

CONCLUSIONS

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The Commission's primary focus was to find where improvements can be made to preparation for, response to and recovery from bushfires. The Commission is conscious that this results in a light treatment of what worked well and a heavier focus on shortcomings. This is regrettable but inevitable in an inquiry of this nature. The Commission heard ample evidence of the commitment, courage and skill of men and women who worked to protect their communities and their state on Black Saturday. Where specific actions are highlighted this is done both to commend the individuals involved and to illustrate instances of exemplary actions. Space did not permit an exhaustive account of the enterprise and valour of individuals and teams on 7 February 2009. The Commission acknowledges this and offers its conclusions in the hope that its analysis will minimise the likelihood of a recurrence of a bushfire of this magnitude in the future.

This chapter summarises the main themes and trends that emerged from the Commission's fire-by-fire hearings. In some cases those themes and trends reflected systemic shortcomings that the Commission then considered in more detail at subsequent hearings. Accordingly, many of the themes and trends summarised here are discussed in detail in Volume II, which draws on a more specialised range of evidence than is summarised in this chapter.

15.1 FIRE CAUSES

Most of the major fires that burned in late January and in February 2009 started as a direct or indirect result of human activity:

- Failure of electricity assets was responsible for five fires—Kilmore East, Beechworth–Mudgegonga, Horsham, Coleraine and Pomborneit–Weerite.
- The causes of four fires—Murrindindi, Churchill, Delburn and Bendigo—are thought to be suspicious.
- One fire—Harkaway—was started accidentally.

Only the Bunyip fire is thought to have been the result of natural causes (lightning), although fire investigators have been unable to definitively reach this conclusion. The causes of both Lynbrook fires and the Upper Ferntree Gully and Redesdale fires are not known.

Chapters 4 and 5 in Volume II deal with electricity and arson respectively.

15.2 FIRE BEHAVIOUR

15.2.1 FUEL MANAGEMENT

Even in the catastrophic conditions experienced on 7 February, previous fuel reduction by prescribed burning slowed the rate of spread of some fires and also reduced the final size of the Beechworth–Mudgegonga fire. Where the fuel-reduced area was of insufficient size or the fuel reduction was insufficiently intense—for example, around Marysville—the areas treated did not moderate fire behaviour and so-called strategic firebreaks had little, if any, effect.

Fuel management is discussed in Chapter 7 of Volume II.

15.2.2 THE WIND CHANGE

In Victoria a wind change is one of the most crucial factors in managing a bushfire and the associated risks to firefighter and public safety. In most cases on 7 February, where the wind change directly impinged on the path of a fire it changed the direction of and breathed new severity into the fire. In many areas the change arrived earlier than incident management teams and firefighters expected. This, combined with inadequate planning and advice on the part of a number of IMTs, resulted in insufficient warnings for firefighters and communities.

The wind change is discussed in Chapter 1 of Volume II.

15.3 FIREFIGHTING EFFORTS

15.3.1 DETECTION, REPORTING AND FIRST ATTACK

Fires were detected in a number of ways, among them the observations of local residents, the public, firefighters and fire tower observers. In a number of cases reporting of fires to fire agencies was hindered by difficulties contacting 000—particularly for the Beechworth–Mudgegonga and Bendigo fires. Detection of fires is discussed in Chapter 3 of Volume II.

The catastrophic weather conditions of 7 February made successful first attack extremely problematic, even when firefighting resources arrived soon after ignition. At Pomborneit–Weerite, for example, firefighters were in attendance before members of the public reported the fire, but first attack still failed to suppress the grass fire. In some cases, delays in reporting or in the arrival of firefighting resources, including aerial resources, contributed to the ineffectiveness of first attack.

15.3.2 AERIAL SUPPORT

Before 7 February, when weather conditions were milder, aircraft had been used to good effect at the Bunyip and Delburn fires. On 7 February, however, the use of aerial support—in particular, water bombers—was limited by the weather; this restricted opportunities for aircraft to operate and limited the effectiveness of water bombing because the suppressant dispersed before it hit the vegetation. Water bombing was more effective at the Narre Warren and Upper Ferntree Gully fires, which occurred later in the day and where local water supplies allowed a number of drops in a short period.

Aerial support is discussed in Chapter 3 of Volume II.

15.3.3 FIREFIGHTER SAFETY

Dedicated safety advisers were appointed during the peak period of firefighting activity at only two of the fires—Bunyip and Pomborneit–Weerite.¹

One interstate firefighter was killed while engaged in firefighting after 7 February. That sad event aside, there were very few firefighter injuries and most of those incurred were minor, although the Commission received evidence of a considerable number of crews trapped in burnovers, where fire passed over their vehicles as they sheltered inside or nearby. The small number of injuries relative to the extraordinary exposure suggests that the training and equipment provided by fire agencies contributed much to firefighter safety.

The risks faced by the crews were heightened by a failure to promptly transmit accurate information about the arrival of the wind change. Country Fire Authority and Department of Sustainability and Environment standard operating procedures recommend the use of red flag warnings to communicate time-critical information on factors that might affect firefighter safety. In a number of cases, however, inconsistent or inaccurate warnings—or no warnings at all—were sent to firefighters on the ground.

Firefighter safety is discussed in Chapter 3 of Volume II.

15.4 INCIDENT MANAGEMENT

15.4.1 AIIMS

The AIIMS structure generally proved effective in relation to fire management, but there were deficiencies. The structure was most effectively implemented in the case of incident management teams that had pre-established before 7 February. Information functions often did not receive sufficient priority or resourcing. Warnings to firefighters and communities were too often lacking in timeliness and accuracy.

Although all fires on 7 February should have been managed using the AIIMS framework, there were occasions when incident management teams were not pre-positioned and incident control was conducted by CFA Group Officers. This use of group management continued at Alexandra even after an IMT was established to manage the Murrindindi fire.

Incident management is discussed in Chapter 2 of Volume II.

15.4.2 PREPARATION AND RESOURCING

In the week preceding 7 February Victoria's fire agencies understood that the conditions they were to face would be extreme. Resources and personnel were already committed to the Delburn fire, and during the week additional resources and personnel were directed to the Bunyip and Nariel ski hut fires.

On 5 February the CFA and DSE Chief Fire Officers held a teleconference with key operational staff. Both officers emphasised the need for pre-formed task forces and pre-positioned incident management teams to meet the demands of the day. The CFA Chief Officer envisaged that 'the pre-designated [incident control centres] would be ready to operate in what we call a warm start or a hot start—that is, there are people there, all the facilities, the equipment is up and running and tested'.²

In most regions preparations for 7 February were in keeping with the Chief Officers' understanding of a 'hot start'. But in CFA Region 12 and DSE North East Region IMTs were not in place and this was not identified at the state level. In part, this was because that status was not adequately reported up the chain of command. This meant that, despite the fire agencies making every effort to warn and prepare the public before 7 February, the CFA and DSE had not adequately prepared their resources in the region that experienced the devastating Kilmore East and Murrindindi fires. As a consequence, there were extensive delays in establishing effective IMTs for those fires.

Elsewhere, firefighting and incident management staff were identified and rostered for duty while others were placed on alert; equipment was positioned and regional emergency coordination centres and the Benalla Integrated Fire Agency Coordination Centre were on standby; municipal emergency response coordinators confirmed their readiness.

The result was that, despite every effort being made to warn and prepare the public in the lead-up to 7 February, and despite the expectations of the CFA and DSE Chief Officers, regional preparations varied. Pre-positioned, pre-prepared level 3 incident management teams were not in readiness in all regions. In the regions that were poorly prepared there were extensive delays in establishing effective incident management.

15.4.3 MANAGEMENT OF THE FIRES

Leadership

Strong and effective leadership was displayed at some fires. In these cases careful planning and effective management of both the IMT and crews on the fire ground resulted in the best outcomes possible in the conditions that applied. At other fires the Commission examined IMTs, and specifically Incident Controllers, did not provide the necessary leadership to manage the ferocious fires. This largely resulted from a lack of preparation and a failure to appoint Incident Controllers with the necessary experience, training and competence.

Leadership, training and pre-positioning of Incident Controllers are discussed in Chapter 2 of Volume II.

Incident action plans

For a number of the fires the Commission examined incident action plans were not developed, were delayed or were developed in response to major fire damage; an example is the Murrindindi fire, where the IMT did not start preparing the plan until after midnight on 7 February, some nine hours after the fire had been reported and long after it had swept through Marysville.

Information gathering and analysis

Some IMTs, such as that at Bunyip, managed their information gathering and analysis well, and this enabled them to develop an informed and viable firefighting strategy. Other IMTs, such as that at Kilmore and Alexandra, were hampered by unreliable information on which to base planning decisions. In part, this was because those IMTs did not effectively collect or make the best use of the available fireground information. Confusion on the fire ground about who actually had responsibility for managing the fire also hindered information collection.

Information analysis is discussed in Chapter 3 of Volume II.

Tracking of resources

At the Churchill fire there were shortcomings in management and tracking of resources because the IMT's Planning Unit inadequately identified, recorded and tracked fireground resources and personnel. This led to inefficient use of the available resources and at times increased the risks for firefighters.

Tracking of resources is discussed in Chapter 3 of Volume II.

Record keeping

Record keeping was inadequate, and this made it difficult to determine whether red flag warnings were sent. It also resulted in confusion about the location and roles of personnel on the fire ground and associated difficulties with communication and resourcing decisions. Inevitably, it led to inefficiencies and confusion.

Management of campaign fires

'Campaign' fires both before and after 7 February were managed well. The Commission notes in particular the impressive performance of regional and incident management staff during the campaign fire at Bunyip and the efforts of firefighters after 7 February to manage the Kilmore East–Murrindindi, Beechworth–Mudgegonga and Churchill campaign fires.

Handovers

The handover at Bunyip was effective. Pre-planning ensured the smooth transfer of control from DSE to the CFA when the fire left Bunyip State Park, then the transfer back once the fires on private land had largely been controlled. There was no formal handover at Murrindindi, which meant that CFA resources continued to report to their Group Officer, despite a DSE incident management team having taken responsibility for management of the fire. Handovers are a critical period in incident management, when information and responsibility are transferred. Every effort, including the use of incident action plans, needs to be made to ensure they occur as smoothly as possible.

15.5 COMMUNICATIONS

15.5.1 EMERGENCY CALLS

A large number of calls were made to 000 on 7 February, and a number of these were from people reporting the initial sighting of a fire. Many callers, however, were either unable to get through to an operator or had to make numerous attempts before being connected. This delayed initial responses during the crucial early stages of some of the fires. This matter was considered in the Commission's interim report. Information on the measures implemented to deal with the problem is provided in Chapter 1 of Volume II.

15.5.2 OPERATIONAL FIRE COMMUNICATIONS

Communications from incident control centres to firegrounds on 7 February were impeded by system congestion and inadequate planning and management. Communication difficulties between ICCs and the fire grounds were often attributed to the amount of radio traffic or the facilities at the incident control centre. In the case of the Bendigo fire, heat and smoke were said to have caused radio interference, although this was not investigated by the Commission. Some firefighters resorted to using mobile phones when unable to raise ICCs by radio. Many attempts at such communication were either unsuccessful or very delayed.

Fixed communications were also problematic. Throughout the afternoon a significant proportion of the Kangaroo Ground ICC's attempts to contact the Kilmore ICC seeking information and updates were unsuccessful.

15.5.3 OPERATIONAL POLICE COMMUNICATIONS

Police across the state experienced difficulties communicating with other police at a number of fires. These difficulties were a consequence of two factors—the high volume of radio traffic directed through the police communications centres on the day and the incompatibility of the digital metropolitan and analogue rural police radio networks.

Communications are discussed in Chapter 3 of Volume II.

15.6 WARNINGS

The nature, timeliness and quality of warnings, for both firefighters and communities, varied among the fires the Commission examined. The warnings some IMTs issued were generally timely and appropriate, taking account of the path of the fire and the potential impact of the wind change. At other fires there were delays in issuing warnings or posting warnings to the CFA and DSE websites, and warnings failed to contain vital information about the path of the fire and the predicted wind change. The level of IMTs' preparation—including the lack of pre-positioned information officers—appeared to be a central factor in determining whether timely, accurate and detailed warnings were issued.

In general, warnings were largely distributed via the CFA and DSE websites and by radio—notably ABC local radio and community radio stations such as UGFM. Where time allowed, community meetings were held, and at one fire a CFA officer sounded the fire station siren to warn residents of the approaching danger. The Standard Emergency Warning Signal was never activated on 7 February.

In addition to warnings issued by IMTs, the Commission notes the efforts at a number of fires of police, Victoria State Emergency Service personnel, and CFA and DSE crews to personally warn residents.

Warnings are discussed in Chapter 1 of Volume II.

15.7 EVACUATION AND RELOCATION

Many residents made the decision to leave either of their own volition or on the advice of individual police, firefighters, VICSES personnel or others. Evacuations of vulnerable people were carried out in an ad hoc way, with little, if any, input from IMTs. Residents made their way out of affected towns or to places of possible refuge within towns. These were simply places where residents felt they would be safe—for example, the CFA sheds in Marysville and Kinglake and Gallipoli Park oval in Marysville.

The State Emergency Response Plan provides that the decision to evacuate people rests with the Incident Controller. In accordance with agency practice, however, Incident Controllers and their IMTs did not consider evacuation of any towns or localities affected by the fires. Local police, VICSES personnel and firefighters did, however, make ad hoc arrangements to evacuate some areas.

Evacuation and relocation are discussed in Chapter 1 of Volume II.

15.8 EMERGENCY MANAGEMENT

15.8.1 PLANNING AND PREPARATION

Before 7 February local councils and Victoria Police made substantial preparations for the extreme conditions predicted. In Yarra Ranges Shire, long-term preparations involved simulated emergency exercises. Additional resources were mobilised and extra staff were rostered on; municipal emergency coordination centres were placed on standby.

The Commission was not confident, however, that municipal plans gave adequate attention to bushfire risks. It is important that those councils that cover bushfire-prone communities take account of major risks such as bushfire and incorporate appropriate strategies in their municipal emergency management plans. The Commission reviewed the Shire of Murrindindi's arrangements. Despite the shire's MEMP being assessed as technically complying with the guidelines of the *Emergency Management Act 1986*, the MEMP lacked substance, detail and precision and, in particular, did not accommodate planning for responding to bushfire. There was insufficient detail to enable responses to be actioned if an emergency were to occur.

15.8.2 RESPONSE

Municipal emergency coordination centres, on the other hand, provided valuable support for firefighting operations and subsequently during recovery, some remaining open for weeks. They were activated soon after they received reports of fires from local incident control centres and provided various types of assistance:

- support with emergency evacuation
- activation of emergency relief centres for residents who had evacuated
- assistance with coordinating road closures
- equipment, machinery and water tankers
- drinking water and food
- feed for stock
- material aid such as clothing and personal items
- transportation assistance, fuel and first aid supplies
- disposal of injured stock.

Emergency relief centres provided support and accommodation for residents who had evacuated. Some of these centres remained open as recovery centres for months after the fires, providing continuing support services and assistance for displaced residents and others affected by the fires.

15.8.3 ROADBLOCKS

The operation of roadblocks on 7 February and in the following days and weeks raised important questions about access for firefighters, other service providers and residents and about the roadblocks' overall effectiveness.

Although the roadblocks appear to have been operated in accordance with the guidelines agreed by the CFA, DSE and Victoria Police, enforcement of the guidelines became a source of frustration and some animosity between police and firefighters because private firefighting appliances, CFA personnel in private vehicles, and maintenance and supply crews were restricted from gaining access to the fire ground.

In some areas affected by the Murrindindi fire, access for residents was restricted for many weeks as coronial investigations continued. Problems with access were aggravated by inconsistencies in the application of 'full' and 'partial' roadblocks and confusion about who should be allowed through. In Bendigo, Redesdale and Churchill it was reported that people were able to bypass road closures by taking smaller or less direct roads: this calls into question the effectiveness of roadblocks in restricting access, especially in urban areas.

Emergency management is discussed in Chapter 2 of Volume II.

15.9 INFORMATION SHARING

Police and local councils said they faced difficulties as a result of a lack of information flowing from incident control centres. Among the concerns they expressed were difficulties obtaining information about the location and spread of the fire and about the location of roadblocks. The lack of information also created difficulties for police and municipal emergency coordination centres when trying to make decisions about effective deployment of resources and when providing advice to the community.

Most of the difficulties appeared to arise as a result of incident control centres not providing liaison officers to municipal emergency coordination centres, despite a requirement in the State Emergency Response Plan for response agencies to deploy liaison officers.³ To resolve these problems, in a number of instances police and local councils appointed liaison officers to ICCs. In these cases this action largely proved effective. In Horsham the local council made alternative arrangements, co-locating the municipal emergency response officer at the ICC.

Information sharing is discussed in Chapter 2 of Volume II.

15.10 UTILITIES

Loss of power and water supplies is to be expected during major natural disasters. Saturday 7 February made it abundantly clear that people in areas of bushfire risk cannot rely solely on reticulated water and external power supplies in the event of a bushfire.

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- 1 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R); Exhibit 611 – Statement of Owen, Annexure 20 (WIT.3004.032.0051) at 0057; Edgar T16751:3–T16751:4
 - 2 Rees T2415:21–T2415:25
 - 3 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0180