work very well together, there is an underlying thread that operations conducted together are sometimes more appropriately considered to be "jointly" run rather being fully "integrated." There are references within the debrief records that spell out instances of duplication, not because of a need for duplication but because one agency or the other was the lead agency, and the other agency saw a need for an equal presence.

These references were considered to constitute a view reflecting previous practices as both organisations and their full complement of personnel ought to be now sufficiently apprised of the other's skills and capacities to engage in protracted campaigns in a fully integrated fashion, and indeed, both have expressed a desire to do so. The agencies are different and there are strong cultural differences between them that ought to persist, but the clients of the fire services, the communities of Victoria have clear expectations about the service provided. They really don't care what type of uniform or fire fighting apparatus is used. They have an expectation that a fire service will assist and protect them in a timely manner irrespective of which organisation it is or the type of firefighting equipment it brings. The community has a sole objective, and that is to be provided with a timely and efficient fire service.

Several comments extracted directly from debrief records highlight the lack of total integration:

"[agency] reported details of a fire on its website. [other agency] requested that details be removed as they were in charge of the incident"

and

"No [agency] Media Liaison representative in IFAC."

These comments along with others that refer frequently to duplication (some of which is generated by separate systems and IT platforms that cannot effectively talk to each other) support the notion that further integration of fire agencies in how they operate together at fires should be achievable.

As opposed to duplication for the sake of ensuring a specific agency was represented in a role, there were instances where a pragmatic decision was made to duplicate certain functions to ensure consistent and certain functioning of information flow. These instances were often related directly to IT matters and the separate operating and reporting systems utilised.

The NE IFACC reported: "Continuation of 2003 issue of DSE and CFA running independent IT platforms hinders integration for joint management and creates potential for disjointed information flows critical to effective joint management". This IFACC also reported that its short term fix was "Resorted to duplicating information to satisfy needs of both agencies".

A key issue is that as a coordination centre one step below state level, positions within an IFAC centre must be filled by the best persons for the task, irrespective of which fire agency they represent. There should not be a need for each senior position, indeed any position, to be shadowed by somebody from the other agency. A natural extension of the comments referenced above is that every key position at an IFAC centre might require dual agency representatives, or an agency "liaison", which could give rise to what was considered by some participants to be oversized management teams at ICCs.

Several IMTs did describe effective integration between agencies and described how competent and accredited personnel were allocated tasks based solely on appreciation of individual's suitability for the role. Two IMTs discussed the discarding of conventional uniform and adoption of a "neutral shirt" to create a team that is agency blind. One IMT has taken the step of implementing that arrangement to ensure that the combined agency approach was fully integrated.

There is opportunity to further develop and extend an integrated approach state-wide and the timing for it is opportune. Over a sustained period of 10 weeks, many people were thrown into a situation where they had to work constantly with their peers from other agencies. This provided an opportunity for those people to gain excellent appreciation of skills and capabilities of others, and in some instances, the value of different systems or plant and equipment. This built substantially on the experiences of 2002/3 and 2005/6 when there were quantum leaps in the way in which CFA and DSE operate together.

In concert with that opportunity is the need to recognise that efficient resourcing means allocating people with the best skills and abilities, irrespective of agency. If this is achieved in a timely way, then duplication of skills sets in IMTs and IFAC Centres should not be on the horizon. This attitude becomes of paramount importance in a season such as 2006/07 when resources are stretched to the maximum and it is a basic matter of acknowledging that if there are insufficient resources to cope that duplication is an unaffordable luxury. As soon as it becomes necessary to import additional resources from interstate or internationally, then a real trigger to identify and rectify any areas of duplication arises. The quid pro quo is that if the system can survive an extended campaign with full integration, then it must surely be able to

operate equally effectively in the same mode in less demanding operational situations.

There is the opportunity now to re-examine pre-planned IMTs (and IFACCs) to ensure that within the respective regions and areas, that personnel with the best qualifications for the tasks needed are identified and appointed, with little regard for agency of origin. A second need also arises and it is that both agencies accept that not every position in an IMT, IFACC, or state level emergency coordination centre requires an operator or "liaison" from each organisation.

Both rural fire agencies have indicated their desire to establish a jointly operated, single emergency control centre, to operate on a trial basis from the commencement of the 2007/08 fire season. Establishment of a single coordination centre would impact favourably down the line on reporting requirements and will impact directly onto the relationships between the fire agencies and support agencies with effectively a "one stop shop" for exchanging information and obtaining briefings, the situation that partially prevailed during 2006/07 following the implementation of the Strategic Planning Unit and Joint IMT Desk in the DSE ECC.

This may be the first step in fulfilling a recommendation from the VBI "That a single state-of-the-art all hazards State Emergency Operations Centre be established for Victoria. This could, if necessary, be implemented in stages, initially incorporating DSE, CFA, MFESB and the State Aircraft Unit."

In its initial stages the proposed joint facility will include DSE and CFA and may also include the State Aircraft Unit. The way may be open to include other emergency services (e.g. MFB, SES) at a later stage but it is outside the scope of this review to canvass options in that regard.

Key Issues

- In order to progress this facility, significant decisions now need to be made concerning the initial operations. Matters that need to be addressed urgently include configuration, IT systems, staffing arrangements, robust business rules and consultation with all stakeholders.
- Consequent upon establishment of a single coordination centre effective operational practices identified in conducting an integrated centre can be translocated to integrated incident management and IFACC functions these practices could include the concepts introduced via the Strategic Planning Unit and the Joint IMT Desk.

PLANNING

Introduction

This section examines four discrete planning activities that were subject of consideration and discussion during the review process:

- Ongoing fire management planning at the state level.
- Fire management planning at specific community level during the 2006/07 fire activity.
- Strategic state level planning implemented as a new initiative during the campaign.
- Incident level planning during the campaign.

Two associated matters, the provision of fireline information acquired by remote sensing and the prediction of likely behaviour and spread, two important aspects of planning are also considered.

Key issues identified are:

- Adequate dissemination throughout the key stakeholders to ensure that each of the stakeholders understands and collectively implements their responsibilities in Integrated Fire Management Planning.
- Utilise the documented planning processes applied to small and remote communities to serve as case studies to assist implementation of IFMP.
- Evaluate the continuing role of the Strategic Planning Unit operating as a strategic intelligence cell, providing critical information to both internal and external stakeholders. Evaluate its appropriateness as a model for more effective integration of the fire services and support agencies.
- There is need for a substantial review of the Incident Action Planning process, including the development, communication and implementation of a standard IAP template for statewide application.
- Evaluate the need for redundant linescan capability, consider the format of data and how it is transmitted to requesting centres.
- Evaluate the need for fire behaviour specialists, where their services should be supplied and how Victoria can supply the level of trained and qualified fire behaviour specialists determined as necessary.

Fire Management Planning – State/Regional/Local level

Traditionally, fire management planning at municipal level has been based essentially on municipal boundaries, with responsibility for developing and implementing plans, primarily for prevention and mitigation works devolved to municipalities. Responsibility for the response to fires, external to the area of operation of the Metropolitan Fire and Emergency Services Board (MFB), rested with CFA for private lands and DSE for public lands. Arising from earlier reviews (OESC - Victoria Bushfire Inquiry 2003 and Auditor General – Fire Prevention and Preparedness 2003) the matter of municipal level fire planning has been re-examined to take into account the full suite of fire management activities from prevention to response to recovery.

At the time of commencing this review an integrated planning proposal (Integrated Fire Management Planning [IFMP] was in the final stages of preparation to go before the Government for consideration. The proposal has since been endorsed by the Government and implementation of its provisions can proceed. It arose as an initiative from the 2002/03 fires and its completion has been achieved via lengthy consultations and submissions from stakeholders.

A key platform of the new proposal is that it is not a change of direction but the proposal recognises and builds on many good fire planning practices and existing networks already in place. It is not municipality specific and recognises that fire planning ought not to occur in isolation but must be integrated vertically from state to regional to local levels and must also be integrated laterally across the suite of agencies and land tenures represented within a municipality. Importantly it recognises the multiple phases of effective fire management – prevention, preparedness, response and recovery – are not stand-alone elements and the planning for them should occur in a more strategic and integrated fashion.

Responsibility for implementation at State, regional and municipal level will rest with multi-agency committees, where the fire services will have a pivotal role in providing technical expertise in fire management planning, with representation from:

- CFA, DSE, MFB (as appropriate).
- Municipality.
- Other stakeholders (as required).

Whilst the committee as a whole will bear the responsibility for making and implementing the necessary plans, the fire services, by virtue of their participation will bear a responsibility commensurate with the positions they occupy on individual committees.

The development phase of this process is now complete and following recent government endorsement, the implementation phase can commence immediately.

Key issue:

 adequate dissemination throughout the key stakeholders to ensure that each of the stakeholders understands and collectively implements their responsibilities.

Fire management planning - community level

During the campaign it became obvious that small isolated communities would almost certainly come under threat as the fires progressed. Where building footprints sit directly in the bush with no effective separation zone between the building and the adjacent vegetation, the building may or may not survive but firefighters won't. Incontrovertibly, firefighters must have a minimum clear space in which to work otherwise they cannot survive radiated heat levels and there is no way they can work directly in a flame zone. The configuration of isolated communities, often with only one major through road, means that if the community is impacted by fire, access into and out of the community may be cut or severely restricted for several days and it may be unsafe to move fire fighting resources in. Rather than wait until the fire had reached the outskirts of the community, proactive decisions were implemented to assess threatened communities to determine if they were defendable. Not all small communities were assessed as being possible to effectively defend under worst case scenarios, with either inadequate or nil defendable space around buildings.

Where assessments could not support the notion of firefighters attempting to defend a community on the grounds of firefighter safety, then residents of those communities were provided with advice about the nearest safe refuges and estimated impact time of fires. Where assessments could support defence of a community and direct attack was not possible, strategies and tactics were based upon indirect attack to attempt to steer the fires around affected communities by establishing firebreaks with machinery and by backburning and burning out of strategic areas wherever possible. Provision for aerial attack was built into the planning process and utilised if conditions permitted.

As an example, Woods Point was one small community that was successfully defended using this approach. An assessment team was allocated on 5 December 2006 to analyse whether Woods Point was defendable. Initial analysis suggested that the community could be successfully defended. The team assessed individual buildings and assets, determined whether residents were at home or not, established a register of people leaving and arriving and continued to discover any unusual or significant features - e.g. fuel supplies, dangerous chemical storage and useful areas of hazard reduction. Refuge centres were identified. Major access was assessed for its likelihood of being closed during the period of fire impact and during the post fire period. At the conclusion of the assessment, a plan was developed and communicated to all residents so that the whole community understood the potential threat. Residents were then sufficiently aware of the threat potential and defence capability to make an informed decision about whether to stay or to go, and critically, where to go to and when, if they decided to leave prior to the fire impact.

The planning and communication process was effective and the community was successfully defended when fire inevitably impacted. Similar experiences occurred in other remote communities impacted by the fires e.g. Walhalla, Licola and Dargo. These examples serve as potential case studies to assist in understanding the protection principles that can be applied to small communities. Whilst the IFMP process should identify any communities that are situated in bushfire prone areas and develop longer term plans, the opportunity should be taken to formally record the processes employed for consideration during implementation of IFMP.

Key issue: Document and record the immediate planning processes undertaken in small and remote communities during the fires to serve as case studies for implementation of IFMP in like communities.

Strategic state level planning during campaign

At an early stage during the Great Divide Complex, it was evident that in the unlikely event of significant rain that the fires would persist for many weeks. To address longer term planning needs and to maintain a strategic overview of state capacity, a specialist State Strategic Planning Unit (SPU) was developed and effectively "bolted on" to the DSE ECC. This unit was jointly staffed by DSE/CFA but included representatives from support agency personnel, including OESC and DHS.

The unit developed a set of principles enabling a regular state-wide planning brief to be prepared. The SPU prepared a "Victorian Fire Situation and Planning Brief" on a weekly basis. This brief considered agency objectives from state, Great Divide Complex fires and other fire perspectives. The brief focussed on understanding the whole of state risk, the longer term capacity for resourcing suppression activities and management of the fire consequences. Each brief produced had a finite life of one week and provided an outline of agency objectives, analysis of the risk and operational environment - projections of likely fire activity, key state risks - a snapshot of fire activity at the beginning of the period, resourcing needs and capability, consequence management and recovery.

The Planning Brief provided a vehicle to adequately inform State Coordinators, Chief Officers and central Government about impact and consequences at a strategic level. In addition to being a mechanism to advise Government, it provided the basis for Regional Strategic Plans at IFAC level to adopt a similar format and process. Analysis within the document provided weight to the need to requisition outside resources and provided guidance to Regional areas about broad strategy at state level.

At an early stage in the process, fire behaviour specialists forecast several levels of predictions for area burnt, ranging downwards from "possible worst case" to "probable worst case' to "average worst case". Area burnt rapidly approached the probable worst case scenario, suggesting that the outputs of the SPU and the fire behaviour specialists were predicated on substantial foundations.

In essence the SPU was "integrated" insofar as it drew appropriate resources from multiple agencies without any focus on ensuring a level of equivalence from respective agencies. It attracted the most appropriate personnel for the task, regardless of source agency. Importantly, it operated from a single centre and had a consistently applied information flow mechanism inwards and outwards.

Establishment of the SPU (and Joint IMT desk) worked effectively and achieved the objectives of timely and accurate information to Government, timely and accurate information to major control centres and appropriate guidance to the agencies on a strategic state-wide basis. The opportunity to reinstate these processes in future extended campaigns is worthy of detailed consideration but the need for the Joint IMT Desk may be circumvented by moves towards a single state level emergency control centre which would effectively integrate the whole of state level coordination between DSE and CFA.

Key Issue: The role played by the SPU is worthy of further consideration. Its continuing role to operate as a strategic intelligence cell, working alongside the State Coordinator and providing critical information to both internal and external stakeholders should be evaluated. Irrespective of whether a single state coordination centre is implemented in the immediate or near future, the retention of this facility and its appropriateness as a model for more effective integration of the fire services and support agencies should be assessed.

Incident Planning

Incident Action Plans, effectively the work schedules for field crews that set out strategic objectives, attracted considerable discussion at all debrief levels, with many suggested improvements. It was recognised, especially in areas that had been heavily involved in 2002/03, that the IAP process had improved markedly since then and such areas often conveyed a more positive attitude to this topic - "IAPs better than 2003" (Region).

Other positive comments included: "IAPs had good content and common goals..." "There is a set system for IAPs..." "IAPs were concise, relevant and appropriate for crews - a big improvement on previous incident IAPs..." "Concise (A5) IAPs were successful..." "Easy to follow and the mapping was great. Several members commented that this was the first time they've used a written IAP..." (Interstate debrief)

Both DSE and CFA agreed to a modification to the current IAP template to align it with SMEACS¹⁰. This alignment allows the IAP to be used intuitively as a briefing paper rather than to require any need to translate information from the IAP to a SMEAC briefing template. The modified IAP template is included in the "IMT Toolkit" distributed throughout both agencies. A salient observation from a Real Time Performance Monitoring visit was that endorsed personnel in one IMT were unaware of the "IMT Toolkit" a vital tool for implementation of an effective IMT.

Contra to the above opinions there is a consistent thread that some IAPs continue to be too unwieldy. The sheer physical document size, related to the range of content material, was agreed as too large and inappropriate for their key function.

Opinions were also expressed that IAPs were trying to achieve too much – they are clearly the works program document for the next field shift and ought to set out what the key strategies and objectives are, but many commentators perceived that they also tried to serve other purposes by doubling up as an upwardly reporting and capability review document for the Incident Controller. The Volunteer Fire Brigades Victoria (VFBV), in its review of the 2006/07 fires noted that IAPs "*became too prescriptive rather than changing as circumstances changed*" and that they ought to be "... a guidance document not a prescription ... "

Depending on the agreed role of the IAP, one concept discussed was to produce a multi purpose IAP document and transmit only the specific field section of it to fireground commanders. This concept was considered after 2002/2003 and it was concluded that a multi-part, multi-purpose document may introduce more complexities than it solves with respect to its timely completion, followed by dissemination of different components to the correct targets. Retaining the IAP as a single purpose document removes any prospect

¹⁰ SMEACS – a standard briefing format that logically captures and addresses critical components necessary for an operational briefing: Situation, Mission, Execution, Administration/Logistics, Command and Communications, Safety & Questions

for misdirection. However, given the additional experiences of 2006/2007, this issue requires further consideration.

Much discussion centred on the question of 24 hour vs. 12 hour IAPs. In areas where there was good continuity between the day and night IMTs, the corresponding IAPs tended to complement each other and the IAP document effectively became a "rolling IAP". Conversely, in other areas, a disconnect between the day and night IMTs saw quite substantial differences in the IAPs being prepared – in the words of several observers: "almost as though two separate IMTs were dealing with two separate fires" and "12 hour IAP has problems: Night & day shifts can use very different strategies (lack of local knowledge can lead to safety concerns)". Yet other observers commented that: "Style and format kept on changing depending on the planning officer" and "IAP document was different each shift with data collected from one shift not carried forward to the next shift".

The impact of these disconnects was soon apparent to field commanders and caused consternation in understanding what the real objectives were.

Generally, each 12 hour shift operated to a specific IAP for that shift, but in some areas, an overarching 24 hour IAP was developed with minor modifications for the second shift depending on feedback obtained from the field during the first shift. The benefits of this model, where the IAP was issued early morning was considered to yield better efficiency of resources allocated to preparation of the IAP and more certainty for the Logistics section of the IMT to be well informed about issues such as catering and fuel replenishment needs. A lot of discussion, but no consensus, revolved around the use of 12 hour vs. 24 hour IAPs. Both types had their champions but consensus definitely occurred on the need for a uniform template and consistency in approach from one IAP to the next, whether a 12 hour or 24 hour IAP was implemented. It is clear that the matter needs to be incorporated into review of the IAP documentation, as does the necessity for day/night IMTs to align themselves with each other, with one effectively becoming the relief for the other and both working toward the same strategy, perhaps agreed at shift changeover.

Another matter consistently identified was that the relationship between the current content of IAPs and the need to gather and collate significant amounts of data, impacted on the time necessary to complete them. A result was that IAPs were often completed too late for inclusion in the new shift briefing. Even though the IAP was well done, its arrival on the fireground in mid shift was too late to effectively translate its content and intent to the field crews.

"Day IMT ignores the IAP prepared by Night IMT..."

"Documentation different each shift – detail collected one shift not carried forward into next shift, 12 hour IAP has problems: Night and day shifts can use very different strategies..."

"IAPs done well but not translated down to fire ground level. Timelines too late for field (1/2 way through next shift)

"IAPs not delivered on time. Incorporate 24 hr IAP planning..."

Regarding systems, it was noted that CFA and DSE did use different systems in setting up IAPs. There was strong agreement that there needs to be a single IAP template that is universally used¹¹.

In certain parts of IAPs it is necessary to repeat information if the template is followed. The agreed template ought to be set up so that critical data is entered once and any duplicate fields that are necessary automatically update. This would preclude incorrect or conflicting content remaining in an updated IAP and eliminate potentially adverse ramifications. "*improve IAPs – more compact, less duplication, set template e.g. software linked IAP do not communicate the current situation – late to staging area.*"

Perhaps one question that needs to be asked in review is: "Why is it necessary to repeat information within an IAP?"

The need for review of the IAP process was identified as a key issue arising from the 2005/06 series of debriefs. The 2006 Review noted:

"There is an agreed joint agency template for IAPs but it is not universally used. The template requires review with a view to simplification. The template should require each individual element of relevant information to be entered once only, with automatic regeneration elsewhere in the IAP if this is necessary.

A key issue identified is for CFA and DSE to revisit and refine the joint IAP template and determine an approved model and ensure that the format, content and use of the model IAP is communicated to all potential IMT members. "

Whilst there has not been a recent state level examination of the IAP process completed to date, useful initiatives have been introduced by Regions/IMTs in 2007 and these need to be explored to determine if they should be incorporated into the state model. One example was the development of a compact A5 version of the IAP. This version attracted favourable comments particularly in relation to the ability of Strike Team Leaders and Sector Commanders to provide good feedback for the next version. It is important to capture these improvements that IMTs introduced into 2007 from their 2003 experiences.

The review of IAPs should be guided by understanding the following issues (also identified in 2006):

- What is the role of the document.
- Who should it target.
- What should it contain.
- When should it be prepared and disseminated.
- How should it be prepared and disseminated.

Issues: IAP processes need a substantial review, including:

- Development, communication and implementation of a standard IAP template to be universally applied.
- Consideration of the "life" 12/24 hour issue and "rolling" IAPs.

 $^{^{11}~\}mbox{Notes}~$ i) an agreed template does exist for IAPs and is contained within the "IMT Toolkit"

ii) IAPs were not the only document where individuals developed "their own format" during the fire campaign and a review of all templates for plans, handover documents and the like is indicated

- The necessity for changing/relieving IMTs to not substantially change the intent or format of the IAP, unless the circumstances of the fire so dictate.
- Ensuring all potential IMT members are aware of and utilize the provisions of the "IMT Toolkit".

Linescan Capability

Organisation of linescanning and oversight of equipment/contractors is managed by the State Aircraft Unit. During operational duty in mid December 2006 the linescanning aircraft was caught in a severe downdraft and rapidly descended about 8,000'. The incident caused damage, rendering the aircraft and the scanner inoperable until repairs could be effected. A second linescanner unit and aircraft had been organised to come on stream by approximately 20 December 2006. Following the incident with the first linescanner/aircraft, 7-8 days were required to bring the second combination on line. Although some assistance was immediately sourced from NSW it was not possible to "acquire" a unit for sole Victorian use pending deployment of the second unit.

This shortage became evident to field users of linescan output who now regard the data produced as intrinsic to the determination of tasking priorities and resource allocation. ICCs noted that linescan output needs to be to be delivered to ICCs without undue delay. Mapping units requested raw data which they believed would be useful, but indicate that delays occurred whilst the data was processed elsewhere to generate higher quality maps. The view from situation personnel is that there may be a hangover from the early use of this technology when there were few people with the knowledge and skill to manipulate the data and produce useful maps. Now, many staff including ICC personnel are much better placed to know what shape files, data layers and other detail are required for their fire than are mapping specialists at the ECC. Maps needed by ECC might be totally different in nature to those to be incorporated into local IAPs and community briefing packs. Converse views were put by the SAU concerning the understanding of situation personnel about the limitations of linescanning – weather conditions necessary for implementation, strategic areas vs. blanket coverage and time required to achieve.

Issue: Two matters are identified for further consideration:

- Evaluation to determine whether alternate linescan capability is necessary in the event a unit goes offline for an extended period. This entails understanding the uses to which linescanning is put, how effectively linescanning outputs were used and the normal and reserve capability that is available on short notice.
- Consideration of how linescan data ought to be transmitted to requesting centres and the form the data should take. This will require analysis of the capability of "Situation/operations" personnel to manipulate data provided from linescanning.

Fire Behaviour Specialists

In 2006/7 a continuous Fire Behaviour Specialist role was filled in the ECC to provide fire prediction advice to the SPU, IFAC centres and IMTs. This role was

undertaken by a small number of personnel from DSE, WA, University of Melbourne, Bureau of Meteorology, Canada and US.

Daily teleconferences were organized so that the Fire Behaviour Specialists had the opportunity to exchange information and ideas with each of the IFAC centres and IMTs.

The Canadian and USA deployments included personnel who were assigned to fire behaviour prediction and meteorological data collection and analysis. The debrief of this group with their Victorian counterparts concluded that a requirement for Fire Behaviour Specialists exists, with a primary need at IMT level to assist the IMT in understanding likely fire spread under forecast conditions and to make adequate plans to counter that spread. A like need was recognised at state level ECC/SECC to provide a strategic overview of potential fire spread to assist in understanding likely whole of state impact.

A major role of the Fire Behaviour Specialists, identified by them, was to provide advice on fire suppression strategies, especially location of control lines and backburning operations. This function was achieved via the various Strategic Planning Units and by ad hoc communications where Fire Behaviour Specialists were allocated to IMTs, or by use of centrally located specialists.

Two major products were produced depending on the need. These were a fire spread prediction map and a potential impact zone map. The fire spread prediction map was produced to assist fire agencies, land managers, utility and infrastructure managers and public authorities plan fire suppression and mitigation actions. The potential impact zone maps were produced for public alerts and warnings functions, depicting the possible extent of fire or embers within the outlook period. These maps included assumptions and calculations used to produce them.

Analyses were communicated to the Strategic Planning Unit and State Duty Officer in the ECC and to the Planning Sections of IFAC centres and IMTs. Roles also included collection and collation of weather and fire behaviour information.

The output from the Fire Behaviour Specialists group was not noted as a key issue in any of the major debriefs or associated debriefs, other than to raise issues with the accuracy of the predictions. A mixed view on accuracy emerged from IMT and IFACC debriefs – some indicated that accuracy was satisfactory whereas others indicated the predictions were inaccurate. One IFAC centre noted that "Incident prediction developed at SECC appears to have been developed in isolation or without consultation of Strategic Planning Unit at IFACC" and noted the solution as "Ensure IFACC Strategic Planning Unit is consulted in detail." This note arose from concerns expressed by an associated IMT about the prediction and required the IFAC centre to explain what the prediction meant.

These concerns related directly to the understanding of users about the basis on which predictions are formulated – the predictions assume no effective control and worst case forecast weather. Additionally, although each prediction can only be effective for a short period of time, some were "re-circulated" by IMTs. This led to a time/date status or validity period being inserted on prediction maps.

DHS personnel indicated that availability of potential fire spread and impact maps to them assisted in identifying communities and potential victims. This enabled DHS to maintain a higher state of readiness in those areas and to be able to institute recovery operations more rapidly and effectively. The Fire Behaviour Specialists Debrief made a number of recommendations for future action to cement like positions into place. Some key stakeholders also hold the view that specialist fire behaviour skills form a vital part of the planning process at State and regional level. The review process did not particularly inform this view either way, other than for the debrief "Canadian Fire Behaviour Specialist Functions" the debrief notes from New Zealand and the DSE/CFA Fire Behaviour Debrief, all of which strongly promote the concept.

It is obvious that at some point planning units must base their decisions on an understanding of the potential run of fires during defined periods, in order to make effective plans and to be able to determine where suitable control lines either exist or can be constructed, and the nature of advice, alerts or warnings to provide to the community. The ability to predict, with a degree of assurance, where fires might burn to in a defined period and the type of behaviour that will be experienced, seems to be indicated as a precursor to effective strategies and community information.

The joint agencies need to consider whether they seek to achieve an expanded role for fire behaviour specialists and how they ought to be sourced. Questions that need to be investigated include:

- Are there sufficient trained people within fire agencies to provide a suitable level of fire behaviour input to IMTs at normal fires?
- Are there sufficient expert fire behaviour specialists within the fire industry (including researchers and personnel external to the fire agencies) to provide appropriate inputs during campaign fires at both IMT level and state level?

Any review must also focus on how Victoria could provide itself with specialist fire behaviour prediction and where such specialists ought to operate, (IMT/IFAC centre/ECC.) There are people within the fire agencies who possess the necessary understanding of fire behaviour, including formal training in fire science and practical experience, to undertake this task. How many of them there and their willingness to do so needs to be determined.

The Fire Behaviour Specialists Debrief (Australia, USA Canada) the NZ debrief and the Fire Behaviour Debrief (DSE/CFA) contain a series of issues for clarification for 2007/08 and beyond and contain input from local personnel. These issues would be an appropriate start point for further consideration. It is evident that if adopted, the continuing use of fire behaviour specialist services must be accompanied by identification and training of a cadre of fire behaviour personnel and education/training of incident management personnel about the outputs and what they mean. In turn, that must also flow through the community information channels.

Issues:

- Determine the extent to which fire behaviour specialists ought to be available and applied to major fire events at IMT IFAC State levels.
- Determine how Victoria can supply the level of trained and qualified fire behaviour specialists determined as necessary.

FIREGROUND COMMAND

Introduction

Feedback on fireground command and associated issues varied with many commentators acknowledging that overall, fireground operations proceeded smoothly but that facets do require strengthening. Testimony to the efforts of fireground commanders and front line firefighters lies in two very significant achievements¹²:

- Construction and consolidation of a containment line from the Big River arm of Lake Eildon through Matlock, Aberfeldy and Walhalla, ending near Toongabbie This containment line spanned a distance of approximately 107 km, and was arguably, one of the most difficult back burns ever undertaken by Victorian firefighters. This line was successfully established to hold fire out of major metropolitan water supply catchments.
- Construction and securing of a major control line of approximately 200 km in length along the southern boundary of the Great Divide Complex. This control line was probably the longest individual control line ever constructed and consolidated in Victoria's history, and was accomplished within nine days

Key issues:

Division/Sector Commanders:

- Importance of role clarity ensuring that field commanders understand their role, where they fit into the command chain and the expectations on their roles, including strict observance of safety protocols and situation awareness.
- The need for them to be managers, to be proactive and to go looking for answers when the system slows down or stops.
- Need for them to ensure effective communications between the field and the IMT.
- Ensuring that they have the necessary resources to assist them.
- Ensuring the teams and personnel, undertaking legitimate fireground activities, but not involved in direct fire fighting, adhere to the chain of command (this issue affects all personnel undertaking fireground activities other than direct firefighting).

Fireground safety:

- There is a need to continue to promote safety awareness at all levels and not condone any slackening in high standards.
- Ensure safety messages are incorporated into all training exercises.
- Consider whether it is appropriate re-issue the December 2006 DVD.

¹² Information source: Draft narrative of the Victorian Great Divide Fires December 2006-February 2007

• Consider innovative methods of reinforcing the safety message e.g. via case studies from 2006/07 incidents identified in the Near Miss and Accident Review program.

Staging areas

- Reinforce the need for dedicated Staging Area management it is not the task of a sector or crew leader.
- Evaluate physical parameters size and location relative to fireground (this is a matter that must be decided on a fire by fire basis and is an IMT rather than State level issue).

Access restrictions

- Resolve the application of the access restriction powers and how this should be communicated to all stakeholders during pre fire season activities.
- There is need for dialogue with representative media organisations and the fire services to develop a Memorandum of Understanding that enables all media personnel to understand:
 - \circ $\;$ The rationale for and necessity of restricting access.
 - $_{\odot}$ $\,$ The powers afforded to ICs and Police to restrict access.
 - The potential consequences of failing to observe access restrictions.

The starting point for effective fireground command at an incident goes to the briefings that fireground commanders receive at the beginning of their shift. They need to understand what the proposed control strategies are and what resources they have at their disposal so they can arrange and implement effective tactics in a bid to achieve those strategies. It is important that whilst the field controllers are given broad goals, the selection and timing of tactics to achieve those goals rests very much with the commanders at the fireground who intimately understand the real time consequences of current weather impact on fire behaviour. The choice of tactics is clearly the province of the fireground commanders and not the role of the IMT, Region or IFAC. Equally, the fireground commander is there to manage the fireground and to devise and implement tactics in consultation with Crew Leaders. It is also important for the persons who occupy "in-charge" positions in the field to understand that they must drive the process and position their resources appropriately in order to implement the tactics that they select.

Briefings were variable. Some field crews received few or no briefings and others specifically commented that their briefings were very good, with clear indications of what they were asked to achieve via timely IAPs and good quality maps. Yet others received good briefings, but well after their work period had commenced [e.g. half way through the shift], related to the delayed completion and supply to them of an IAP. The majority indicated that briefings were adequate and on time, but there were sufficient who reported otherwise to indicate that strengthening is necessary.

A number of responses indicated that command procedures on the fireground were not always followed, with direct "interference" from groups, regions and ICCs, and even an IFAC centre, that effectively bypassed critical links in the chain. The Strike Team Leaders debrief noted that: "*Not enough credit and credence was given to fireground commanders. Decisions were taken at too high a level that should be taken closer to the fireline."* It is difficult to

encourage people to undertake their role when somebody else at a higher level tries to do it for them. Conversely, ICCs reported instances where there was "*a lack of situation reports/communication from the fireground back to ICC demonstrating either lack of experience or a failure to understand the role and needs of the ICC".*

This last comment relates directly to input to IAPs and information flow. Just as field crews need timely and accurate briefings, so to do IMTs need timely input from Division and Sector Commanders, caused by those Commanders effectively communicating information upwards from the field to the IMT.

One instance was recorded where a team holding no direct fireground responsibilities began directing crew management, ordered the removal of firefighter/s from the fireground and dictated to the crew without reference to anyone else in the chain of command. Whilst the removal of persons who are not fit to remain on the fireground has to be notionally supported, there should be almost no scope for persons outside the chain of command to begin ordering changes. This is a matter that needs to be factored into the processes for various individuals or teams to ensure that all members understand their role with unambiguous clarity and that their responsibilities lie in advising and consulting an appropriate person in the chain of command about any recommended courses of action rather than by directly implementing those actions.

A similar comment about role clarity applies to Division/Sector Commanders. In a circumstance where a nil, inadequate or unclear briefing was provided, some commanders rightly took it upon themselves to inquire up the command chain what their tasks were supposed to be. Others waited to be told, with the result that forces remained idle at staging areas for lengthy periods. Firefighters of any persuasion do not like to hurry there, wait and then go home without undertaking productive work. Commanders need to be assertive to ensure they receive the information they need to do the tasking without unnecessary delays. The issue of Strike Team Leaders and Sector Commanders exercising effective command was specifically addressed in the **CFA Pre-Season Update September 2006**.

Field commanders indicated that their span of control needs to take into account two factors – the number of personnel reporting to them and the nature of the topography that governs the physical size of their command. The most extreme instance required a 2.5 hour drive along the control line.

It was universally recognised that local knowledge within key field areas was invaluable (as it is in an IMT). Sometimes field commanders have no or very few resources to assist them, other than the crews at their disposal. A number commented that strengthening the resource allocation to field commands could assist, to ensure that the commands have some local knowledge as well a stronger resource base for management of the command – not simply more firefighting crew but one or two "assistants". "*Make sure you have the right equipment, e.g. two radios, driver, penciller*" (Extract from September 2006 Pre-Season Update).

The personnel to fill these roles might be found from within IMT structures. It was agreed that simply because there is a position "cell" within the IMT structure it does not always require filling and release of a small number of personnel to assist field command would be valuable. ICs have previously been encouraged to allocate sufficient resources to fireground commanders (Division and Sector Commanders). These matters were comprehensively covered in the DVD and notes issued to each Brigade in November 2006 (refer footnote 7).

Key issues:

- Role clarity ensuring that field commanders understand their role, where they fit into the command chain and the expectations on their roles, including strict observance of safety protocols and situation awareness.
- The necessity for them to be managers, to be proactive and to go looking for answers when the system slows down or stops.
- Necessity for them to ensure effective communications between the field and the IMT.
- Ensuring that they have the necessary resources to assist them.
- Ensuring the various teams and personnel, undertaking legitimate fireground activities, but not involved in direct fire fighting, adhere to the chain of command. This issue affects all personnel undertaking fireground activities other than direct firefighting.

Firefighter safety

Safety issues were frequently discussed under the fireground command topic at debriefs. Issues raised included:

- Identification and adequate marking of dangerous trees and other hazards. The Gippsland regional debrief records that "52% of all reported safety incidents involved dangerous trees..."
- Availability of chainsaws in crews or teams assigned to work as a unit in areas where dangerous trees exist and where there prospects of being isolated by fallen trees.
- The need to ensure that 4WD driver capability extends to rugged terrain, similar to that encountered during the Great Divide Complex.
- Observance of requirement to report actual and near miss incidents.
- A general requirement that all fireground personnel must operate so as not to compromise safety standards; e.g. a Sector Commander approached a Division Commander raising concerns about people not wearing appropriate PPE and was advised to ignore non-observance.

Discussions with the joint Near Miss and Accident Investigation team highlighted a perception that dangerous trees figured more prominently during 2006/07. Two separate incidents where trees fell without warning caused three serious injuries. A number of other incidents related in serious vehicle damage. This matter was also raised during international debriefs and during the major debriefs. The extent of "dangerous trees" is related directly to the type of vegetative cover through the fire areas generally and a much greater exposure to forest fire in 2007, the very dry nature of heavy fuels contributing to more trees catching alight and burning down, but it may also be indicative of firefighters' increased risk acceptance, due to the extensive nature of fires in 2003, 2006 and 2007 and a lesser awareness of being "risk averse", a matter proposed by the Near Miss Team. Timely reminders generally about the dangers of trees in forest fires are indicated. The use of case studies from relevant incidents during 2007 can assist to keep these matters highlighted at all levels. Inclusion of these matters into field commander training, especially dealing with their roles and responsibilities is indicated.

Safety of fire fighters was a recommendation from the VBI: "*That DSE and CFA continue to stress firefighter safety as their highest priority for incident managers and fire ground supervisors.*" While firefighter safety is a fundamental component of the fire agencies' overall operating philosophy and the agencies can demonstrate that it is well embedded, it is not a matter that can be addressed and set aside. Consistent and continuing efforts to retain firefighter safety at the forefront of all people in the command chain are necessary. Although SOPs or Standing Orders should always be subject to review and changed when necessary, regular publication of "case studies" from safety incident investigations should be pursued as a means of effectively informing firefighters about specific safety issues.

In practice, the issues identified from the direct fire management and safety perspective have all been previously identified in the 2005/2006 fire season. To address this, the Chief Officer mailed a short DVD and a double sided single sheet of A4 notes (refer footnote 7) to every Brigade and Region, plus sufficient additional copies for each authorised Sector Commander and Strike Team Leader. This initiative targeted several important elements, including:

- Increasing the effectiveness of fireground commanders by understanding roles and responsibilities and taking command.
- Reinforcement of safety, situational awareness and briefings.
- Working with other agencies.

The opportunity was also taken to raise awareness of the nature of the 2006/07 fire season that was developing, and to briefly describe recent changes in Water Replenishment policy in the DVD.

Unfortunately, the Great Divide Complex fires commenced prior to the distribution of the DVD, potentially limiting the desired impact during 2006/2007 because of the immediate and severe fire impact. However, it is opportune to consider continuing to promote the DVD as the messages are still relevant to the issues identified in 2006/2007. Other strategies to promote more effective command at fireground leadership level also need to be considered.

Key issues:

- There is a need to continue to promote safety awareness at all levels and not condone any slackening in high standards.
- Ensure safety messages are incorporated into all training exercises.
- Consider whether it is appropriate re-issue the December 2006 DVD.
- Consider innovative methods of reinforcing the safety message e.g. via case studies from 2006/07 incidents identified in the Near Miss and Accident Review program.

Staging areas

Consistent management processes for staging areas arose as an important issue for fireground command. These are usually points of assembly for multiple strike teams and crews allocated to a sector and are often the points where field briefings are delivered. A consequence is that many people, vehicles and equipment assemble at staging areas for changeover, re-supply and briefings. Without orderly management activities may be unnecessarily protracted.

It is universally agreed that each staging area ought to have a dedicated manager who reports to the Division/Sector Commander and staff should be available onsite, whenever Strike Teams are still active, and for example, may require fuel or other supplies located at the SA. Responsibility for and management of Staging Areas should not be tacked onto the duties of a fireground commander who holds responsibility for a division or sector. At some Staging Areas alternating management processes were employed by DSE and CFA, depending who was on shift, causing some confusion, and hence delay to the resources (interstate) attending.

Staging areas must be sufficient in size to cope with anticipated assemblies and associated plant and people movements. Location in relation to the fireground is critical and transport between the SA and the fireground should operate in a logical flow. Examples were instanced of SAs located up to 40 kilometres from the fireground, requiring a one hour drive at the end of each shift by crews who were required to changeover at the SA, including handover of fireground vehicles.

Key Issues:

- Reinforce the need for dedicated Staging Area management not the task of a sector or crew leader.
- Evaluate physical parameters size and location relative to fireground (this is a matter that must be decided on a fire by fire basis and is an IMT rather than State level issue).

Non-combatants

Community members and residents

A critical matter facing residents within communities that are threatened or likely to be threatened by fire is their decision about whether to stay and defend their property or leave the potential fire impact area early for a safe area. The *Emergency Management Act* (1986) and the *Country Fire Authority Act* (1958) provides residents with the right to stay with and defend their homes during a wildfire. The fire services actively promote the concept of individuals deciding what they will do, recognising publicly, that many successful building defences occur because able bodied people are present. It is the aim of the fire services to provide relevant and timely information to threatened communities to enable individuals to make informed decisions with sufficient time to enact those decisions, whether they are to remain or leave the area early.

To assist in traffic management issues on active firegrounds, which may include all or parts of communities where some residents have elected to remain and other residents have elected to leave, an IC may request VicPolice to close certain roads because of safety issues. To this end, the joint fire agencies, CFA and DSE, and VicPolice developed a new policy dealing with traffic management at fires in November 2006.

This policy was implemented during 2006/07 but there some confusion about the precise meaning of certain terms, particularly the meaning of a "total" versus a "partial" road closure and whether certain authorised vehicles and/or persons may be allowed past control points. The fire services can request conditions for road closures which may include full and partial closures with certain conditions of entry for authorised personnel, including firefighters attending the incident in their own vehicles, plant and equipment contractors, other Emergency Services, non-combatants including utility companies and welfare/support/recovery agencies and media representatives who are appropriately clothed and accredited.

Whilst it is accepted that the decision to "stay or go" resides with persons who are <u>at</u> their home prior to the expected fire impact and that persons who are <u>not</u> at their residence when fire impact becomes likely can legally be prevented from returning because of fire conditions, the provisions that are actually applied and how they will be implemented are not universally clear. The distinction between residents who had elected to stay, versus those who attempted to return to defend properties was an issue identified during the review.

There was some uncertainty about the powers of the fire services and Police to restrict traffic at certain points. Although not specifically raised at debriefs level, the Real Time Performance Monitoring team/s did uncover multiple instances where access to "closed" areas caused some concern.

There is general agreement that Police do not have the power to remove people from an area under "pecuniary interest", i.e. they cannot direct a forced evacuation, but they have the absolute authority to stop people with pecuniary interests from returning to an area to protect their assets. VicPolice acknowledge that they can stop anyone from entering a fire area, whether they hold a pecuniary interest or not in the fire impact or likely impact area. The VicPolice view is that they will deny access at the request of an Incident Controller but if people refuse to stop it is unclear as to whether they will be forcibly detained, because the Officer may then have obligations to detained person that could prevent them carrying out further critical duties, or whether their details will be collected for later action. In a critical fire situation this could pose some difficulties for the Police in continuing to undertake their responsibilities.

The issue of exact legal powers regarding the closure of access and who is or is not allowed to by-pass a closure is clear. What does require further dialogue is how those powers will be enacted and how relevant information is communicated to the community about the likely impact of road closures, i.e. individuals will be allowed to remain at home if they have elected to stay but individuals who are not at their home when fire conditions are sufficient to warrant road closure may not be permitted to by-pass a traffic management point.

Key issue:

Resolution of the application of access restriction powers and how this should be communicated to all stakeholders during pre fire season activities.

Media

Provision exists for media who are appropriately trained, attired and accredited, to access parts or all of some firegrounds when access to other non-accredited persons may be restricted or denied. As a general observation media representatives did obey the essential requirements. There were instances, brought to the attention of real time performance monitoring teams, where access to firegrounds was restricted to fire suppression activity only and several media representatives attempted to gain access by concealing media identity passes and posing as volunteers in yellow overalls, in order to pass through Traffic Management Points and gain access to restricted sites. Media are an essential part of the partnership to provide timely information to the public. The actions of an irresponsible few who put themselves at risk, potentially placing firefighters, who may called upon to extract them from difficult situations, in jeopardy, was regarded by some as supreme idiocy. As a very minimum, dialogue between responsible media organizations or associations who can represent media generally and the fire services is indicated in a bid to address this problem. It is not an easy situation to resolve but the following issues must be included on the agenda for consideration:

- Development of a "*Memorandum of Understanding to ensure that journalists understand that incident controllers have the last word on areas that are unsafe for access*" these are the words from a Victorian Police officer providing feedback to the review process.
- Determine whether deliberate transgressors should have accreditation withdrawn.
- It is critical for all players to understand that if the perilous situations into which transgressors deliberately put themselves are realised, then the fire services may not be able to extract them or assist them because of extreme risk to firefighters and they could effectively be *on their own*. (but that should not be allowed transpose into a "carte blanche" for individuals to commit stupid and foolhardy acts).

Key issues:

- There is need for dialogue with representative media organisations and the fire services to develop a Memorandum of Understanding that enables all media personnel to understand:
 - $_{\odot}$ $\,$ The rationale for and necessity of restricting access.
 - \circ $\,$ The powers afforded to ICs and Police to restrict access.
 - Potential consequences of failing to observe access restrictions.

IT COMPATIBILITY

Introduction

This section discusses the lack of easy compatibility and interoperability between the CFA and DSE information technology systems. These factors provide barriers to timely transfer of information. Lack of compatibility also impacts the effective implementation of fully integrated processes when key reporting centres at IMT or IFACC level must resort to duplicating information channels to separate fire agency coordination centres.

Information technology issues impact at all levels and onto most processes instituted by the fire agencies.

Key issues:

- There is need for examination of information technology systems to overcome the existing impasse and to determine how effective and integrated information systems can be established.
- This examination needs to occur concurrently with proposals to implement a single state coordination centre.

IT systems figure prominently in the reporting and management process. Three discrete levels of activity are identified.

- When isolated fires occur during periods of low fire load, they are managed either by DSE or CFA, often as a sole response agency and the ICC reports via the normal chain of command of the controlling agency to the relevant ECC or SECC.
- When the fire load increases and joint/cooperative/coordinated efforts are necessary, reporting begins to become less clear, although each ICC normally continues to report upwards through the chain of command of the designated lead agency. This is not always as clear cut as described and there is opportunity for cross-over and lack of clarity and understanding about what the vertical reporting process should be, especially when fires become either very numerous or very large and involve several regions.
- The third level occurs when multiple fires, potentially spanning several CFA/DSE regions, are aggregated into a "complex". Under those circumstances, to ensure that a consistent reporting structure prevails, an Integrated Fire Agency Coordination Centre (IFACC) may be established. ICCs associated with the complex report to the IFAC centre which in turn provides information directly to both state level emergency coordination centres (ECC and SECC).

At each and any of those levels there are many associated activities that are reliant upon an effective IT system, including:

- Preparation of IAPs.
- Tracking of resources personnel, plant, supplies.
- Logistics processes for orderly acquisition and receipting of essential supplies.

- Provision of information to SECC/ECC for agency and interagency coordination.
- Provision of information to media, VBIL primarily for community information.
- Interagency communication.

Each of CFA and DSE maintain separate IT platforms and communications systems. Although some operators are able to extract certain relevant information from either system, the vast majority are unable to do so and effectively cannot make the two systems "talk" to each other. Under the circumstances outlined in the three activity scenarios above, the first level operates on one IT system/platform but as soon as there is escalation to a higher level, difficulties imposed by incompatibility between the systems are immediately apparent. This matter has been examined before and the bottom line is that the key field operators – local district and regional staff– are not universally satisfied with the service provided by two different systems. Real Time Performance Monitoring teams were deployed on five occasions during 2006/07. In four of those deployments, IT issues figured prominently as matters for improvement, impacting on resource tracking and management (twice), integration of management, duplication of effort and logistics processes.

Whilst it is reasonable to observe that not everyone agrees upon the need for a common system, the greater majority do agree on the need for a system that is inter-operable (whether it be a single common system or a combination of separate systems) to freely allow interchange of data. This was a source of constant frustration frequently voiced during the review and the answer is not simply a matter of cross training in both systems but the issues emerge from a general level of incompatibility between the platforms and/or the software.

When high levels of fire activity were occurring, the need for a guaranteed communication line was readily apparent. To ensure that there was effective coordination of supply of joint IMTs between regions, DSE/CFA and RECCs and IFAC centres, a joint IMT desk was established in the DSE ECC to ensure that relevant communications were directed to where they were needed. In a similar vein, establishment of a joint strategic planning unit, attached to the DSE state coordination centre provided a state level overview of strategic planning issues. Both of these facilities operated effectively. The North East IFACC experienced great difficulty in reporting separately to both agencies so the only practical solution was to duplicate information flow from the centre to satisfy needs of both agencies. This instance serves as an excellent example where effective integration between the two agencies is stifled by systemic limitations.

It is not a big leap from this position to the point where there is a single line of reporting for all fire matters to a single emergency coordination centre – not to either or both of the SECC and ECC but to a dedicated, single, all agency ECC or SECC. This concept was raised in the VBI and, while preliminary steps have been undertaken on this issue, the time is opportune to progress it further.

There is a strong message that key local and regional operators are not able to operate as effectively as practicable with duplicated IT systems that are not compatible. It may well be a measure of the stronger level of integration between CFA and DSE at ICC/RECC/IFACC levels, reflecting greater levels of

organisational maturity, that further highlight the disbenefits of separate IT systems.

It is not a simple undertaking to delete existing systems and replace them with a single all purpose IT system. This matter was extensively canvassed during the 2005/06 debriefs¹³ and the issues identified then are very similar in 2006/07. There is no easy solution but the matter requires exhaustive examination to determine what is feasible and what will work. Any review of joint or interoperable IT systems must proceed hand in hand with the concept of establishing one state level coordination centre. There will be an impact that will accrue on reporting between the proposed single State centre and ICCs, IFAC centres and the existing regional structures for CFA and DSE.

Key Issues:

- There is need for examination of information technology systems to overcome the existing impasse and to determine how effective and integrated information systems can be established.
- This examination needs to occur concurrently with any proposals to implement a single state coordination centre.

¹³ "While it is attractive to conclude that a single Emergency Services IT system should be created, progression of the concept requires very careful investigation and analysis. Investment in a single emergency internet site where agencies can easily share their latest information may be substantial. Such a system would need to be interoperable and compatible across and between Emergency Services agencies, be robust and reliable, provide easy access for end users – State and Regional coordination, IMTs, fireground - and have sufficient capacity to handle very high peak information loads during significant events. The solution may be a single system or a range of compatible systems, with provision for efficient data sharing and data warehousing, but there are many questions that require answers before embarking on either course." Extract from 2005/06 review.

LOGISTICS

Introduction

This section discusses logistics supply (excluding interaction with MECCs that is discussed earlier). A major initiative was the use of mobile fully self contained camping facilities provided by the North Altona Equipment Centre (DSE).

Key issues:

Logistics supply

- Definition of roles in logistics and specific cross agency training.
- Triggers to indicate whether to favour establishment of base camps vs. hard accommodation, including procedures for camp management and layout.
- Need to recognise the need for provision of logistics support and/or a logistics role at staging areas and base camps.

Finance and resources tracking

- Development of a capable finance tracking system.
- Need for development of a capable electronic resources tracking system.
- Resource tracking and stores control needs a consistent system at IMT, Staging Area and Base Camp levels.

Communication

- Need to assess existing radio and telephone and coverage to identify limited coverage areas.
- Need to ensure that communications planners are incorporated into each IMT/ICC and that there are adequate numbers of trained communications planners are available.
- There is need for review of and adoption of a consistent template for developing communications plans.
- Need for communication capability with external plant operators.
- Need to ensure that all command vehicles include command and operational radios (dual radios).

Positive outcomes

Logistics issues identified with beneficial impact included:

Ability to camp fire fighters closer to remote fires was valuable. For fires in areas remote from the normal run of services available in rural communities, especially catering and accommodation, the services provided by the DSE Equipment Centre at North Altona were very highly regarded. The Centre has the ability to provide fully self contained mobile units including camping, catering, laundry, ablution and toilet facilities. Although the camp process was suitable, some work is needed regarding camp management, as there are always fire fighters in camp resting between shifts. Camp layout can impact significantly on the ability of off shift personnel to rest, as can determination about whether a camp should be wet or dry.

Travel to and from fires by bus/coach was generally well planned and organised (there were some issues with the use of short haul buses that were not considered suitable for long distance transport).

Application of key learnings from 2002/03. Persons with experience from the Alpine Fires were able provide useful local advice regarding supply of accommodation, catering and other essential services.

Formalised and documented handover briefings between logistics leaders included details of completed actions and those in train or which need to be followed up. This meant "*less to slip through cracks.*"

CD - IMT tool kit was useful. From logistics perspective, value was increased by adding the Logistics Manual to the IMT tool kit.

Areas for strengthening

Areas where strengthening was considered necessary included:

Training of logistics staff. Often Logistics positions were filled by persons with little or no training in IMT functions. There was a perception among logistics staff from 2006/07 that the logistics function was sometimes taken for granted and that there was no consistent system across the state and between agencies, with limited pre-planning and integrated training.

Finances. There was a perceived need for stronger links between IFAC and ICCs in tracking expenditure. There is limited ability to ascertain "*big picture spending*", e.g. plant items were considered to represent an expenditure item approaching aircraft costs in real terms on some fires but there were limitations on managing that expenditure imposed by overall plant management procedures and resource tracking capabilities, resulting in inability to understand exactly what plant was in service, where it was located and what financial arrangements existed.

External plant contractors and their management. Inappropriate or inadequate plant and plant operated by inexperienced and unprepared operators, uncertain time keeping and accounting procedures. Examples included plant engaged for firefighting in heavy timber without falling object and rollover protection, inadequately attired operators (PPE not worn or not provided). A perception was that often outside contractors were retained without any appreciation of their skill, capability and experience. Noted that this is a District/Regional issue to identify and establish a register of suitable plant and operators during the off fire season (along the same lines as the process used by the SAU to identify and accredit call when needed aircraft)

Resourcing of staging areas and management processes for staging areas and base camps needs a logistics presence. There was a lack of consistency in systems applied to staging areas and camps management that could be overcome by tighter logistical arrangements.

Key issues:

- Definition of roles in logistics and specific cross agency training.
- Triggers to indicate whether to favour establishment of base camps vs. hard accommodation, including procedures for camp management and layout.
- Need to recognise the need for provision of logistics support and/or a logistics role at staging areas and base camps.
- Development of a capable finance tracking system.
- Development of a capable electronic resources tracking system.

Resources Tracking

It is noted that the issue of a resources tracking system is a matter that remain outstanding from the VBI recommendations¹⁴ from 2002/03. It is a matter that rated mentions in many facets of fire management operations during this review. For example, the communications debrief noted that "*lack of a suitable resources tracking system means that a number of portable infrastructure units are still outstanding, location unknown as of 13 April 2007."* This is but one example and highlights the need for a single all-agency tracking system that is applicable at all levels.

Key Issue: Development of a capable electronic resources tracking system. Resource tracking and stores control needs a consistent system at IMT, Staging Area and Base Camp levels.

Catering

Overwhelmingly, catering was the subject of a much greater incidence of favourable comments than unfavourable comments. Of 17 debrief records that nominated issues about catering, 14 were very positive. The same 14 debriefs also provided 5 negative comments, predominantly centring on special needs catering (e.g. vegetarian). In all, 7 debriefs identified areas for improvements. Perhaps another important statistic is that 53 other debrief records (local, crew, region, IMT) made no reference to catering, thereby inferring that no issues were evident and that catering was satisfactory.

From the total suite of comments recorded 14 were favourable and 7 identified some shortfall, i.e. 66.7% favourable vs. 33.3% unfavourable. (Note: in 2005/06, raw analysis of comments drawn from the debrief database indicate a ratio of favourable to unfavourable comments of 55:45)

For record purposes, all of the comments identifying catering areas for improvement extracted from the debriefs reviewed are listed below:

- Catering managers have no health training (this referred to people in IMTs responsible for organising catering).
- Type of food.

¹⁴ VBI recommendation 21.8 "That DSE, CFA, MFESB and VICSES work co-operatively to establish a common system for resource tracking during major fires and incidents."

- Some shifts missed.
- Catering didn't go well (vs. in the same debrief: catering <u>did</u> go well).
- Catering at (the local) hotel not good (preferred DSE catering trailer), late finishers missed, oranges not suitable due to peel.
- Some problems with special needs/vegetarian.
- Catering for vegetarians to be considered.

Perhaps a telling statistic lies in the comments provided by interstate/international units. Those that commented about catering (USA, NT & ACT) were high in their praise for both the standards of catering and its delivery. The US contingent indicated its intent to introduce some of the Victorian catering concepts to US fire management.

The CFA implemented a comprehensive Catering Review during the fire season. A component of this review was a survey undertaken throughout the Brigade structure to collect data about the needs and preferences of brigades concerning catering standards, types of meals (including "ration packs"), methods and timeliness of distribution, hygiene, local or other facilities and arrangements and communication about catering issues.

Whilst catering is not identified as an issue that requires any specific attention, like many other facets of fire management, it is a matter that always has to be in the foreground and never allowed to "slip through the cracks". The outputs from the CFA survey will provide a sound platform to maintain a high standard.

Communications

This section discusses communications principally in the context of fireground issues. It identifies that communications from a given point to any other point is not always achievable. This is not related to any inadequacies in the infrastructure used but to physical limitations that affect any ground based communication system. Some temporary solutions are available to deal with areas of poor coverage but this is not a guaranteed solution and "communications plans" that identify any shortfalls are critical to safe and efficient operations.

Key issues:

- Need to assess existing radio and telephone and coverage to identify limited coverage areas.
- Need to ensure that communications planners are incorporated into each IMT/ICC and that there are adequate numbers of trained communications planners are available.
- There is need for review of and adoption of a consistent template for developing communications plans.
- Need for communication capability with external plant operators.
- Need to ensure that all command vehicles include command and operational radios (dual radios).

"Communications" issues canvassed during the review covered the full gamut from inter-agency communication, communication links between incident management structures (Div/Sector – IMT- IFACC - ECC), links to MECCs, media, VBIL, CFA/DSE websites, interstate/international units and fireground communications. Many of these issues are addressed elsewhere in this report so this section deals principally with fireground communications.

Positive outcomes

Fireground communications listed the following positive matters:

"Radio communications system - Sufficient channels common to CFA / DSE..." "Technical staff on ground, Communications planner in situ in IMT..." "Fire ground communications worked well

Local liaison Technical support People more aware"

"Radio infrastructure in NE and Gippsland (Mountains and elevated sites)..." "UHF portables for talking to contractors - Fire service integrating to public system..."

"Use of the crane truck to temporarily elevate bases or repeaters to obtain elevation for improved radio coverage..."

"Relocation of the communications van and installation of additional phone lines..."

"Support to Telstra Technicians to enable access to Telstra code red area for maintenance/repair work..."

Areas for strengthening

Areas identified for strengthening included the following, some of which conversely, are also identified as areas with a positive outcome:

"Management of fireground black spots..." "Radio communication practices/discipline..." "No capacity to speak with private contractors - Private contractors are operating on a different radio system..." "Communication "agency specific"- Different ways of operating, Communications Plan is not integrated..." "Ineffective Communications Plan. Communications planner inflexible..." "Radio network congested. - Lack of dual fit radios in vehicles, did not use default communications plan, poor radio discipline, insufficient frequencies..." "System failure - Black spots and restricted frequencies. Did not use trunking..." "Nil or insufficient and inefficient communications to existing plant operators (and GPS and training). Lack of offsiders..." "Trunking system failed..." "Not enough radios handhelds and mobiles - Vehicles on fireline not suitable..."

"Not enough radios handhelds and mobiles - Vehicles on fireline not suitable..." "Coverage not good at times - Dead spots, frequencies not suited/strong enough for dense smoke or mountains/gullies..." "Mana mabile repeaters 161 Mbz and UUE."

"More mobile repeaters 161 Mhz and UHF..."

"Area of coverage of mobile phones - Topography and lack of towers..."

Consideration of the positive outcomes and areas for strengthening indicate an uneven display of implementation across the state. Some issues are listed as simultaneously "good" and "not good". For example some areas reported that the "*fire services were able to integrate into the 'public' system and have good communications with contractors via UHF*" vs. the contra of "*nil or insufficient communications to existing plant operators*", and "*Communications Planner in situ in the IMT worked well*" vs. "*Ineffective Communications Plan –*

Communications planner inflexible". These differences suggest there is a need to closely examine the way in which communications services are provided and managed in different parts of the state.
Acknowledging that a range of physical conditions can severely impact onto communications abilities, allied with infrastructure used by different agencies, there has long been recognition that a critical element of major response activities is the development of an effective communications plan that takes into account the existing systems and infrastructure, known limitations in the area (e.g. blackspots) and any provisions for temporary additions to capacity or infrastructure (e.g. temporary bases/repeaters suspended on cranes or balloons).

The statewide communications debrief noted inconsistencies in the way in which communications plans were developed: "*Inconsistent format*", "*Different standard format*" and a "*range of templates being used to prepare the plans*".

There are clearly expectations held by some people that they should be able to communicate from almost any point, at any time, to any other point. Given the nature of the terrain within which firefighting must happen, this cannot occur with currently available technology that uses an array of ground located bases and repeaters. Some of the conditions described negatively are the very reasons that radio communications don't work well or at all e.g. mountainous terrain and the effect of deep watersheds. Locals should be able to identify areas of poor or nil coverage and build those into the planning processes for management of individual fires unless there are alternative solutions that can be instituted in time for effective use over a defined area e.g. installation of a temporarily elevated repeater.

Whilst these concerns are noted there ought to be no expectation that those matters can be easily resolved. Some areas resorted to innovative measure such as suspending radio repeaters from a crane or a large balloon, or by positioning into an aircraft. Although the fire services can sometimes implement emergency measures in poor radio coverage areas, mobile telephone coverage rests with telecommunications provider. Given the similarity in the technology used, it is not surprising that areas of poor radio coverage often coincide with "black spot" radio coverage and again there is no simple fix. That noted, the opportunity should be explored with telecommunications providers regarding the provision of temporary coverage enhancements in those areas where the telecommunications agencies cannot justify permanent arrangements.

It is important that end users can understand that the reasons why everyone cannot communicate with everyone else, wherever and whenever they want to, are technologically based and are not specifically related to the system/s used in Victoria. It is not that Victoria uses a lesser technology – it is that there are no radio communications systems that allow multiple users to reliably communicate irrespective of location, terrain, distances and existing network loads.

It is critical then to appreciate that effective use of existing systems relies heavily upon understanding the capabilities and limitations of the systems in use, temporary fixes that can be applied, adequate user training and incorporation into incident communications plans of known weakness in a local area.

The issue of fireground communications necessarily involves a considerable element of technical understanding. Importantly, the communications Strategic Working Group includes members technically skilled in communications systems and infrastructure. Apart from its primary role of developing recommendations for change this group could also be tasked with preparation of a short briefing that succinctly describes radio communication systems in use including a short narrative on why it is not possible to guarantee 100% effective point to point communication.

Central to their deliberations, in addition to communications issues raised across the whole spectrum of debriefs will be the detailed debrief recently conducted, the "Statewide Communications Debrief".

Key issues:

- Need to assess existing radio and telephone and coverage to identify limited coverage areas.
- Need to ensure that communications planners are incorporated into each IMT/ICC and that there are adequate numbers of trained communications planners are available.
- There is need for review of and adoption of a consistent template for developing communications plans.
- Need for communication capability with external plant operators.
- Need to ensure that all command vehicles include command and operational radios (dual radios).

GENERAL OBSERVATIONS

Introduction

This section describes observations about the importance of consistency in completing duties and task across the whole fire management structure. Whenever there is a departure from "standard practice" during demanding events, extreme frustration is experienced by individuals and teams who may then attempt to "fix" the problem. One of the principal reasons to develop "standard operating procedures" or "standing orders" is that if all participants are trained and or exercised to similar levels, then they will understand what tasks they are required to perform and the standard processes to achieve those tasks.

Key issue: All fire management personnel must be aware of and understand the need for standard and consistent procedures to apply to each facet of fire management. Whilst innovation should always be encouraged, changes to standard procedures must not occur in an ad hoc fashion and all personnel should be trained and encouraged to accept systems as they are presented and not to institute changes "on the run". It is appropriate to make representations for change through relevant channels e.g. debriefs or post fire reviews.

There was a very strong recurrent message from individuals and groups about the "*importance of consistency in how things are done."*

To illustrate this further a selection of comments drawn from debrief records follow:

"Lack of consistency between shifts – often no constancy between teams..." "Too much turnover of people on the desk, personnel need training and consistency..." and

"*if there was a protocol established for allocating a consistent title, date and time it would make saving it to a folder easier..."* (Individual feedback forms)

"Consistency of information through chain of command needs improvement..." (Sector Commander/strike team)

"Too much turnover in positions. 'Every day was groundhog day'. Especially logistics.", and "Need consistency (full time) in whoever is doing the buying/purchasing and tracking financing..." (US debrief)

"We need pre-organised IMTs from a core group to achieve consistency of approach to IAPs..." (Regional debrief)

Some examples of the manifestation of lack of consistency include:

Changeovers: The importance of the outgoing position/unit/crew briefing the incoming position/unit/crew. Such briefings need to be concise and simple but must include detail or descriptions of what were the critical achievements in the outgoing shift that will impact on the incoming shift, what critical priorities still exist, what needs to be done next and what systems are being used to achieve work outputs. The levels of changeover briefings ranged from nil to very good.

Systems and Templates: Perhaps one of the most common references was that systems and ways of achieving work outputs and the templates used

for developing plans and recording various data were subject to constant change, including highly critical documents such as IAPs and end of shift handover folders and papers. A number of respondents, and notably several of the out-of-state contingents, noted the constantly changing faces they encountered each day were often accompanied by a new method or system or template for detailing and recording work.

Other comments included: "*there didn't seem to be any system for recording this so I developed my own template"* (maybe related to electronic template formats that did not work or were missing or the operator was not aware how or where to access the formal template). Comments of this nature indicate a lack of understanding and exposure to the intended systems and perhaps a less than full appreciation of the context of the role/s being undertaken.

Constant staff rotation: "*logistics worked really well – we had a consistent team.*" Whenever staff were allocated to a task for reasonable rotations of 5-7 days they had opportunity to develop synergies within their team and with other arenas in the IMT/IFACC/SECC/ECC, especially if they returned to their original assignment and were not re-allocated elsewhere. Where they were rotated very quickly in and out, there was no opportunity to develop these relationships with a loss of continuity and potential for tasks/issues being "*dropped through the cracks*" between shifts. The matter of community interaction was identified as a critical area where it was seen to be beneficial to have "*the same faces*", including locals, delivering the latest updates and fire news to the community, through development of understanding and trust between the presenters and the community, rather than alternate processes where different presenters rotated almost daily.

Communications planning: Incident communications plans, a critical aspect of IMT and fireground operation were frequently different between IMTs due to "*Inconsistent format*", "*Different standard format*" and a "*range of templates being used to prepare the plans*". As a consequence, some planners experienced difficulty in completing adequate plans.

Consistency in the way in which activities are planned and implemented is important to enable systems and procedures to stand up under difficult operating circumstances and for operators to know and understand what those systems are. This is a matter that all Strategic Working Groups need to consider as it pervades the whole spectrum of fire management activities.

Key issue: All fire management personnel must be aware of and understand the need for standard and consistent procedures to apply to each facet of fire management. Whilst innovation should always be encouraged, changes to standard procedures must not occur in an ad hoc fashion and all personnel should be trained and encouraged to accept systems as they are presented and not to institute changes "on the run". It is appropriate to make representations for change through relevant channels e.g. debriefs or post fire reviews.

STRATEGIC ANALYSIS OF KEY ISSUES – THE WAY FORWARD

Introduction

This section briefly describes how the review process will continue on beyond the completion of this report. Completion of this report marks a point only part of the way through the analysis steps represented diagrammatically in Appendix 5. The report has identified key areas that Victorian practitioners have judged should either be adopted or amended. It is now the task of the local practitioners who understand how fire management operates in Victoria to ensure that their proposed actions fit within the political, social and financial constraints that prevail.

Strategic Analysis of Review Outcomes

Key issues identified through this review process were presented and discussed at a workshop on 8 May 2007 that included five Strategic Working Groups. The five groups are focussed on:

- Information Flow to the Community
- Coordination with Other Agencies
- Communications
- Logistics
- Planning/Fireground

Each group is led by senior functional personnel from within each agency who have primary portfolio carriage of the key issues assigned to the group. The working group memberships include other practitioners for the subject areas to analyse outcomes and develop strategic level actions that can provide maximum return for investment.

Arising from the review process are very large quantities of data, most of which have been acquired from the extensive operational observations that arose during a severe and protracted season. To gain full value from the review process these data require additional consideration and analysis to delve more deeply into key issues that have been identified. Often, there will be no simple and easy solution and it may not always be the case that a generic solution will fit the entire state.

Strategic Working Groups will have access to any review material for examination, including this report, the six major regional debriefs, other debrief records and reports of associated programs. Examination of debriefs that were the foundations for the regional debriefs indicates that they achieved their goal of identifying key issues and filtering out those matters that ought to be, and can be, addressed at local and regional levels. It is considered that it would be more productive for the Strategic Working Groups to focus on the more lateral debriefs and reviews – the functional area, specialist, and interstate/international debriefs in detail. That said, should Strategic Working Groups wish to examine the underlying debriefs, then they should be afforded that opportunity. They have a short time frame in which to create and maintain momentum to develop proposals for amending how CFA and DSE will move their partnership forward. They also need to place any observations from this fire season into the framework of learnings from earlier fire seasons, and include other performance improvement programs already underway or planned. The timeline to chart their direction and develop respective action plans for presentation at a joint DSE/CFA workshop is by mid June 2007.

The time frame to achieve any changes that are approved, prior to next fire season is also likely to be short. Whenever change is agreed, it is necessary to define the change parameters, develop appropriate documentation/templates and communicate the changes to staff. Specific training may also be necessary. Any changes that are contemplated but not completed by the start of the next fire season need very careful assessment to determine whether they should be implemented mid season or held over until after the fire season.

Some changes, by their very nature will require a longer period for implementation than is available before the onset of the 2007/08 season. It is important therefore that in determining what changes ought to occur, that a proposed timetable for implementation should simultaneously be developed. Where an immediate solution, prior to 2007/08 fire season, is not realistic, strategic working groups, and ultimately the agencies, need to determine whether the current situation should remain or whether short term processes can and ought to be put in place to address identified shortcomings.

Ideally, some changes should be achievable before the onset of the 2007/08 fire season, but given current climatic indicators, the next fire season may well commence earlier rather than later and the timeframe for development, testing and implementation could be limited to as little as 4-5 months for any initiatives sought to be introduced for the 2007/08 fire season.

Concluding Remarks

Recognising that benefits can only accrue if early and determined progress is made on internal review, DSE and CFA agreed to commence this current review process in February 2007, despite the potential that remained for fire activity. The preliminary briefing of the Strategic Working Groups on 8 May 2005 was the initial step in the detailed analysis to determine what needs to be adopted or altered, what the outcomes sought are and when any actions should occur.

The fire business is not a part time program. Different aspects of it require attention at different times of the year but there is always a critical component in progress that needs attention and resourcing – direct firefighting in the fire season, prescribed fire activities in autumn, recruitment, training and preparatory activities in winter/spring. A review similar to the 2006/07 review was undertaken for the 2005/06 fire season.

The 2005/06 fire season review was completed in July 2006, although some strategic analysis had been initiated earlier. By the time the working groups commenced their analyses, hazard management burning operations were well underway and the fire season in North America was well developed. Victoria was soon requested to deploy resources to the USA, meeting those requests under an international agreement.

At about the same time as the US deployment returned to Australia, fire services in NSW sought interstate assistance. Victoria, the closest state to much of the NSW fire activity, deployed considerable resources to NSW but the

rapid onset of the local fire season, many weeks ahead of schedule for Victoria, dictated that this assistance could not be sustained. A short while later the tables were turned completely with NSW and other states providing assistance to Victoria through December and January. Between 1 December 2006 and early February 2007, a constant and protracted firefight, lasting for one day short of ten weeks, with only a limited respite, in late December 2007, occurred.

Whatever the cause and longevity of current climate impact there can be no dispute that South Eastern Australia is in the throes of a drought that now exceeds any similar event in living memory. Despite the intention to implement changes arising from the review of the 2005/06 fire season, events conspired to militate against immediate outputs from most of the strategic working groups that were created to manage the process from twelve months earlier.

It is important to appreciate that change to procedures and process does not just happen with the flick of a switch, and in many cases several years are required for full and effective implementation. Whilst there were few immediate benefits apparent from the 2005/06 working groups - excluding community information flow where 2005/06 strategies effectively delivered what that which they intended - strategic processes are now imbedded in the Public Lands Fire Initiative – Operational Procedures Project, which is matched by similar and related CFA projects. Taken to their ultimate conclusions, these projects will address the issues raised in the 2005/06 review as well as this review. Those processes have been included in the Strategic Working Groups processes.

Information flow to the community

Establishment of the VBIL and its subsequent expansion and enormous advances in community interaction, building on the processes developed during 2002/03 both prior to and during fires is a model for other states, indeed other countries to follow. The agencies have developed strong information flows to communities to enable residents to make timely decisions to stay or go, and incorporate good understanding of the likely consequences of leaving home at inappropriate times, and the conditions likely to be experienced during the passage of the fire front.

Activities under FRV provide people living and working in bushfire prone areas with ability to better understand the potential impacts of fire on them and their immediate environs. Although the targets set by the VBI regarding community information flow have clearly been achieved, initiatives to maintain strong bonds between fire agencies and fire prone communities will ensure no diminution in community understanding and appreciation of the role of fire.

Resourcing

A critical need identified under resourcing is the development and implementation of an effective tracking system for resources and finances. Development of a cooperative resources tracking system across CFA, DSE, MFB and VicSES is a multi-agency recommendation that remains outstanding from the VBI. Given the almost certain association with information technology, it is appropriate that this proceed in concert with IT reviews.

Coordination and Integration

The two fire agencies CFA and DSE are rapidly transiting from joint to integrated operations. Reflection on the interagency relationships only a decade or so ago highlights the advances made and these were further characterised this season by fully integrated facilities that were established – Strategic Planning Unit, Joint IMT desk and integrated IMTs. One of the outstanding recommendations from the VBI is the establishment of a single state coordination centre covering all emergency agencies. It is proposed to address that recommendation, from the perspective of the fire services, by establishment of a single fire emergency coordination centre prior to the 2007/08 season. Implementation of this will substantially reinforce improvements in integration achieved during 2006/07.

Planning

Implementation of the Integrated Fire Management Planning model, adopted in 2007, will continue to strengthen community interaction with the fire agencies. A pressing need remains for review of incident action planning processes, one of the key facets of operational fire management.

Fireground

Whilst there are several issues flagged for improvement, the fireground personnel who successfully implemented two massive control lines reflects the skills and training of the many personnel who participated in these fires. The achievement of these two control lines is symbolic of the degree of skills and capabilities exercised. It is important to recognise the development of such skills and capabilities and also the management structures that allow exercise of those skills over protracted events.

IT compatibility

In concert with the proposal to implement a single state level emergency coordination centre is the necessity for review of IT platforms and software to enable seamless interchange of information and data between the services. Bearing in mind this need, generally very positive comments were contributed about the standard and availability of web based fire mapping.

It is the opinion of the author, supported by the outcomes of this review, that fire management in Victoria has come a long way in recent years. 2002/03 was a watershed year that resulted in extensive inquiries through the VBI. Since that inquiry most of its recommendations have been addressed. CFA and DSE reports on the VBI recommendations indicate that specific recommendations concerning each agency have been addressed. There are recommendations that remain outstanding across the full suite of emergency management agencies that are not solely within the purview of either CFA or DSE to implement.

Whilst not nearly as significant as 2002/03, the fire season in 2005/06 was one of the catalysts for this review process. A similar process was instituted in 2005/06 but was refined and tightened in focus this year. As indicated above, the 2005/06 process was overtaken to some extent by other critical fire management demands but nonetheless significant advances were made on processes agreed in 2005/06.

Current climate conditions suggest, at least in the short term, that South-Eastern Australia may experience a higher frequency of difficult fire conditions than has previously been the norm. It is possible that severe seasons in the nature of 2002/03 and 2006/07 with protracted periods of adverse fire weather will prevail more frequently than history now records. For these reasons, it is imperative that communities in fire prone areas continue to work in an alliance with the fire services and it is equally imperative that the fire services recognise the benefits of that alliance.

Up to this point, the fire services have responded to community needs to reach a position where Victoria now has communities based in fire prone areas that are, more than likely, better informed than their counterparts elsewhere on the globe. Indications from their response to the 2002/03 inquiries, and the events of 2005/06 and 2006/07, regarding operational issues, are that the two fire services, CFA and DSE, will continue to develop and refine their partnership in order to maintain effective rural and forest fire capabilities.

APPENDICES

Appendix 1: Terms of Reference

Independent Review of DSE and CFA Operational Performance

2006/2007 Fire Season

Terms of Reference

1 BACKGROUND

Victorian Fire Authorities (CFA and DSE) have been, and may continue to be, involved in major rural/forest fires during 2006/2007 fire season. Already, the Great Divide Complex of fires have required extended firefighting operations from all Victorian fire agencies, and support from interstate and overseas agencies. Other significant fires have also occurred to date, including fires in Gippsland in mid October 2006, and the Casterton complex of fires in late November 2006. Victorian firefighters were also deployed to the United States in August through to October to assist in major fires in western USA, and to NSW in November 2006. The potential still exists for additional major fires to occur in the next few months due to dry weather conditions.

DSE and CFA jointly undertake a number of joint operations performance improvement processes, including debriefs, investigations of near misses and accidents, and real time performance monitoring visits. It is proposed that the consultant participate in key debriefs as they are scheduled, and review the outcomes of all processes to identify strategic opportunities for improvement.

2 OPERATIONAL REVIEW PROCESSES

2.1 Debriefs

It is intended to undertake a series of debriefs at local and regional level of the Great Divide Complex fires to capture key lessons learned. It is planned that Regional Debriefs of the Great Divide Complex fires will be scheduled throughout Victoria in late February and early March (subject to personnel availability due to potential operational; constraints). Preliminary planning has identified that up to 6 Regional Debriefs would be conducted statewide. Local Debriefs are also planned for fireground personnel, IMTs, and state coordination centres, and of all interstate and overseas support agencies.

Debriefs have already been held or are planned for other specific significant fires that have occurred in Victoria in 2006/2007 fire season. In addition, debriefs have been conducted or are planned for the CFA/DSE deployment to USA in October 2006, and the CFA deployment to NSW in November 2006.

2.2 Near Miss /Accident Investigations

DSE and CFA have commenced investigations into a number of near miss incidents or accidents. It is proposed that individual reports will be prepared for each incident, and that an overview report will be prepared at the end of the season reviewing the outcomes identified in all individual reports.

2.3 Real Time Performance Monitoring Program

To date, Real Time Performance Monitoring Teams have been deployed on 5 occasions in 2006/2007. Additional deployments are possible during the remainder of the fire season. Individual reports will be prepared for each visit and an overview report will be prepared at the end of the season reviewing the outcomes of all individual reports.

3 PROPOSAL

The independent consultant will be retained to:

- 12. meet the Chief Officer (CFA), Chief Officer Fire and Emergency Management Division (DSE) to discuss issues and expectations early in the process,
- 13. attend the Regional Debriefs of the Great Divide Complex fires,
- 14. review strategic issues identified in Local Debriefs of the Great Divide Complex fires,
- 15. provide a preliminary report to both Chief Officers indicating key strategic issues identified that need to be immediately addressed,
- 16. attend or review the outcomes of other debriefs conducted in 2006/2007,
- 17. review the outcomes of real time performance monitoring visits,
- 18. review the outcomes of near miss and accident investigations,
- 19. meet with key internal and external stakeholders,
- 20. review operational performance in the 2006/2007 fire season against issues identified in previous years to identify areas where improvements have been made and areas that require ongoing attention,
- 21. provide a final report on operational performance for the 2006/2007 fire season in an agreed format by 30 April 2007
- 22. assist in the presentation of outcomes to key internal and external stakeholders.

4 OUTPUTS

4.1 Preliminary Report

The Preliminary Report will be an internal briefing document provided specifically to both Chief Officers and should focus on key issues that were identified that could be immediately addressed to provide improvement opportunities during the remainder of the fire season. The Preliminary Report should be submitted within 10 working days of the final Regional Debrief.

4.2 Final Report

The Final Report will be a document that is intended for broad circulation within the fire agencies and also externally. The report should detail how DSE and CFA prepared for and responded to, the 2006/2007 fire season, what went well, what needs to be improved, and suggestions about how improvements may be achieved. The Final Report should identify all aspects arising from the operational review processes that impacted Victoria's ability to manage bushfire risks, and to rapidly and effectively respond to and control future bushfires. The Final Report should identify major policy, procedural, and capacity issues grouped under the following headings:

- Prevention/Preparedness,
- Response

Initial Attack, Ongoing Incident Control, Emergency Management Coordination and Liaison.

- Recovery
- Other significant issues arising with focus on significant risks to firefighters, the public and their assets and the environment.

The Final Report should identify priority issues and potential solutions arising for the operational review processes. While the contractor may comment on priorities and interdependencies between issues raised, the contractor will not undertake separate operational reviews of any of the fires.

The draft Final Report should be completed by 15 April 2007. The draft Final Report will be jointly reviewed by the DSE - CFA debrief project team, and may require several iterations for completion. The Final Report is required to be completed by 30 April 2007.

4.3 Stakeholder Briefings

The Contractor will be required to brief senior managers within the CFA, DSE, Office of the Emergency Services Commissioner and others as agreed on major issues and suggested priorities, and participate in internal workshop(s), provisionally in May or June 2007 where findings are presented and priority issues discussed.

5 IMPLEMENTATION

The schedule or rates submitted by the consultant will be used. During preparation of the review and at its completion, the contractor agrees that all material inspected, reviewed or produced to or by the contractor, remains as the exclusive property of the State of Victoria. The contractor undertakes to return any and all such material at the conclusion of the review and agrees that the State of Victoria retains exclusive intellectual property rights to such material.

The contractor agrees that any information produced or obtained during the course of this review process will remain strictly confidential and that the contractor will not publish or attempt to make public any information arising during the course of, or following the completion of the contract.

Appendix 2: Operational review process 2006/07

Introduction

This appendix describes the review processes that were employed to identify the issues emerging from the 2006/07 fire season. Six major regional debriefs were jointly conducted by CFA and DSE. These debriefs were supported and informed by debriefs at unit/local/district levels and also by debriefs from specialist and functional areas. Three continuous improvement programs that have each been running for several years – Near Miss and Accident Investigation, Real Time Performance Monitoring and Operations Analysis – also contributed to the review. Many people submitted individual "*Debriefing Record Proformas"* to record and contribute their ideas.

In addition to the above inputs the review process included consultation with stakeholders listed in appendix 3, inspections and discussions at key sites (e.g. North Altona Equipment Centre, VBIL) and the opportunity to consider a draft paper by the Summer Campaign Review Working Party of the Volunteer Fire Brigades Victoria (VFBV).

Regional debrief process

A series of joint fire services debriefs was held at local and regional levels for fire activity during 2006/07. Six joint CFA/DSE regional debriefs were conducted to examine the Great Divide Fire Complex to capture lessons learned from that event as well as other major fires experienced during the season. Whenever possible, these debriefs were informed by earlier debriefs from crew, unit and district level, together with functional area debriefs, for example Information, Logistics and Communications functions.

To ensure consistency in approach, the six regional debriefs were conducted by a facilitator, on the basis that a consistent methodology may assist in identifying whether issues showed a consistent trend, were region/area specific or were one-off occasions.

The methodology utilised was based on the ORID discussion technique where participants in the process were encouraged to be:

Objective: ground their discussions in fact and identify key facts and events rather than placing reliance upon opinions;

Reflective: identify key turning points and think about why they were key points;

Interpretive: what issues do the facts of the case raise, and

Decisional: determine what should be done about those issues that worked well, those that need strengthening, the necessary actions to follow and who ought to champion those activities.

Participants were led through a logical process to achieve a "fire management" mindset to assist recall of significant events from the fire season during an introductory session, to assist in establishing the facts that could be relied on and which could be used in later group discussion. Participants were then voluntarily split into 6 groups to participate in discussions about key issues on the following six topics:

Information flow to the community; Coordination with other agencies; Planning; Fireground command; Logistics; Communications.

Participants were asked to voluntarily nominate as a host to lead and record discussions under each major topic. The host remained with that topic for all discussions about it and other participants moved between discussion groups, generally attending discussions in which they had most interest in the subject area. The topics were deliberately not narrowly defined to enable participants to determine what issues they wished to discuss in each group. Not all participants attended discussions in each major topic, but had the opportunity to have input to at least three key topic areas.

The task for each discussion group was to identify and record issues that worked well, issues that required strengthening, and where areas of agreement or disagreement existed. Participants were also asked to identify, for those matters that require some change, what the desirable outcome should be and identify the necessary action to implement that change. They were also asked to consider an appropriate timeline for when the actions ought to be implemented and to allocate a general level of responsibility for implementation at local, regional or state level.

Ultimately, each discussion group developed a schedule identifying the actions that mattered the most i.e. the most important, and the actions that ought to be implemented first, and in some cases to identify a "champion" to ensure that actions are carried forward.

Each key part of the process were captured by notes either on wall charts or labelled notepaper. The records of each debrief were subsequently typed into a format matching the discussion format and copies were distributed to each participant. The full records from each of the major debriefs and the underlying debriefs are not included as appendices to this review since much of the content refers to matters that need to be adopted, reaffirmed or introduced at local or regional level. There is opportunity to collate the records from the six major debriefs into a consolidated document, although it is important to ensure that each debrief record retains its identity as many individual, local and regional actions were recorded.

The value in retaining each separate debrief record in its original format is that it serves as a ready reference document. Several instances were discussed during the overall process where individuals indicated that one of their first reactions on recognising the potential of 2006/07 after massive lightning activity on 1 December 2006 was to locate their records from 2002/03 and refresh their memory on issues that arose from that campaign.

The advantages of using this process are:

- consistency between debriefs;
- ability to rapidly distil events down to important issues;
- constant requirement to ground discussions around factual events
- ability for all participants to contribute equally and to determine individually what the key elements were from their perspective;
- no inhibition on discussion topics;
- ability to identify areas of consensus;
- ability to define the most important and valuable outcomes.

The disadvantage of using this process is that while there is scope to rapidly identify key issues, the crucial players (the local IMT or IFAC members) don't have the opportunity to analyse the outputs as a group, and there are question marks about whether they really "own" the output, unless they have further involvement in the process. In this instance, members from the regional debrief teams have been included into working groups to undertake strategic analysis

The collated records from regional debriefs, functional and specialist debriefs and associated programs will form a critical part of the strategic analysis of the 2006/07 operation.

Specialist, functional area and other debriefs

Most functional and specialist areas, including interstate and international deployments conducted debriefs, as did regional and local areas in addition to the six major regional debriefs. In all, approximately 70 debrief records contributed to this the review process. All debrief records were electronically recorded in minute, schedule or portable document format enabling search and extraction of key issues. The debrief records will likewise form a key part of the strategic analysis that will follow this review.

Some specialist and functional area debriefs utilised a similar format as the major regional debriefs and were assisted by the same facilitator. Other debriefs were conducted without the assistance of a facilitator, but in accordance with standing procedures and were appropriately recorded. In line with debrief protocols adopted by DSE and CFA, many individuals completed and submitted a "*Debriefing Record Proforma*" in which they recorded ideas and suggestions for adoption or improvement.

Associated Improvement Programs

Three programs comprising part of the review are described below.

Near Miss and Accident Investigation

Near Miss and Accident investigations were jointly conducted on a number of incidents following the 2002/2003 fire season. Given the extent of fire suppression activity during 2005/06, the Chiefs of CFA and DSE formally established a joint review process to provide additional scrutiny to near miss and accident reports. A number of near-miss incidents and accidents to fire fighting personnel were reported and recorded in accord with standing procedures.

The purpose was to review all reported incidents, identify any incidents that warranted further investigation, conduct such investigations and identify key learnings arising from the reviews and further investigation and provide a more comprehensive record of these events

To undertake this process a small management group, comprising Manager: Operations Performance Improvement, CFA and Assistant Chief Officer: Operations Support, DSE was established. To assist the management process an investigation and reporting team comprising a former senior officer from each fire service was established.

A similar process was again undertaken during 2006/07.

The benefits of near miss or accident investigation emerge when something changes as a result of an investigation. Those changes may result from improving engineering controls, e.g. mandatory use of safety boots and helmets, training operators so they know the safe and correct way to do a task, and training people to identify a dangerous situation before something goes wrong.

Key lessons can only provide behavioural change if the lessons are disseminated. Most people are naturally curious and want to know the circumstances of particular events – they want to know what happened and whether a systemic, operational or purely accidental occurrence contributed to the event. Above all else, they want to know what key lessons emerged from the event and subsequent investigation and what action has occurred to address any systemic issues.

There is opportunity to use significant investigations as case studies and publish the results in a "Safety Bulletin" or like document that is regularly produced and widely available. It is critical to maintain confidentiality and not identify the personnel involved. Events must be described in sufficient detail to ensure that readers can appreciate the chain of events that gave rise to the incident and any procedural, operational or systemic changes that are envisaged. It is rare for an event to be pure chance or misfortune. Equally it is often the case that a sequence of events leads to the incident. Careful analysis of each event should identify the chain of events and key contributing factors, without apportioning blame to any individual.

Results should be periodically released in the format of a jointly badged and appropriately titled publication. This avenue of using "case studies" to disseminate key lessons regarding safety is recognised as an important technique to transfer information and to highlight relevant messages. Whilst it is important to ensure that SOPs and Standing Orders are updated and reissued, the "case study" technique, where readers can identify with real life situations often carries a more powerful message than a relatively sterile SOP.

Real Time Performance Monitoring

Real Time Performance Monitoring is a program developed in 2001/02 to:

- a) monitor the activities of Incident Management structures to
 - promote safety throughout the fire suppression effort
 - promote effective and efficient incident management, and;

b) promote continuous improvement in incident management by

- effectively measuring operational performance during incidents, and
- reinforcing established standards and performance measures.

As a consequence of their deployment, monitoring teams focus on systems, structure and process. They do not address issues of strategy or tactics unless they identify specific safety concerns. They should not become involved in carrying out any incident management function other than in exceptional circumstances.

Activation of a Performance Monitoring Team may occur at the request of either the State Coordinator of the control agency or the Incident Controller of a level two or three fire. The teams operate in accord with formal business rules and as they are in essence conducting a real time analysis or audit of critical fire suppression and management operations, experienced and qualified personnel are mandatory as team members. They must insert their team into the operation in such a fashion as to never compromise the ability of the incident management structure to conduct its business and the Incident Controller has the authority to hold or amend monitoring activities if the team safety or fire fighting effectiveness is likely to be compromised.

RTPM teams report any issues of immediacy directly to the IMT but ultimately they formally report to the relevant State Coordinator within set timelines. An important component of reporting is to assign a "risk rating" to findings, comprising an amalgam of consequence and likelihood of an event occurring

Operations Analyses

Operations Analyses comprise the investigation and analysis of specific operational matters brought to the attention of the joint Chiefs. For the matters that are investigated, the analysis team is required to determine whether any systems, equipment or training contributed to the matter under review. A further objective is to identify from within the matters investigated any candidate scenarios for more detailed analysis to provide strategic learning opportunities as part of joint CFA/DSE performance improvement programs. Operations Analyses may commence before an incident is controlled, but generally continue for some time afterwards reviewing documentation and interviewing personnel.

As is the case with performance monitoring reviews, the operations analysis teams must work in close collaboration with IMTs in circumstances where the incident is not yet controlled to ensure that their activities do not negatively impact on response or recovery operations.

Appendix 3: Schedule of persons consulted

Organisation	Position occupied
CFA	Chief Officer/Director Operations Deputy Chief Officers: Manager Operational Policy and Planning; Manager State Operations; Emergency Management. Operations Manager SECC: Manager Research and Evaluation; Manager Community Development Project Manager, IFMP Project; Manager Environmental Management; Manager OH&S Operations Officer Region 23.
Department of Human Services	Director Emergency Management Branch; Acting Manager Recovery Unit; Operations Manager.
DSE	Chief Officer Fire and Emergency Management Assistant Chief Officers: Strategy and Partnerships; Operations Support; Manager Preparedness; Manager Capability Support; Manager ECC; OHS Coordinator (Regional); Project Officer Planning; Manager Strategic Planning and Risk Departmental Liaison - Water; North Altona Equipment Centre Management Team: Manager Equipment Services Business Manager - Warehouse; SAU/SAD Manager: Response Support Manager.
Emergency Services Telecommunications Authority	Centre Manager.
Joint CFA/DSE Teams	Debrief Team: Deputy Chief Officer, Manager Operations Performance Improvement CFA; Manager Business Improvement DSE; Manager Continuous Improvement DSE Policy/Project Officer Fire Code Implementation DSE. Community Information Flow: Project Officer CFA; Project Officer Fire Information DSE. Near Miss and Accident Investigation Team (2). Real Time Performance Monitoring Team (2). Operations Analysis Team (2). Narrative Team (4).
Office of Emergency Services Commissioner	Deputy Commissioner Policy and Planning.
Parks Victoria	Deputy General Manager/Director Fire & Emergency Services.
Victoria Police	State Emergency Response Coordinator.
Victoria State Emergency Service	Director Operations.
Victoria Bushfire Information Line	Wendouree Management Team (4).

Appendix 4: External coordination with support agencies

External Coordination with support agencies (excluding MECC)

Victoria Police

In addition to the issues of interactions between MECCS and the fire agencies discussed above in (**External Coordination between Fire agencies and MECC**) Victoria Police raised issues with traffic management points and road closures.

There is a need to re-engage on the issue of road closures and continue the dialogue to ensure that the fire services, Police and support agencies understand and implement the provisions that apply, and communicate those provisions to the community using pre-fire education tools.

These matters may not be easy to resolve and require consideration at appropriately senior levels between representatives of the various agencies, able to make binding agreements and commitments on behalf of their agency. There is need for a structured process that identifies those areas where there is a lack of clarity about procedures and their implementation, followed by action to resolve the issues identified.

This matter is further discussed in Fireground Command: Non-combatants.

Victoria State Emergency Service

Victoria State Emergency Service (VicSES) undertook many individual taskings and deployments during the fires, including 800+ volunteers who were involved in 2450 individual assignments, and staff who were involved in more than 520 individual assignments.

VicSES volunteers provided support for more than 270 shifts at fireground Staging Areas, including the provision of Staging Area Managers to manage some Staging Areas. Staff and volunteers undertook more than 490 deployments to Incident Control Centres, Municipal Emergency Coordination Centres (MECCs) and Agency Coordination Centres across the North East and Eastern parts of the State, as well as at State level at the DSE ECC.

The above statistics relate to fire support only and do not recognise the significant commitment by volunteers and Unit management (Controllers and Deputies) in both planning for and providing stand-by in their local areas to ensure that coverage of their VicSES core response activities such as Road Rescue were maintained while fire duty teams were absent, and out of area in many cases.

VicSES identified a number of areas where it is willing and capable of assisting the fire agencies. To achieve this requires some re-thinking and establishment of parameters under which VicSES can provide support. This would entail the development of standard operating systems and protocols between the fire services and SES, and undoubtedly some cross-training and exercises.

The review process had noted there were occasions where accredited firefighters were used for tasks that could have been handled by non-fire fighters and indicated there should be more effort to use non-firefighters for appropriate tasks as early as possible at major fires. The VicSES offer meshes well into these observations. VicSES noted that it would be critical to ensure that personnel were not placed into positions for which they are not trained or accredited. VicSES is able to fill many non fire tasks in support of fire campaigns e.g. staging area management (as it did during the campaign) and is willing to consult with the fire services and enter into an agreement or MoU regarding the roles that VicSES can, and will fill, as a support agency.

Victoria Department of Human Services

The Department of Human Service (DHS) provided the primary coordination of recovery operations. DHS discussed a number of productive areas to pursue.

Ability to participate in the Strategic Planning Unit cell at DSE and obtain regular briefings on the state-wide picture was of high value to DHS. DHS activated its own recovery ECC for the first time and this enabled effective coordination at state and regional level between DHS and the fire agencies.

The availability of potential fire spread and impact maps to DHS assisted in identifying communities and potential victims. This enabled DHS to maintain a higher state of readiness and alert in those areas and to be able to institute recovery operations more rapidly and effectively.

There is a need perceived by DHS to formalise transition planning arrangements for transitioning from response to recovery. Early involvement is crucial as DHS begins to have a face and can gradually assume a more dominant role as the reaction changes from response to recovery. There is good opportunity to use the DSE/CFA community information process to inject recovery messages early and to "introduce" DHS personnel so by the time recovery is in full swing there is no need for an "education program" with communities about the role that DHS occupies. There is no clear cut transition point from response to recovery and many victims are not interested in recovery process until they recognise that they need it and are entitled to it. The need to provide trained and accredited staff to ICCs, MECCS, IFACCs/RECCs stretched DHS capability when there was an expectation that recovery would take over from response and run to the same format.

At State level, DHS strongly supports the concept that at Regional level, the Response and Recovery Committees should be represented at each others meetings, to achieve necessary interaction and mutual recognition of the roles and needs of either phase of operations. The IFMP model is regarded by DHS as a good model for an integrated recovery model

Following the early commencement of the fire season, it was recognised that some landholders faced extremely challenging situations regarding availability of water for essential purposes including uses associated with residential purposes, pets and the health/productivity of livestock, if their supplies were drawn upon for firefighting. Under normal circumstances, water may be utilised by the fire agencies from any source. If limited water supplies were utilised for firefighting, a policy introduced in November 2006, Water Replacement Policy Guidelines, provided for replacement of essential supplies during the 2006/07 fire season. The guidelines set out the required recording, reporting and notification processes to enable replenishment. Where any conflict occurred, DHS became involved to consider and advise on human or agricultural hardship issues.

DHS indicated that in its view, the provisions within the Water Replenishment Policy worked very well.

Appendix 5: The Way Forward



Review of CFA and DSE Operational Performance 2006/07 Fire Season

Appendix 6 Glossary of abbreviations

ACT	Australian Capital Territory
AFAC	Australasian Fire Authorities Council
AIIMS	Australian Interagency Incident Management System
CFA	Country Fire Authority
CSC	Customer Support Centre
DECC	District Emergency Coordination Centre
DHS	Department of Human Services
DPI	Department of Primary Industry
DSE	Department of Sustainability and Environment
ECC	Emergency Coordination Centre (DSE)
FRV	Fire Ready Victoria
IAP	Incident Action Plan
IC	Incident Controller
ICC	Incident Control Centre
ICS	Incident Control System
IFAC(C)	Integrated Fire Agency Coordination (Centre)
ILU	Interstate /International Liaison Unit
IMS	Information Management System
IMT	Incident Management Team
IT	Information Technology
MECC	Municipal Emergency Coordination Centre
MERC	Municipal Emergency Coordination Centre
MERO	Municipal Emergency Response Officer
MFB	Metropolitan Fire and Emergency Services Board
MOU	Memorandum of Understanding
NIIMS	National Interagency Incident Management System (N Amer.)
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
OESC	Office of the Emergency Services Commissioner
OH&S	Occupational Health and Safety
PFF	Project Firefighter
Qld	Queensland
RECC	Regional Emergency Coordination Centre
RTPM	Real Time Performance Monitoring
SA	Staging Area
SAD	State Air Desk
SAU	State Aircraft Unit
SECC	State Emergency Coordination Centre (CFA)
SEWS	State Emergency Warning Signal
SOP	Standard Operating Procedure(s)
SPU	Strategic Planning Unit
TOR	Terms of reference
USA	United States of America
VBI	Victorian Bushfire Inquiry
VBIL	Victorian Bushfire Information Line
VFBV	Volunteer Fire Brigades Victoria
VicSES	Victorian State Emergency Service
<u>\</u> λ/Δ	Western Australia