

# THE BUNYIP FIRE

4



# 4 THE BUNYIP FIRE

Bunyip State Park is in West Gippsland, in the Shires of Cardinia and Baw Baw and about 95 kilometres south-east of Melbourne. Among the nearby towns are Labertouche, Jindivick, Jindivick West, Jindivick North, Drouin West, Longwarry North and Robin Hood.

Seventeen fires were reported in Bunyip State Park in early February 2009. The Commission focused on the fire known as the 'Bunyip Ridge Track fire', which was reported at about 17:21 on 4 February. The fire burned in two distinct phases. Between 4 February and the morning of 7 February it progressed relatively slowly through the park and was treated as a 'campaign' fire, being managed with a view to containment because access to the park was limited. In the second phase, beginning on 7 February, the fire escaped from the park and burned like many other fires on the day, moving rapidly over large tracts of land and destroying houses, property and other assets. The fire was eventually contained on 4 March, having burnt approximately 26,200 hectares. Thirty-one houses had been destroyed. Figure 4.1 shows the extent of the fire.

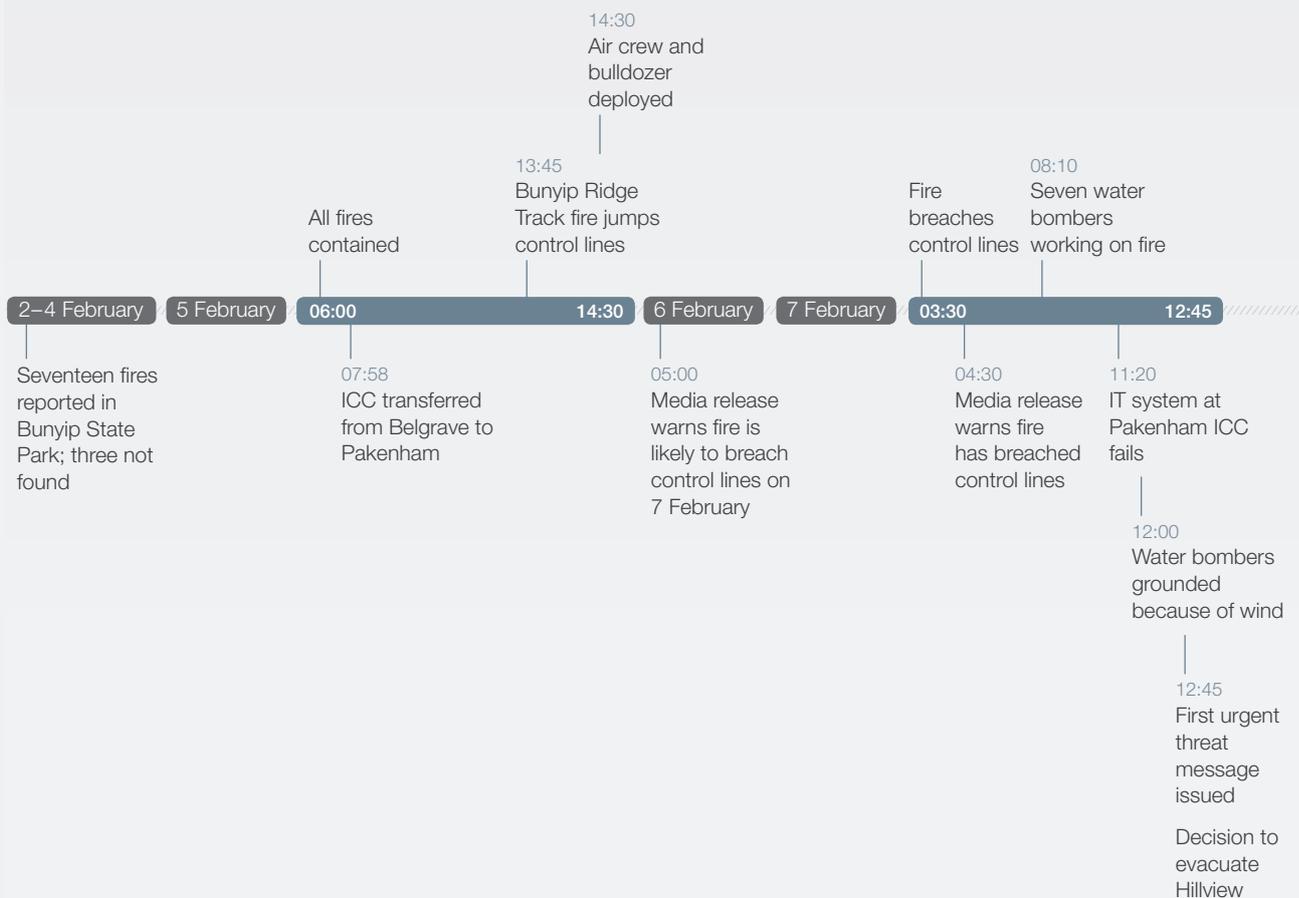
## OVERVIEW

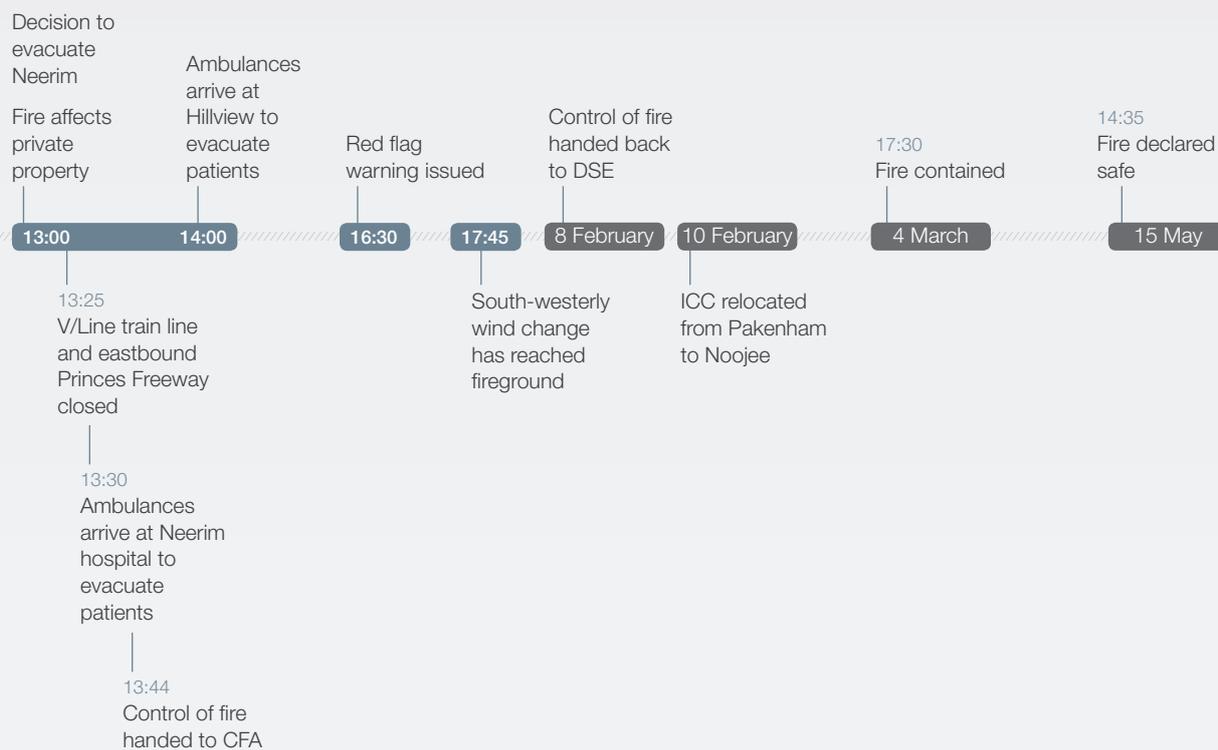
<b>Maximum temperature</b>	The maximum temperature recorded on 7 February was 44.6°C at Coldstream automatic weather station at 17:34. <sup>1</sup>
<b>Minimum relative humidity</b>	The minimum relative humidity recorded on 7 February was 8 per cent at Coldstream AWS at 17:34. <sup>2</sup>
<b>Wind</b>	The winds recorded before the wind change on 7 February were from the north-north-east, with a maximum speed of 46 kilometres an hour at Coldstream AWS at 13:00. <sup>3</sup> The wind change was recorded at Coldstream AWS at 17:48, at 52 kilometres an hour. <sup>4</sup> The winds recorded after the change were from the west-south-west, with a maximum speed of 57 kilometres an hour at Coldstream AWS at 17:51. <sup>5</sup>
<b>Fire danger index</b>	The maximum Forest Fire Danger Index on 7 February was 110 at Coldstream AWS at 13:00. <sup>6</sup>
<b>Cause</b>	Suspected lightning. <sup>7</sup>
<b>Fatalities</b>	No fatalities. <sup>8</sup>
<b>Casualties</b>	Two casualties. <sup>9</sup>
<b>Houses destroyed</b>	Thirty-one houses. <sup>10</sup>
<b>Overall area burnt</b>	26,200 hectares. <sup>11</sup>
<b>Firefighting resources</b>	On 7 February, 313 CFA, 23 MFB and 542 NEO personnel attended the fire. They were supported by 72 CFA appliances, 42 NEO appliances, 6 MFB appliances and 10 aircraft. <sup>12</sup>



## Bunyip 2 February – 15 May

The following time line summarises events associated with the Bunyip fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.





## 4.1 SEQUENCE OF EVENTS

### 4.1.1 2 TO 6 FEBRUARY

#### Origin and cause

On 2 February there was lightning throughout the Dandenong Ranges and in Bunyip State Park. The Egg Rock fire tower reported 12 fires in the park. Three of these subsequently could not be found; the remaining nine were quickly located and successfully contained by firefighters and water-bombing aircraft.<sup>14</sup>

An incident management team made up of Department of Sustainability and Environment and Parks Victoria personnel controlled the Bunyip fire from the time of its ignition on 2 February until formal handover to the Country Fire Authority at 13:45 on 7 February. Mr David Nugent from Parks Victoria was the day-shift Incident Controller between 5 and 7 February, when DSE was the control agency. Mr Christopher Hardman was the night-shift Incident Controller on 4, 5 and 6 February.<sup>15</sup>

By 09:30 on 3 February DSE and Parks Victoria had contained the multiple small fires in the park. Two further fires were, however, reported on the DSE website that day, at 14:48 and 16:10.<sup>16</sup>

On the morning of 4 February the DSE website stated that all the fires in Bunyip State Park were contained or under control. Three further fires ignited during the day, one of them being the Bunyip Ridge Track fire, which was reported to DSE at about 17:21. This fire's point of origin was 5 kilometres north-north-east of Tonimbuk.<sup>17</sup>

The cause of the three fires reported on 4 February has not been firmly established. It is possible they were the result of lightning strikes on 2 February, but fire investigators have been unable to definitively reach this conclusion.<sup>18</sup>

Mr Nugent was originally concerned that a 'burning-out' operation on the Bunyip Ridge Track fire, conducted by DSE and Parks Victoria on 5 February, might have caused a spotover outside containment lines, but after further investigation and analysis he concluded this was extremely unlikely.<sup>19</sup>

#### Fire run, response and management

A DSE and Parks Victoria crew attended the Bunyip Ridge Track fire within 40 minutes of it being reported. The fire was burning vigorously on both sides of the Bunyip Ridge Track, in a swamp dominated by paperbarks and tea tree; flame heights were about 4 to 5 metres.<sup>20</sup>

Crews were supported by two water-bombing helicopters. This limited the fire's spread on its eastern flank but did not stop the fire 'making a rapid crowning run through the paperbark vegetation in that swampy area'. Earth-moving equipment and bulldozers were deployed at about 20:30 and 21:00 to establish a mineral-earth control line around the fire perimeter.<sup>21</sup>

Senior Sergeant Trevor Teer was the Municipal Emergency Response Coordinator for Cardinia Shire. He learned of the Bunyip fires on 4 February. Although an incident control centre had been established at Belgrave on 2 February to manage the fires in Bunyip State Park, local police had not previously been told of the centre's existence. Once Senior Sergeant Teer became aware of the ICC, he sent a senior constable there to act as liaison officer.<sup>22</sup>

Crews worked through the night of 4 February to establish a control line. By 06:00 on 5 February all fires burning in the park had been contained.<sup>23</sup>

The DSE Incident Management Team worked initially from the Belgrave ICC but relocated to the Pakenham ICC on the morning of 5 February because the latter was 'better located and better equipped to manage the active fire and plan for a potential run of the fire into communities south of Bunyip State Park'. Even though the IT system at the Pakenham ICC 'crashed' for several hours on 7 February, this does not appear to have hampered the IMT's efforts in managing the fire.<sup>24</sup>

The CFA also began making preparations during the morning of 5 February. Mr Trevor Owen, CFA Operations Manager for Region 8, started organising community information meetings and informed himself about the fire while liaising with the DSE IMT. He did this because he thought the fire might escape from the park and burn through privately owned land.<sup>25</sup>

Mr Owen appointed Mr Ivan Smith, an experienced CFA level 3 Incident Controller, to the role of team leader for the operational contingency planning team. Mr Smith was also told to prepare to take on the role of Incident Controller if the fire moved onto private property.<sup>26</sup>

During this time members of the DSE Incident Management Team concentrated on suppression efforts in the park while being kept abreast of the CFA's preparatory work and plans for action should the fire escape onto private land. The Commission was informed that this parallel approach to incident management—which allowed the CFA to focus on planning for protection of communities in the path of the fire while DSE focused on the current operations—was favoured because it clearly identified responsibilities and kept the CFA Incident Management Team relatively fresh ahead of the firefight on 7 February.<sup>27</sup>

Because of the fire activity on 5 February, and after having met with Mr Nugent and become worried that the fire would reach private property in the next two days, Mr Owen organised meetings to inform those communities most likely to be affected by the predicted events. Among the towns thought to be in the potential path of the fire on 7 February were Tonimbuk, Jindivick, Drouin West, Labertouche, Nar Nar Goon and Maryknoll. Meetings were held in Labertouche, Jindivick, Tonimbuk and Drouin West.<sup>28</sup>

The meetings were well publicised and well attended. They generally appear to have helped residents understand the threat they faced and given them information on which to base decisions about their safety and the safety of others.<sup>29</sup>

On the morning of 5 February DSE and Parks Victoria started a burning-out operation between the north-western edge of the fire and the control line. While the operation was under way, at about 13:45, an area of fire reignited and, under the influence of south-south-westerly winds, jumped the control line. This spotover occurred about 160 metres from the location of the burning-out operation but, after investigation, was deemed not to have been caused by that operation. Once outside the control line, the fire crowned quickly, moving to the north through dense paperbark vegetation and into eucalypt forest. It began running uphill to the north-east, towards the Bunyip Ridge Track.<sup>30</sup>

Crews working on the Bunyip Ridge Track fire were redeployed to suppress the spot fire that had jumped the control line, and the assistance of water-bombing aircraft was sought. Air crews and a bulldozer were working on the fire by 14:30. By 16:00 the spot fire covered about 7 or 8 hectares, and by 16:30 it was clear that aircraft were having trouble holding its northern edge.<sup>31</sup>

By the evening of 5 February the total fire area had grown to about 140 hectares. It was burning towards a gully near the Bunyip Ridge Track and had an uncontained eastern flank of about 1.5 kilometres. The western flank had grown to a similar length and was also uncontained. The average rate of the fire's spread during that afternoon was 0.5 kilometres an hour. A media release was approved at 05:00 on 6 February; it warned residents that the fire was likely to breach the control lines on 7 February.<sup>32</sup>

Throughout 6 February the fire continued its run through Bunyip State Park. Firefighters faced major challenges in consolidating, constructing and trying to keep the fire within control lines. Spotting occurred over the lines, forcing crews to re-establish further control lines. Plans to lay retardant on the eastern side of the fire to reinforce the control lines in anticipation of the severe weather forecast for 7 February were delayed until the afternoon because retardant supplies had not been ordered.<sup>33</sup>

The delay in laying retardant was unfortunate: had the air crew been able to begin early in the morning of 6 February, suppression efforts on that day would have been more successful.<sup>34</sup> There is, however, insufficient evidence to attribute the escape of the fire on 7 February to this shortcoming.

Despite the 05:00 warning that the fire would probably breach the control lines, at 17:30 on 6 February the DSE website stated that it was expected the fire would be contained that evening. Confusingly, though, the website still referred to the potential threat to communities the following day.<sup>35</sup>

By 18:00, 250 metres of control line still needed to be constructed and other parts of the line needed much work. During the evening firefighters, supported by bulldozers, continued to widen the control lines and engage in blacking-out operations. Fire suppression efforts were hampered by the steep and rocky terrain, the weather, erratic fire behaviour, high fuel loads, and dry and flammable vegetation.<sup>36</sup>

On 5 and 6 February the integrated Emergency Coordination Centre's Fire Behaviour Team prepared and issued 'Fire spread prediction reports for Bunyip Ridge Track fire' with an accompanying map. These documents assessed the potential for fire spread the following day. On 6 February Mr Michael Sutton from the iECC's Fire Behaviour Team was sent to the Pakenham ICC to provide to personnel fire prediction maps that identified towns that might be affected and when and noted the potential for spotting ahead of the main fire.<sup>37</sup>

Further support from the iECC was provided by Ms Caroline Douglass, the DSE State Duty Officer, who contacted Mr Nugent during the morning of 6 February to confirm that adequate plans had been made for protecting assets and the community and to discuss whether further resources were needed. Mr Nugent said he would like two additional strike teams.<sup>38</sup>

Inspector Charles Allen was the Divisional Emergency Response Coordinator. On 6 February Senior Sergeant Teer provided to him information from the Pakenham ICC that suggested the fire was unlikely to be extinguished quickly. This confirmed Inspector Allen's view that the fire would probably breach the control lines during the weekend.<sup>39</sup>

On 6 February Mr Paul Dickson, the Cardinia Shire Municipal Emergency Resource Officer, attended the Pakenham ICC for a briefing on the fire situation predicted for 7 February. The meeting had been convened by Senior Sergeant Teer and was attended by representatives of the CFA, Victoria State Emergency Service, VicRoads, SP AusNet, Parks Victoria and Victoria Police. Following the briefing Mr Dickson took action to ensure that municipal resources would be ready for 7 February; this included advising council emergency response personnel to be on standby, ensuring that Red Cross personnel would be ready to attend emergency relief centres, and liaising with his counterpart in neighbouring Baw Baw Shire.<sup>40</sup>

Additionally, police and members of Baw Baw Shire's council emergency management teams were briefed about predicted conditions on 7 February and the fire situation in Bunyip State Park.<sup>41</sup>

Another DSE website update, at 21:00, reiterated the 17:30 message that it was expected the fire would be contained that evening, and at 23:30 the public was advised that crews were making good progress on the fire's control lines.<sup>42</sup>

The 23:30 DSE website update also warned that residents of Labertouche were likely to be affected by fire during 7 February and that nearby communities would probably experience smoke and embers and possibly fire.<sup>43</sup>

#### 4.1.2 7 FEBRUARY

##### Preparation

Because the Bunyip fire had started before 7 February, there was less need for specific preparation leading up to that day. Firefighting was already occurring, and the DSE Incident Management Team was overseeing suppression efforts and carrying out local planning and incident management preparations in conjunction with the CFA.<sup>44</sup>

The CFA Incident Management Team had been on standby since 5 February. Team members were involved in detailed planning before 7 February in collaboration with the DSE Incident Management Team—sharing information and strategies while preparing for the fire's probable escape from Bunyip State Park should the weather forecast prove accurate for 7 February.<sup>45</sup> This concurrent preparatory activity proved effective.

Table 4.1 summarises the state of preparedness for the Bunyip fire.

**Table 4.1 The Bunyip fire – IMT preparedness**

Pre-designated level 3 ICC	Already in place on 7 February 2009 <sup>46</sup>
Pre-formed IMT at ICC	Already in place on 7 February 2009 <sup>47</sup>
Pre-identified level 3 IC	Already in place on 7 February 2009 <sup>48</sup>
Pre-identified IMT members	Already in place on 7 February 2009 <sup>49</sup>
Time fire started	15:00 on 4 February. Fire escaped park and moved onto private land at about 13:00 on 7 February <sup>50</sup>
Time full IMT in place	Already in place on 7 February 2009 <sup>51</sup>
Safety adviser appointed	Yes <sup>52</sup>

### Fire run, response and management

Between 03:00 and 04:00 on 7 February north-westerly wind gusts resulted in multiple spotovers towards the east. The fire's behaviour became increasingly erratic, and flames at heights of 5 to 10 metres were reported. Fire crews were withdrawn from the fire ground. By about 03:30 on 7 February the fire had crossed the control line to the east.<sup>53</sup>

On 6 February Mr Smith had advised the CFA IMT and local brigades by pager that they would be required the following day. On the morning of 7 February, at about 04:00, before he had arrived at the ICC, he was told the fire had breached control lines on the eastern flank. The CFA IMT arrived at the ICC between 05:00 and 05:30. When Mr Smith arrived he was briefed by Mr Christopher Hardman, Deputy Incident Controller, DSE. Because the fire was still in the park, DSE remained the control agency.<sup>54</sup>

The first warning to communities on 7 February was issued at 04:20, only an hour after the fire had breached the control lines. The joint DSE–CFA alert message said the fire had broken containment lines and was spotting in many areas. Residents of Labertouche, Jindivick West and Tonimbuk were warned that the fire had the potential to directly affect them and that they might start to see embers within two hours.<sup>55</sup>

At 04:30 Senior Sergeant Teer was informed that the fire had breached containment lines. By 04:50 he had arrived at the Pakenham ICC, where he was briefed by Mr Hardman, who was anxious that it might take as little as three hours for the fire to reach populated areas. Senior Sergeant Teer immediately called Mr Dickson and the police officers rostered to work for the day.<sup>56</sup>

The details contained in the joint alert message were reflected in a media update given by Mr Hardman to ABC radio at about 04:00 and a further joint media release issued at 05:00. This latter media release warned that embers could begin falling on Labertouche, Tonimbuk and Jindivick West as early as 06:00. Just after 05:00 the State Air Desk was contacted to ensure that aircraft would be available at first light.<sup>57</sup>

At about 05:30 a small reconnaissance group re-entered the fire ground to determine whether crews could safely return to fight the fire. They concluded that there would be insufficient time to complete the necessary containment work before the predicted early morning wind change. This assessment was relayed to the DSE IMT. By 06:25 the reconnaissance team had left the fire ground and all crews were directed not to return.<sup>58</sup>

At 06:30 Mr Stephen Venville, the Baw Baw Municipal Fire Prevention Officer and Municipal Emergency Coordination Centre Manager, was advised by the deputy Municipal Emergency Resource Officer that the Bunyip fire had broken its containment lines and was asked to immediately activate the MECC. The Baw Baw MECC became operational at 07:00 and was attended during the day by representatives of Victoria Police, the CFA, Victoria State Emergency Service, VicRoads, the Red Cross and the Department of Primary Industries. During the day the MECC received numerous general updates from emergency services. Mr Venville told the Commission, however, that it was not clear how much of this information was accurate, current or important. He particularly noted the lack of accurate and up-to-date details about road closures.<sup>59</sup>

Mr Dickson activated the Cardinia MECC in portable mode at 06:45 in response to a request from Senior Sergeant Teer.<sup>60</sup>

At 08:10 Mr Hardman briefed Mr Nugent, the DSE day-shift Incident Controller, on the previous night's activities. Seven aircraft were water bombing by 08:10 in an effort to hold the fire for as long as possible and so delay its move to private property.<sup>61</sup>

By 08:40 the Cardinia MECC was operating from the Pakenham Police and Emergency Services complex. During the day it was attended by representatives of the Department of Human Services, VicRoads, Victoria State Emergency Service, the Department of Primary Industries, VicTrak and Victoria Police. It received a request to help with the evacuation of Hillview Aged Care Facility (see Box 4.1) and arranged for a low-floor bus to transport ambulant residents from Bunyip to Koo Wee Rup hospital. Mr Dickson also arranged for an emergency relief centre to be opened at the Cardinia Cultural Centre in Pakenham.<sup>62</sup>

During the IMT meeting held at 09:00 Mr Nugent emphasised the priorities for the day, among them community protection and implementation of the operations plan developed by Mr Smith.<sup>63</sup>

At 09:45 Neerim was added to the media releases' list of communities that should be prepared for direct impact by the fire. A number of smoke alert messages were then released throughout the morning. By 10:15 the predicted strong winds had not reached the fire ground and fire behaviour was recorded as moderate. After a full safety analysis and preparation of a safety plan, ground crews went back to the fire ground at about 11:00 to try to contain the fire's spread to the east.<sup>64</sup>

Aggressive air attack proceeded throughout the morning. This helped retard the fire's forward progress by about two hours and mitigated its subsequent impact on communities.<sup>65</sup>

By noon the weather had deteriorated: the north-westerly wind was blowing at up to 30–40 kilometres an hour and gusting to 60 kilometres an hour. The fire spread rapidly, and spotting was occurring up to 4 kilometres ahead of the front. Unpredictable and erratic fire behaviour meant that it was now too dangerous to continue directly attacking the fire. The ground crews pulled back. The fixed-wing water bombers that had been providing aerial support were forced to land.<sup>66</sup>

At about noon Inspector Allen received a request from the Pakenham ICC to authorise a SEWS (Standard Emergency Warning Signal) alert for the towns of Labertouche and Tonimbuk. He received the relevant documents and prepared the authorisation. The request was, however, later withdrawn. Neither Mr Nugent nor Mr Smith was aware of the request being made and later withdrawn. Mr Smith said he was surprised the SEWS was not used; he thought its use would have given the many warnings being issued maximum impact.<sup>67</sup>

The first urgent threat message for the Bunyip fire was issued at 12:45, warning of ember attack and heavy spotting in Labertouche and Labertouche North. At 13:30 another urgent threat message was issued—this time for Garfield North, Tonimbuk, Labertouche, Robin Hood, Drouin West, Buln Buln, Tarago, Jindivick, Jindivick North, Longwarry, Longwarry North and Bunyip, noting that these townships were already experiencing ember attack. The outskirts of Drouin were added to the list at 14:00.<sup>68</sup>

Image 4.1



Source: Courtesy of *Herald & Weekly Times*.

At about 13:00 the fire escaped from Bunyip State Park, spotting into private property in Tonimbuk. Because of the continued erratic fire behaviour, the focus turned to community protection with the assistance of those water-bombing aircraft that were still able to operate.<sup>69</sup>

The fire's movement to private property had previously been identified as a trigger point in the operations plan, when DSE would formally hand over control of the fire to the CFA. When the handover occurred, at 13:45, Mr Smith became the Incident Controller and Mr Nugent became the Deputy Incident Controller.<sup>70</sup>

The CFA Incident Management Team was then responsible for a rapidly moving and very destructive fire. CFA Sector Commander Mr Steve Lambie was repositioned at Tonimbuk to meet the fire as it emerged from Bunyip State Park. He described the fire to Mr Smith: '... columns of flame [falling] forward out of the trees ... [It] looked like someone was throwing a flamethrower out of the trees'.<sup>71</sup>

Eleven strike teams were deployed to the Tonimbuk airport area at 13:25. An additional seven strike teams were later requested. The V/Line train line and the eastbound Princes Freeway were closed at this time. A few minutes later numerous residential properties came under threat. Major spot fires affecting Longwarry North, Robin Hood and Drouin were reported at 14:00, and by 14:30 waves of spot fires were occurring up to 16 kilometres ahead of the firefront.<sup>72</sup>

**Box 4.1 Evacuation: a case study**

Two health care facilities in the Bunyip area were evacuated on 7 February—the Hillview Bunyip Aged Care Facility and the Neerim Hospital. The two facilities have a shared management team that includes Mr Frank Hoff, CEO, and Ms Jacqui Brown, Director of Nursing.<sup>73</sup>

Hillview has 48 beds, including a 15-bed dementia unit. About 70 per cent of the residents are classified as ‘high care’, needing help with movement, feeding, dressing, showering and toileting. On 7 February all 48 beds were occupied. Neerim Hospital consists of a small 10-bed private bush-nursing hospital and a 30-bed nursing home. On 7 February, there were four patients in the hospital and 30 people in the nursing home.<sup>74</sup>

Being aware of the fires already burning, in the days immediately before 7 February staff at both facilities took steps to ensure that they would be ready to evacuate residents if necessary on the Saturday. After learning on the evening of 6 February that Neerim Hospital was in the predicted impact zone for the following day, Mr Hoff and Ms Brown decided they would attend and each take responsibility for one of the facilities on the Saturday until the threat passed: Mr Hoff was to attend Hillview and Ms Brown Neerim.<sup>75</sup>

After he arrived at Hillview on 7 February Mr Hoff spoke with the CEO of the Koo Wee Rup Hospital at about 10:00 and arranged for patients to be transported there if evacuation was necessary. At about 11:40, having been put in touch with each other by the CEO of Koo Wee Rup Hospital, Mr Hoff had a telephone discussion with Sergeant Stuart Halligan, assistant to Senior Sergeant Teer at the Cardinia Municipal Emergency Coordination Centre. At 12:45 Sergeant Halligan advised Mr Hoff that if the facility was to be evacuated this should be done immediately. Mr Hoff decided to begin the evacuation.<sup>76</sup>

Local police assisted with the Hillview evacuation by arranging Victoria State Emergency Service volunteers, ambulance transport and a wheelchair-friendly bus. Seven Hillview residents went home with their families; the remaining 41 were evacuated in very difficult circumstances. The evacuation was completed at about 16:00. Residents were accommodated overnight at Koo Wee Rup Hospital and were able to return to Hillview on 8 February.<sup>77</sup>

Although the Pakenham ICC was aware of Sergeant Halligan’s role in the evacuation of Hillview, neither it nor Sergeant Halligan offered assistance to Neerim Hospital because the facility was in an adjacent police service area. Neerim Hospital did, however, receive evacuation assistance from the Traralgon ICC (which was responsible for the Delburn and Churchill fires) in the form of a number of ambulances. Ambulance Victoria decided this assistance should be provided from Traralgon, to the east of the fire, because road closures would have made it difficult to gain access to Neerim Hospital from the west.<sup>78</sup>

Assistance from the Traralgon ICC came after Ms Brown, in consultation with her senior staff, had already decided to evacuate Neerim Hospital. Her decision had been based on the available information about road closures, the fire’s location, and the fact the CFA could not guarantee its attendance at the hospital. Ms Brown made the decision independently of advice or assistance from any incident control centre or municipal emergency coordination centre.<sup>79</sup>

Ambulances arrived at 13:30 to begin evacuating patients from Neerim Hospital. Staff conducting the evacuation experienced the same trying conditions as staff at Hillview, except that there was no assistance from Victoria State Emergency Service volunteers and the bus was unsuitable, such that residents had to be individually lifted on board. The patients and residents of Neerim Hospital were transported to Warragul Hospital and then relocated to nursing homes in the area.

The Commission was informed that four very frail residents died in the ensuing days. One of these people was terminally ill and before the fires had been in palliative care. The other three patients died shortly after evacuation; Mr Hoff stated that their deaths ‘can be attributed to the disruption and shock of evacuation. For example, one of our residents simply stopped eating as a result of the trauma’.<sup>80</sup>

It is to the credit of staff at Hillview and Neerim Hospital, Sergeant Halligan, Mr Edward Wright at the Traralgon ICC, Mr Paul James (the ambulance coordinator) and numerous volunteers that these difficult evacuations were accomplished.

By 15:00 DSE slip-on units were on their way to Tonimbuk to help the CFA with community protection. At one point flame heights were 30 metres. Crews from the Metropolitan Fire and Emergency Services Board had begun back-filling CFA stations where crews had been deployed on strike teams.<sup>81</sup>

By 15:30 messages coming from the Pakenham ICC were taking account of the forecast wind change, which the IMT had been aware of since the previous day. Specific towns were warned to be on alert before the change; other towns were warned to be on alert after the change. Urgent threat messages continued to be released and updated throughout the afternoon, directed at an increasingly long list of towns.<sup>82</sup>

Between 15:00 and 17:00 fire spotting was reported at Warragul (20 kilometres ahead of the fire front), Buln Buln and Nilma. Two of the air cranes, which had been water bombing throughout the day, were redeployed at 16:30 to help deal with the emerging fire threat in Upper Ferntree Gully.<sup>83</sup>

Before the wind change the flank of the fire was 15 kilometres long. By 17:00 the change had reached Tooradin airfield, about 30 minutes from the fire ground, and the focus of firefighting efforts changed to the expected spread of the fire after the wind change.<sup>84</sup>

An alert message issued at about 17:45 advised that because of the wind change the fire was now burning towards the north-east and listed a number of additional towns that should be aware of increased fire activity and potential direct impacts.<sup>85</sup>

When the south-westerly arrived the north-eastern flank of the fire became the head of the fire and the fire started running towards Neerim South, threatening the townships of Jindivick, Jindivick West, Rokeby and Crossover. CFA crews protected assets in these areas well into the night.<sup>86</sup>

A situation report issued at 18:00 reported spot fires in Drouin, Warragul, Longwarry, Longwarry North and Labertouche. There was no continuous line of firefront, but numerous tongues had developed out of the spot fires. At 18:45, 90 people were reported trapped at a forest camp in Neerim East, and local police were given the task of managing the situation.<sup>87</sup>

The western flank of the fire began to die away after the wind change, although the fire did continue to creep out of Bunyip State Park. Fourteen DSE slip-on units and one tanker were left in Tonimbuk to protect the area, including houses under threat.<sup>88</sup>

At 19:00 the first urgent threat message was issued for Warragul, the largest settlement in the path of the fire, with a population of over 10,000. Alerts and urgent threat messages continued to be issued throughout the night and into 8 February for the towns listed in the foregoing paragraphs.<sup>89</sup>

Strike teams that had been working in and around Labertouche to protect assets, including the town hall, where people were sheltering, were operating in very difficult conditions. They continued working until 21:00, by which time they had been firefighting for over 10 hours without the opportunity to eat or rest and were exhausted.<sup>90</sup>

#### 4.1.3 AFTER 7 FEBRUARY

By 8 February the fire on private land had largely been controlled and management was returned to the DSE Incident Management Team to continue efforts to contain the fire in Bunyip State Park. Thus far the fire had burnt about 5,000 hectares.<sup>91</sup>

On 10 February the incident control centre was relocated once again, from Pakenham to Noojee. Whilst at Pakenham the ICC had been located in the same complex as the police operations centre and the Gardinia Municipal Emergency Coordination Centre. This co-location helped all agencies work together. It also allowed police to overcome difficulties presented by the breakdown of phone communications between the ICC and the police operations centre: a 'runner' had been used to ensure the continued flow of information.<sup>92</sup>

Once the ICC moved to Noojee, communications between it and the police were impeded. The police were unable to receive regular fire updates, and this limited their ability to effectively deploy resources during this stage of the fire.<sup>93</sup>

Two relief centres had been opened in Warragul on 7 February, although one of them was not used. Recovery centres were established in Warragul on 8 February and in Labertouche on 12 February. Mr Venville noted the challenges of maintaining an operational municipal emergency coordination centre for the purpose of emergency response at the same time as providing personnel to staff the recovery centres. An emergency relief centre had also been established at the Cardinia Cultural Centre in Pakenham on 7 February for people who had nowhere to go because of road closures.<sup>94</sup>

The Baw Baw MECC operated 24 hours a day until 21:00 on 10 February and then during business hours until 13 February. It received requests for machinery, material aid (such as clothing and personal items), generators, assistance with coordinating road closures, and activation of emergency relief centres.<sup>95</sup>

The Cardinia MECC remained operational or on standby until 5 March; during that time it received numerous requests for assistance and resources—including equipment, machinery, water tankers, catering and fuel.<sup>96</sup>

The continuing response required active fire management, involving back-burning and other suppression efforts, for a number of months. The Bunyip fire was declared contained at 17:30 on 4 March, having burnt approximately 26,200 hectares. After 130 kilometres of control lines had been built, the fire was finally declared safe at 14:35 on 15 May. Thirty-one houses had been destroyed.<sup>97</sup>

#### **Box 4.2 Resource management: a different approach**

The decision not to fully integrate the CFA and DSE teams before the Bunyip fire breached the park border appears to have produced good results. It allowed DSE to focus on suppression efforts inside the park while the CFA planned for the fire's almost inevitable escape onto private land. The approach adopted by Mr Owen and Mr Smith, with the cooperation of Mr Hardman and Mr Nugent, impressed the Commission. It seems that the two agencies were able to design a solution that was purpose-built for the unique features of the Bunyip fire.

The Commission was also impressed by the DSE Incident Management Team's management of the fire. This performance was, however, at least partly facilitated by the slower, 'campaign' nature of the fire before 7 February.

## **4.2 FUEL MANAGEMENT**

There was no evidence that the behaviour or overall severity of the fire was influenced by previous fuel-reduction burning. Treated areas within the perimeter of the Bunyip fire had been subject to such burning between four and seven years previously.<sup>98</sup> The role of fuel management is discussed in greater detail in Chapter 7 of Volume II.

## **4.3 FIREFIGHTER SAFETY**

The Bunyip Incident Management Team included a safety adviser, who was called on for advice on a number of occasions. Mr Nugent and Mr Smith agreed that the safety of firefighters is paramount. The adviser appears to have played an important role, among other things advising on decisions relating to crew safety on the fire ground.<sup>99</sup>

Throughout 7 February the IMT worked on the basis that the wind change was expected at 19:00. Mr Nugent also ensured, however, that the IMT was kept aware of the real-time weather by means of reports from the integrated Emergency Coordination Centre and from the IMT's situation officers.<sup>100</sup>

During the afternoon the situation officer, Ms Catherine Clancy, informed Mr Nugent that the predicted time of the wind change had been brought forward. By at least 16:50 Mr Nugent was aware that the change was now predicted to arrive by 18:00 instead of 19:00. He knew when he received this update that it was 'critical' information—both for crews on the fire ground and for the community.<sup>101</sup>

Mr Smith was informed of the wind change by Mr Andrew Wenczel, deputy planning officer, at 16:30. Mr Smith and Mr Nugent discussed the new wind change prediction. It appears they held differing views about the way this information should be conveyed to crews on the fire ground. Mr Smith issued a red flag warning at 16:45. He said such warnings should not be used 'lightly', but he had decided this was an appropriate occasion. In contrast, Mr Nugent held the view that, because the wind change was still more than an hour away, it was sufficient to ensure that the information was provided to crews without resorting to a formal red flag warning.<sup>102</sup>

At 17:10 Mr Nugent received more information: he was told the wind change had reached Tooradin, which he judged to be about 10 to 15 minutes from the fireground. He made sure this information was passed to the divisional commanders.<sup>103</sup>

At the regional level, Mr Owen had also been monitoring the weather. At 16:00, on the basis of information from the remote automatic weather station, he authorised the dissemination of a red flag warning that a wind change was expected at 18:00 and sent a pager message containing the warning to all crews in the region. When by 17:40 it became clear to him that the pager message had not been received by crews, he arranged for the incident control centre to be contacted and advised to send a warning to all crews on the ground. Mr Owen also personally issued a red flag warning across the command channel.<sup>104</sup>

Firefighter safety is discussed in Chapter 3 of Volume II.

#### 4.4 CONCLUSIONS

A considerable amount of information about the Bunyip fire was available to the public from 2 to 7 February. Most of the information about the nature of the fire threat was accurate, although occasionally it did not include everything the incident management team knew about the fire. Some information provided to members of the public underestimated the size of the fire and consequently had the potential to cause them to underestimate the nature of the risk.<sup>105</sup>

It appears to the Commission that people who attended the community meetings before 7 February understood and interpreted the information provided in differing ways. This emphasises the importance of using straightforward language when delivering community warnings; it might diminish the risk of idiosyncratic interpretations.

The integrated Emergency Coordination Centre on 5 and 6 February provided a high degree of support to the IMT working on the Bunyip fire. While the fire was in Bunyip State Park liaison between the iECC and the DSE IMT appears to have worked well. Mr Nugent confirmed that the various predictive maps and reports the iECC provided were valuable and generally consistent with the fire's behaviour.<sup>106</sup>

In the Commission's view, the predictive work was appropriate and was properly considered and acted on by the CFA and DSE IMTs. This is in contrast with the evidence about some other fires that burned on 7 February, where predictive material either was not provided promptly or was not used in formulating warnings.

The local weather forecast provided at 04:30 on 7 February was attached to the incident shift plan (also known as an 'incident action plan') for the day. It is notable that the plan for day shift on 7 February contained among its main messages a reminder that all crew should 'listen out for red flag warnings'. The Commission commends the importance attached to firefighter safety.

Although many aspects of the IMT's planning were effective and praiseworthy, nothing was advanced to the Commission to explain why the Bunyip IMT or the CFA operational contingency planning team failed to contact Hillview and Neerim hospital early on 6 February, when Mr Nugent had formed the view that 'under the forecast conditions for 7 February, it was likely the fire would escape control lines'.<sup>107</sup>

The south-westerly wind change arrived at 17:45 on 7 February—earlier than initially forecast. Although there is no evidence of any firefighter at the Bunyip fire being taken by surprise or exposed to danger when the change arrived, it is the Commission's view that using red flag warnings is the appropriate message format for conveying vital information such as the imminent arrival of a wind change.<sup>108</sup>

The warnings the IMT issued to communities on 7 February were timely and took account of the path of the fire and the potential impact of the wind change. The IMT's success in keeping the community informed on 7 February was no doubt partly a result of steps taken before the day, including identifying towns likely to be at risk. The role of warnings is discussed in Chapter 1 of Volume II.

It appears that Bunyip was the only fire where the use of the Standard Emergency Warning Signal was requested (although the request was later cancelled). The Commission received no evidence that a request to use SEWS was made of Victoria Police in relation to any other fire. The role of SEWS is discussed in Chapter 1 of Volume II.

Senior Sergeant Teer and Mr Owen both expressed concern at the relocation of the incident control centre from Pakenham to Noojee in the days following 7 February. The new location was considered both inconvenient and dangerous, having been razed by fire on two previous occasions. The move also meant that the ICC was now one hour from the municipal emergency coordination centre and the Police and Emergency Services Complex in Pakenham. A number of police members considered that the move made it difficult for police to receive current information about the fire and hindered them in effectively deploying their resources.<sup>109</sup>

The experience and the personal efforts of both Mr Owen and Mr Smith were instrumental in the success of firefighting efforts associated with the Bunyip Ridge Track fire on 7 February. Mr Owen's attention to detail, his knowledge of his region, and his efforts devoted to 'triaging' the many fires in the region while making difficult resourcing decisions warrant mention. And, taking into account the time Mr Smith had for preparation, his careful planning and management of the incident management team and crews on the fire ground enabled the CFA to do the best job possible in extreme circumstances.<sup>110</sup>

- 
- 1 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 2 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 3 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 4 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 5 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 6 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094
  - 7 Nugent T12729:29–T12730:25
  - 8 Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0083
  - 9 Exhibit 4 – Supplementary Statement of Rees, Annexure Volume 3 (WIT.004.002.0484) at 0730
  - 10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048\_R) at 0048\_R
  - 11 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261
  - 12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – MFB Response (MFB.001.001.0040) at 0040; Exhibit 939 – Day by Day Breakdown – Bunyip (DSE.HDD.0048.0545\_01); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544\_20) at 0544\_25–0544\_26
  - 13 Exhibit 994 – Bunyip Fire – Fire Spread Map (DSE.HDD.0165.0052)
  - 14 Nugent T12729:30–T12730:7
  - 15 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Nugent T12749:30–T12750:5; Hardman T12807:19–T12807:26
  - 16 Exhibit 582 – DSE External Web Update (DSE.0013.0070.0171); Exhibit 600 – Bunyip Ridge Track Fire Chronology (TEN.161.001.0001) at 0002–0003
  - 17 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [320]; Exhibit 600 – Bunyip Ridge Track Fire Chronology (TEN.161.001.0001) at 0003; Exhibit 787 – Supplementary Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261
  - 18 Nugent T12730:15–T12730:25
  - 19 Nugent T12762:2–T12762:10
  - 20 Nugent T12731:29–T12732:5
  - 21 Nugent T12732:6–T12732:24
  - 22 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [2], [27]–[28]
  - 23 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [32]
  - 24 Nugent T12731:1–T12731:5, T12752:6–T12752:12; Smith T12879:8–T12879:19
  - 25 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [59]–[64]
  - 26 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [25]–[28]

- 27 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [80]–[83]; Owen T12925:9–T12925:11
- 28 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [58], [61]–[62], Annexure 6 (WIT.3004.031.0069) at 0069–0070
- 29 Exhibit 584 – Statement of Nugent, Annexure 8 (DSE.HDD.0052.1720); Nugent T12783:12–T12784:4; Buntine T12832:16–T12834:9, T12834:31–T12836:1
- 30 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [33]–[37]; Nugent T12735:2–T12735:17, T12762:7–T12762:10
- 31 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [41]–[42], [45]–[46], [49], [51]
- 32 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [33]; Nugent T12736:9–T12736:18
- 33 Nugent T12736:24–T12737:5, T12779:11–T12779:22
- 34 Hardman T12813:1–T12813:3
- 35 Exhibit 582 – External Web Update (DSE.0013.0070.0139) at 0039
- 36 Nugent T12738:1–T12738:22
- 37 Exhibit 582 – Fire Spread Prediction Report (DSE.HDD.0014.0008); Exhibit 582 – Fire Spread Prediction Report (DSE.0169.1387.0016); Exhibit 209 – Statement of Douglass (WIT.3024.002.0127) [58]; Douglass T6500:28–T6501:8
- 38 Nugent T12777:15–T12778:3
- 39 Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [2], [14]
- 40 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [57]–[58]; Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [31]
- 41 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [60]–[61]
- 42 Exhibit 582 – External Web Update (DSE.0013.0070.0137); Exhibit – 582 External Web Update (DSE.0013.0070.0134)
- 43 Exhibit 582 – External Web Update (DSE.0013.0070.0134)
- 44 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Nugent T12749:30–T12750:5; Hardman T12807:19–T12807:26
- 45 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [59]–[64]
- 46 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [20]–[21]
- 47 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [22]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137
- 48 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [10]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [14]
- 49 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [22]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137
- 50 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [118]; Nugent T12731:7–T12731:15
- 51 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137
- 52 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107\_R)
- 53 Exhibit 588 – Statement of Patrick (WIT.3024.004.0355) [87]; Nugent T12739:10–T12739:20
- 54 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [72]–[77]
- 55 Exhibit 585 – Statement of Hardman, Annexure 9 (DSE.0017.0115.0163); Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [73], [75]
- 56 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [33]
- 57 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [51], [57]; Exhibit 587 – Statement of Smith, Annexure 6 (WIT.3004.030.0217); Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [100], [102]
- 58 Exhibit 588 – Statement of Patrick (WIT.3024.004.0355) [93], [97], [100], [104]; Exhibit 585 – Statement of Hardman, Annexure 2 (DSE.HDD.0052.1959) at 1977
- 59 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [65]–[71], [77]
- 60 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [59]
- 61 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [57]; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [100], [102]
- 62 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [60]–[61], [64], [68], Annexure 7 (WIT.4018.001.0346) at 0350–0351
- 63 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [104]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [83]–[88]
- 64 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0091), (WIT.3004.030.0095), (WIT.3004.030.0096), (WIT.3004.030.0101), (WIT.3004.030.0102); Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [107]–[108]
- 65 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [92]
- 66 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [113]; Nugent T12740:20–T12740:27, T12741:16–T12741:20
- 67 Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [38]; Nugent T12793:4–T12793:14; Smith T12877:13–T12877:23, T12877:28–T12878:5
- 68 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0107), (WIT.3004.030.0113), (WIT.3004.030.0115)
- 69 Exhibit 582 – CFA Incident Report (CFA.001.023.0001) at 0005; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [118]–[119]
- 70 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [93]–[95], Annexure 7 (WIT.3004.030.0220)
- 71 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [171]–[177]

- 72 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [118]; Exhibit 582 – CFA Incident Report (CFA.001.023.0001) at 0005; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [121]; Nugent T12742:13–T12742:19, T12743:9–T12743:14
- 73 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [7]
- 74 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [4], [6], [14]–[15]; Hoff T12951:14–T12951:21
- 75 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [20]–[29], [59]–[60], Attachment 3 (DSE.HDD.0005.0942)
- 76 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [68], [74]; Exhibit 597 – Statement of Halligan (WIT.3010.009.0371) [16]–[17]; Halligan T13001:10–T13002:20, T13002:31–T13003:30; Hoff T12979:3–T12979:21
- 77 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [67]–[68], [76], [79]–[86], [93]–[96]
- 78 Halligan T12998:28–T12999:26, T13002:31–T13003:30; Wright T13014:19–T13014:28, T13016:1–T13016:11
- 79 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [34]–[37]
- 80 Exhibit 596 – Statement of Hoff (WIT.125.001.0001\_R) [38], [43]–[44], [49], [55]; Exhibit 598 – Statement of Wright (WIT.3002.001.0001) [26]
- 81 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [130], [132]
- 82 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [60(e)]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [124], Annexure 5 (WIT.3004.030.0117), (WIT.3004.030.0128), (WIT.3004.030.0131)
- 83 Exhibit 582 – Fire Situation Report (DSE.HDD.0023.0032); Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [129]; Nugent T12743:18–T12743:23
- 84 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [132]; Nugent T12743:28–T12743:30
- 85 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0139)
- 86 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [134], [163]–[164], [187]–[188]; Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [46]; Nugent T12743:24–T12744:16
- 87 Exhibit 4 – Supplementary Statement of Rees, Annexure Volume 3 (WIT.004.002.0484) at 0730; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [135]
- 88 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [183]
- 89 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [125], Annexure 5 (WIT.3004.030.0145), (WIT.3004.030.0150), (WIT.3004.030.0154), (WIT.3004.030.0160), (WIT.3004.030.0170), (WIT.3004.030.0174), (WIT.3004.030.0184); Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [15]
- 90 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [231]–[233]
- 91 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [157]; Exhibit 582 – Fire Situation Report (DSE.HDD.0031.0092)
- 92 Exhibit 592 – Statement of Smith (WIT.3010.006.0001) [20], [24], [38]; Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [60]
- 93 Exhibit 592 – Statement of Smith (WIT.3010.006.0001) [38]
- 94 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [73], [79]–[80], [83]–[85]; Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [68]
- 95 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [73], [87]
- 96 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [64], [67]
- 97 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261; Exhibit 6 – Statement of Waller (WIT.002.002.0001) at 0091; Exhibit 582 – Incident Information Summary – Bunyip Ridge Track Fire (DSE.HDD.0031.0051) at 0051–0056; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048\_R) at 0048\_R
- 98 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0013–0014
- 99 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [108]; Nugent T12756:21–T12757:9; Smith T12881:26–T12881:30
- 100 Nugent T12791:14–T12791:18
- 101 Nugent T12794:13–T12795:11
- 102 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [127]; Smith T12880:19–T12881:8; Nugent T12795:1–T12795:27
- 103 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [144]
- 104 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [189]–[193]
- 105 Exhibit 582 – External Web Update (DSE.0017.0113.0157); Exhibit 582 – Fire Situation Report (DSE.HDD.0031.0091)
- 106 Exhibit 582 – Fire Spread Prediction Report (DSE.HDD.0014.0008); Exhibit 582 – Fire Spread Prediction Report (DSE.0169.1387.0016); Exhibit 209 – Statement of Douglass (WIT.3024.002.0127) [58]; Douglass T6500:28–T6501:8; Nugent T12749:3–T12749:13, T12777:15–T12778:3
- 107 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [67]
- 108 Smith T12881:9–T12881:30
- 109 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [37]–[38]; Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [174]; Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [46]
- 110 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [156]–[160]; Owen T12936:12–T12937:18