Hazelwood Coal Mine Fire Inquiry

Submission from the Victorian Government

May 2014

State Government Victoria

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ACCESSIBILITY

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1. Glossary of terms

Common terms used throughout this Submission include:

Air Quality Protocol	DH and EPA document entitled *Bushfire, Smoke, Air Quality and Health – Air Quality Assessment and Community Health Protection Messaging: An Integrated Approach Protocol*
Berm	In open pit mining, a berm refers to dirt and rock piled alongside a haulage road or along the edge of a dump point
Fire hole	Fire holes are designed to contain fire and prevent it from spreading
Hazelwood Coal Mine	The open cut coal mine at Hazelwood
Hazelwood Coal Mine Fire	The fire at the Hazelwood Coal Mine in February and March 2014
Hazelwood Power Station	The power station adjoining the Hazelwood Coal Mine
Hernes Oak fire	The fire at Hernes Oak – McDonalds Track which commenced on 7 February 2014
Southern area of Morwell	The area of the town of Morwell to the south of the railway line

The following acronyms are used throughout this Submission:

AIIMS	Australasian Inter-Service Incident Management System
APS	annual performance statement
AV	Ambulance Victoria
CCP	Chief Commissioner of Police
CFA	Country Fire Authority
CHO	Chief Health Officer
CO	Carbon monoxide
DEECD	Department of Education and Early Childhood Development
DEPI	Department of Environment and Primary Industries
DH	Department of Health
DHS	Department of Human Services
DOJ	Department of Justice
DPC	Department of Premier and Cabinet
DPI	(the former) Department of Primary Industries
DSDBI	Department of State Development, Business and Innovation
DSE	(the former) Department of Sustainability and Environment
DTF	Department of Treasury and Finance
DTPLI	Department of Transport, Planning and Local Infrastructure

EI Act	EI Act = *Electricity Industry Act 1993* (Vic)
EE Act	*Environment Effects Act 1978* (Vic)
EES	environmental effects statement
EM Act 1986	*Emergency Management Act 1986* (Vic)
EM Act 2013	*Emergency Management Act 2013* (Vic)
EMC	Emergency Management Commissioner
EMJPIC	Emergency Management Joint Public Information Committee
EMMV	*Emergency Management Manual Victoria*
EP Act	*Environment Protection Act 1970* (Vic)
EPA	Environment Protection Authority
ES Act	*Electricity Safety Act 1998* (Vic)
ESMS	electrical safety management scheme
ESV	Energy Safe Victoria
FSC	Fire Services Commissioner
FSC Act	*Fire Services Commissioner Act 2010* (Vic)
HACC	Home and Community Care
HazMat	Hazardous Material
HHSEM	Health and Human Services Emergency Management
ICC	Incident Control Centre
ICP	Incident Control Point
IMT	Incident Management Team
IPRH	International Power Hazelwood
JSOP	Joint Standards Operating Procedure
LGV	Local Government Victoria
MEMP	municipal emergency management plan
MFB	Metropolitan Fire Brigade
MFPP	municipal fire prevention plan
MOU	Memorandum of Understanding
MR(SD) Act	MR(SD) Act = *Mineral Resources (Sustainable Development) Act 1990* (Vic)
MR(SD)(MI) Regulations	*Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2013* (Vic)
NDRRA	Natural Disaster Relief and Recovery Arrangements
OHS	occupational health and safety
OHS Act	*Occupational Health and Safety Act 2004* (Vic)

OHS Regulations	*Occupational Health and Safety Regulations 2007* (Vic)
PE Act	*Planning and Environment Act 1987* (Vic)
PM2.5	particulate matter in the atmosphere which is smaller than 2.5 micrometres in size
PTV	Public Transport Victoria
RCC	Regional Control Centre
REMT	Regional Emergency Management Team
RHIMT	Regional Health Incident Management Team
SCC	State Control Centre
SCRC	State Crisis and Resilience Council
SCT	State Control Team
SECV	State Electricity Commission of Victoria
SEMC	State Emergency Management Centre
SEMT	State Emergency Management Team
SEPP	State Environment Protection Policy
SERP	State Emergency Response Plan
SES	Victoria State Emergency Service
SEV	South-Eastern Victoria
SHERP	State Health Emergency Response Plan
SHIMT	State Health Incident Management Team
SMS	Safety Management System
SOP	Standard Operating Procedure
SSG	Strategic Support Group
VWA	Victorian Workcover Authority
VERIL	Victorian Emergency Recovery Information Line
WoVG	Whole of Victorian Government

2. Introduction

Background

2.1 In February and March 2014, a fire burned in the Hazelwood Coal Mine. The fire required significant resources to bring it under control, and impacted on local communities, particularly in the town of Morwell.

2.2 On 11 March 2014, the Premier of Victoria, The Hon Dr Denis Napthine MP and the Deputy Premier, The Hon Peter Ryan MP, announced the establishment of an independent inquiry into the circumstances of the Hazelwood Coal Mine Fire.

2.3 On 21 March 2014, the Governor in Council appointed a Board of Inquiry into the Hazelwood Coal Mine Fire, comprising the Honourable Bernard Teague AO (Chair), Professor John Catford and Ms Sonia Petering.

Victorian Government Submission

2.4 The Victorian Government welcomes the opportunity to assist the Board of Inquiry to inquire into, and report on, the Hazelwood Coal Mine Fire. This Submission has been prepared on behalf of all departments and relevant agencies of the Victorian Government, many of which were closely involved in the regulatory and emergency response issues associated with the Hazelwood Coal Mine Fire.

2.5 The Victorian Government intends to make a further submission to the Board of Inquiry. The further submission will suggest options the Board may wish to consider in formulating its recommendations.

Executive summary

2.6 This Submission responds to relevant matters for inquiry set out in the Order in Council, which appointed the Board of Inquiry, as follows:

> '1. The origin and circumstances of the fire, including how it spread into the Hazelwood Coal Mine.
>
> …
>
> 3. The adequacy and effectiveness of the application and administration of relevant regulatory regimes in relation to the risk of, and response to, fire at the Hazelwood Coal Mine.
>
> 4. The adequacy and effectiveness of the response to the Hazelwood Coal Mine Fire by:
>
> …
>
> ii. the emergency services; and
>
> iii. other relevant government agencies, including environmental and public health officials,

and, in particular, the measures taken in respect of the health and well-being of the affected communities by:

iv. informing the affected communities of the Hazelwood Coal Mine Fire and about its known effects and risks; and

v. responding to those effects on, and risks to, the affected communities.'

2.7 Information relevant to these matters is set out within the following chapters:

- Chapter 3: Regulatory framework
- Chapter 4: Application of the regulatory framework
- Chapter 5: History of key events and previous reviews
- Chapter 6: Emergency response and recovery framework
- Chapter 7: Origin and circumstances of the fire
- Chapter 8: Emergency response
- Chapter 9: Environment
- Chapter 10: Health
- Chapter 11: Relief and recovery.

2.8 Chapter 3 describes the regulatory approach adopted by Victorian Government regulators and provides an overview of the regulatory framework for the Hazelwood Coal Mine.

2.9 Chapter 4 sets out how Victorian Government regulators have applied the regulatory framework to the Hazelwood Coal Mine.

2.10 Chapter 5 provides a concise history of the key events that have shaped the regulatory framework relevant to the Hazelwood Coal Mine. It includes detailed information on reviews undertaken following previous fires at the Hazelwood Coal Mine and changes made as a result of those reviews.

2.11 Chapter 6 sets out the framework for emergency response and recovery in Victoria.

2.12 Chapter 7 discusses the origin and circumstances of the fire. It provides background information on fire season 2013–14, and gives information about emergency preparedness and the emergency response to the fires near Morwell prior to and on 9 February 2014.

2.13 Chapter 8 sets out the Victorian Government's emergency response to the Hazelwood Coal Mine Fire, including communications activities.

2.14 Chapter 9 sets out EPA's functions that were engaged in responding to the Hazelwood Coal Mine Fire, and the activities undertaken during the fire.

2.15 Chapter 10 sets out DH's functions that were engaged in responding to the Hazelwood Coal Mine Fire, and the activities undertaken during the fire.

2.16 Chapter 11 sets out the relief and recovery provided to the community by the Victorian Government during and after the Hazelwood Coal Mine Fire.

3. Regulatory framework

Introduction and context

3.1 Chapters 3, 4 and 5 of this Submission focus on the regulatory framework for the Hazelwood Coal Mine and, where relevant, the Hazelwood Power Station.

3.2 This chapter describes the regulatory approach adopted by the Victorian Government and its regulators and provides an overview of the regulatory framework applicable to the Hazelwood Coal Mine.

3.3 Chapter 4 sets out how the regulatory framework has been applied by Victorian Government regulators to the Hazelwood Coal Mine.

3.4 Chapter 5 provides a concise history of the key events that have shaped the regulatory framework for the Hazelwood Coal Mine, with a focus on recommendations and implementation of reviews of previous fires at the Hazelwood Coal Mine.

3.5 The Hazelwood Coal Mine and the Hazelwood Power Station have a complex ownership structure that involves a number of related entities and reflects that the entities that own the site are part of a large, sophisticated group of companies.

3.6 From information available from company searches, it appears that the entities that own the land are ultimately held by GDF Suez Australian Energy (72 per cent) and Mitsui & Co Ltd (28 per cent). These related entities are collectively referred to as the duty holder.

3.7 The regulatory framework discussion in Chapters 3, 4 and 5 applies to Victorian Government departments and agencies operating in their capacity as a regulatory authority in monitoring compliance with regulatory requirements. This is distinguished from when Victorian Government departments and agencies operate as the control agency (or support agency) in respect of an emergency incident which is covered in the following chapters. A number of departments and agencies perform both a regulatory role and a control or support agency role, depending on the circumstances.

Regulatory approach

3.8 In responding to the Victorian Competition and Efficiency Commission's final report *Strengthening Foundations for the Next Decade: Inquiry Into Victoria's Regulatory Framework*, the Victorian Government stated:[1]

> 'A best practice regulatory framework is a key requirement for enabling businesses and the not-for-profit sector to operate efficiently.
>
> In addition, in order to encourage businesses to locate in Victoria, it is important that our regulatory environment is one that minimises the regulatory burden by

[1] DTF, *Victorian Government Response to the Victorian Competition and Efficiency Commission's Final Report* (2012) p1.

not being excessive, by not intruding into areas where market incentives will provide the best outcomes, and by being transparent and consistent.

Importantly, the regulatory environment must also ensure that community interests are protected'.

3.9 Victorian Government regulators are moving towards a modern, risk-based approach to regulating by focusing attention and resources on high-risk activities based on a combination of the likelihood and consequences of non-compliance. Victoria's approach to regulating is increasingly based on the monitoring and investigation of activity in areas of greatest risk rather than prescriptive rules. Regulators normally consider the foreseeability and proportionality of risks. Put simply, in light of the history of such events and the circumstances, is a risk foreseeable? If it is, regulators should then consider whether the practical things are being done that can reasonably be done, commensurate with the risk exposure, to mitigate the potential occurrence or impact of the risk outcome.

3.10 In its discussion paper on securing compliance, the Australian Law Reform Commission stated that '[r]egulators cannot attempt to act on every contravention of the legislation, given the extent and complexity of the legislation in place'[2]. The paper included the following quote from Professor Malcolm Sparrow on this point:

> 'For regulators, continuing in a traditional, enforcement-centered mode - given the constraints of shrinking budgets, declining public tolerance for the use of regulatory authority, and clogged judicial systems - is now simply infeasible'[3].

3.11 The *Emergency Risks in Victoria: Report of the 2012-13 State Emergency Risk Assessment* states that:

> 'There is an expectation that government will take appropriate measures to assure the management of risks to the delivery of essential services, and coordinate the consequences and flow-on effects of a disruption. At the same time, the Government recognises that owners and/or operators of critical infrastructure are best placed to manage their own risks. This demonstrates the reality that responsibility for risk reduction is shared across all sectors of society'.[4]

3.12 Risk-based regulation is more complex than traditional regulatory approaches, requiring nuanced and fit-for-purpose application. This is particularly so in relation to mines, where each site has unique characteristics.

3.13 The principles underpinning the state's risk arrangements are best described in the standard *AS /NZS ISO 31000: 2009 Risk Management -–Principles and Guidelines.*[5]

3.14 In effect, these processes seek to :

- identify a particular aspect of the activity that is a threat to the desired outcomes associated with that activity (for an industrial mine operator, the

[2] Australian Law Reform Commission, Discussion Paper 65 –*Securing Compliance: Civil and Administrative Penalties in Australian Federal Regulation* (2002).
[3] M Sparrow, *The Regulatory Craft* (2000), p35.
[4] DOJ, *Emergency Risks in Victoria: Report of the 2012-13 State Emergency Risk Assessment*.
[5] *AS /NZS ISO 31000* can be accessed at http://sherq.org/31000.pdf.

desired outcome would be a commercially viable mine that produces a commodity for another purpose, while meeting its statutory obligations)

- assess the likelihood of that aspect occurring (probability of occurrence)
- categorise the impact of an aspect that occurs (the severity of impact, and hence consequence)
- determine the acceptability of the risk
- determine 'treatment' (management) of those risks (reduction of the probability or consequence or both).

3.15 The party best placed to manage a risk in multi-party risk management should be the party that manages that risk. When there is private or sole ownership of assets or activities, the party that owns, controls or manages those assets or activities is assumed to be best placed to manage the risk associated with those assets and activities. Asset and activity owners have the greatest incentive to ensure the ongoing value and utility of their assets so they would act to protect those assets and take appropriate risk management actions to preserve their financial interests.

3.16 Within this framework, the regulator has an oversight role to provide a level of accountability and assurance that risks are being managed. In doing this, regulators apply a risk-based approach and exercise their professional judgement in determining where to focus their attention and allocate resources. This also extends to how regulators exercise their discretion in applying the laws they are responsible for administering.

Obligations of the duty holder

3.17 The duty holder has obligations under a number of Victorian Acts that together make up the regulatory framework relevant to the Hazelwood Coal Mine. These obligations provide a framework by which the duty holder can assess and manage its risks. The following table sets out the core obligations on the duty holder.

General OHS duties

- An employer must, so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health (section 21 of the OHS Act).
- An employer must ensure, so far as is reasonably practicable, that persons other than employees of the employer are not exposed to risks to their health and safety arising from the conduct of the undertaking of the employer (section 23 of the OHS Act).
- A person who (whether as an owner or otherwise) has, to any extent, the management or control of a workplace must ensure so far as is practicable that the workplace and the means of entering and leaving it are safe and without risks to health (section 26 of the OHS Act).

Duties of mine operators

- The operator of a mine must identify all mining hazards at the mine and assess the risks to health or safety of those hazards (regulation 5.3.2 (fire is a mining hazard) and regulation 5.3.7 of the OHS Regulations).
- The operator of a mine must adopt risk control measures in relation to mining hazards (regulation 5.3.8 of the OHS Regulations).
- The operator of a mine must review and, if necessary, revise the identification of mining hazards, the assessment of risks of those hazards and the control measures in specified circumstances

(regulation 5.3.9 of the OHS Regulations).

- The operator of a mine has a duty to comply with any conditions on the mining licence and the approved work plan, and to work in accordance with the approved work plan (sections 8, 40 and 42 of the MR(SD) Act).
- The operator of a mine has a duty to rehabilitate land, in accordance with the approved rehabilitation plan, which is part of the work plan (section78 of the MR(SD) Act).
- The operator of a mine has a licensee's duty to consult with the community by sharing information with the community and providing members of the community with an opportunity to express their views (section 39A of the MR(SD) Act).
- The licensee must notify the Chief Inspector of Mines of reportable events (section 41AC of the MR(SD) Act).

Note: The general duties and requirements under the OHS Act and Regulations are not absolute. They are subject to a threshold of 'reasonable practicability', which means that the duty holder only commits an offence if it:

- has failed to eliminate risks to health and safety in the workplace so far as is reasonably practicable
- is not reasonably practicable to eliminate risk, to reduce those risks in the workplace so far as is reasonably practicable.

The duty holder is also subject to common law duties.

Approvals required

The duty holder is required to obtain:

- a mining licence (section 8(1)(a) of the MR(SD) Act) and a work authority (section of the MR(SD) Act)
- a work plan (section 39(1) of the MR(SD) Act)
- a rehabilitation plan (section 78(1) of the MR(SD) Act)
- a planning approval (PE Act) or have completed an EES (EE Act)
- an EPA licence (section 20 of the EP Act) and comply with licence conditions (for the Hazelwood Power Station).

Plans and tools

The duty holder is required to:

- establish and implement an SMS for prescribed mines and use it as the primary means of ensuring the safe operation of the mine (regulation 5.3.21 of the OHS Regulations). The SMS must be reviewed at least every three years (regulation 5.3.22 of the OHS Regulations)
- conduct a Safety Assessment of major mining hazards for prescribed mines (regulation 5.3.23 of the OHS Regulations)
- prepare an emergency plan for prescribed mines and use the plan as the primary means of responding to incidents involving a significant risk of serious injury or death. The emergency plan must be prepared in conjunction with emergency services and, in relation to major mining hazards that could detrimentally affect the health or safety of people in the area surrounding the mine, the municipal council. The plan must be tested at least annually (regulation 5.3.34 of the OHS Regulations)
- keep a plan of the mine at the mine site and ensure it is available for inspection (regulations 5.3.36 and 37 of the OHS Regulations)
- enter into a rehabilitation bond for the amount determined by the Minister (section 80 of the MR(SD) Act).

Offences (that effectively impose an obligation on the duty holder)

The duty holder has an obligation not to:

- cause or permit an environmental hazard (section 27A of the EP Act)
- pollute the atmosphere to make it or be reasonably expected to make it noxious, offensive,

harmful or potentially harmful to the health, safety or property of human beings, etc. (section 41 of the EP Act).

Overview of the regulatory framework

Legislation and regulations

3.18 The relevant legislative framework for the Hazelwood Coal Mine is contained within the following Acts:

- *Mineral Resources (Sustainable Development) Act 1990*
- *Occupational Health and Safety Act 2004*
- *Emergency Management Act 1986*
- *Environment Protection Act 1970*
- *Environment Effects Act 1978*
- *Planning and Environment Act 1987*
- *Electricity Safety Act 1998*
- *Electricity Industry Act 1993.*

3.19 This legislative framework covers the regulation of:

- mineral resources
- OHS
- environment protection
- land use planning
- safety of electricity generation, transmission, distribution and use.

3.20 A number of these Acts (for example the MR(SD) Act and EP Act) specifically require the integration of economic, social and environmental considerations in decision making.

Functions and responsibilities

3.21 The regulatory framework for the Hazelwood Coal Mine involves a number of Victorian departments and agencies that have distinct functions and responsibilities. The three key Victorian Government regulators for the Hazelwood Coal Mine and Hazelwood Power Station are DSDBI, VWA and EPA.

3.22 DSDBI is responsible for mineral resources, policy development, legislative and regulatory reform of the MR(SD) Act and regulations, investment facilitation and the implementation of key government initiatives relating to the energy and earth resources sector.

3.23 DSDBI as the Minister's delegate is responsible for allocating the state's mineral resources and regulating mine licensees' compliance with the MR(SD) Act. The MR(SD) Act addresses licensing, approvals, compensation, rehabilitation, aspects of environmental management and royalties for mineral exploration and mining activities. The Earth Resources Regulation Branch within DSDBI is responsible for discharging the

department's responsibilities under the MR(SD) Act. Under the arrangements of the EMMV, DSDBI had an advisory role in responding to a fire at the Hazelwood Coal Mine.

3.24 VWA's principal responsibilities include helping to avoid workplace injuries from occurring and enforcing Victoria's OHS laws.

3.25 VWA's primary operational focus in relation to prescribed mines is the control of risks to health and safety associated with 'major mining hazards'. A 'mining hazard' is 'any activity, procedure, plant, process, substance, situation or other circumstance that could pose a risk to health or safety' in relation to any one of a number of listed mine related hazards, including fire[6]. A 'major' mining hazard is a mining hazard that has the potential to cause an incident that could cause, or pose a significant risk of causing, more than one death[7].

3.26 VWA's regulatory role is to ensure that the duty holder is assessing the potential for risks involving mining hazards, and providing control measures to prevent or mitigate against such incidents. Its processes include:

- risk ranking prioritisation of mine sites (the highest 12 risk ranked sites are subject to a verification process on an annual basis)
- on-site verification of control measures identified in the Safety Assessments in relation to major mining hazards and elements of the mine's SMS
- oversight inspection visits focusing on workplace hazards, incident trends and emerging issues
- incident response and service requests.

3.27 EPA's role is to be an effective environmental regulator and an influential authority on environmental impacts. EPA's objective is to deliver clean air, healthy waterways, safe land and minimal disturbances from noise and odour for Victorians.

3.28 EPA is responsible for determining compliance with conditions in licences granted by EPA. EPA licences prescribe and set limits on pollution and waste levels, as well as standard obligations within which the entities must operate.

3.29 Other Victorian Government departments and agencies, as well as local government, perform relevant but secondary roles in regulating the Hazelwood Coal Mine:

- DTPLI – land use planning
- Latrobe City Council – land use planning
- ESV – safety of electricity generation, transmission, distribution and use.

3.30 The section on regulating fire mitigation considers the obligations for undertaking mitigation measures at the Hazelwood Coal Mine and fire mitigation planning for the area surrounding the mine.

[6] Regulation 5.3.2 of the OHS Regulations.
[7] Regulation 1.1.5 of the OHS Regulations.

Regulation of mineral resources

3.31 In Victoria, the day-to-day operation of mining is regulated by DSDBI under the MR(SD) Act. Section 1 of the MR(SD) Act describes its purpose, which is to encourage mineral exploration and economically viable mining and extractive industries that make the best use of, and extract the value from, resources in a way that is compatible with the economic, social and environmental objectives of the state. With one exception, emergency planning, preparation and response is not governed by the MR(SD) Act. The exception is that the holder of a mining licence must report a major outbreak of fire to the Chief Inspector of Mines.

3.32 Section 2(1) of the MR(SD) Act sets out the three express objectives of the MR(SD) Act that relate to:

- encouraging and facilitating exploration for minerals and foster the establishment and continuation of mining operations
- establishing a legal framework for mining
- recognising that mining must be carried out in a way that is not inconsistent with the *Native Title Act 1993* (Cth) and the *Land Validation Act 1994*.

3.33 From 30 August 2006, parliament has expressed its intention that 'in the administration of this Act regard should be given to the principles of sustainable development', which are set out in section 2A of the MR(SD) Act.

3.34 The primary instruments by which the MR(SD) Act seeks to fulfil its purpose and achieve its objectives is through the control of mining by way of:

- licences
- work plans
- work authorities.

3.35 The work plan is intended to govern the extent, and method, of mining operations.

Mining licences

3.36 Under section 8(1)(a) of the MR(SD) Act, a person cannot carry out mining in Victoria without obtaining a mining licence from the Minister. An applicant for a mining licence must satisfy the Minister that it can meet the requirements set out in section 15(6) of the MR(SD) Act. The Minister is empowered to impose conditions on a mining licence, including conditions as set out in section 26(2) of the MR(SD) Act.

3.37 The licensing process for the Hazelwood Coal Mine differed from requirements now in effect in Victoria because the licence for the Hazelwood Coal Mine was the product of its privatisation. On 10 May 1996, the Governor in Council approved mining licence number 5004 for the Hazelwood Coal Mine. The original licence was revoked and a new mining licence number 5004 was granted by the Governor in Council on 10 September 1996.

3.38 The licence for the Hazelwood Coal Mine contains conditions dealing with environmental matters such as drainage and discharge, groundwater, dust and noise, and operational matters such as roads, fencing, security, car parking, royalties and rehabilitation.

3.39 The licence establishes broad rules governing mining activity at the mine. The work plan and the rehabilitation plan set out the detailed rules for how the mine is required to operate and rehabilitate the land before and after closure of the mine.

3.40 The Minister's power to vary a mining licence is set out in section 34 of the MR(SD) Act. The mining licence for the Hazelwood Coal Mine has been varied once, on 11 July 2006.

Work plans

3.41 On its own, a mining licence is insufficient to carry out mining activities under the MR(SD) Act.

3.42 Section 39(1) of the MR(SD) Act provides that a person must not do any work under a licence otherwise than in accordance with the licence, an approved work plan, or as authorised by a minerals exemption.

3.43 Section 39(2) of the MR(SD) Act prohibits the holder of a mining licence from doing any work unless a work authority applying to it is in effect, while section 40 of the MR(SD) Act requires a licensee who proposes to do work under a licence to lodge a work plan with the department head (currently the Secretary to DSDBI).

3.44 Section 40(3) of the MR(SD) Act, regulation 32(b) of the MR(SD)(MI) Regulations and Schedule 15 to the MR(SD)(MI) Regulations set out the information required to apply for a work plan. The prescribed information in Schedule 15 is the central provision governing the content of work plans.

3.45 The requirements of Schedule 15, within the context of the purpose and objectives of the MR(SD) Act and the principles of sustainable development, provide clear guidance on the bounds and substance of work plans.

3.46 In practice, where an EES has been prepared under the EE Act for a mine or mine expansion, the work plan closely reflects the outcomes of the EES process. This is due to sections 42(7), 40(4)(b) and 40(8) of the MR(SD) Act, as well as the corresponding subject matter between an EES and a work plan.

3.47 The work plan for the Hazelwood Coal Mine under the MR(SD) Act was approved on 10 September 1996. It has subsequently been varied seven times. The most recent variation, relating to the West Field expansion of the mine, was approved on 11 May 2009 having been subject to an EES process in 2004-05.

Rehabilitation

3.48 In addition to the requirements of sections 15(6)(d) and 40(3)(b) of the MR(SD) Act, the Minister's power in section 26(2)(a) of the MR(SD) Act and the prescribed information in clause 6 of Part 6 of Schedule 15 of the MR(SD)(MI) Regulations, the MR(SD) Act contains express provisions governing the need for, and the contents of, rehabilitation plans for mines.

3.49 Section 78 of the MR(SD) Act requires the holder of a mining licence to rehabilitate land in accordance with the rehabilitation plan approved by the department head. The requirements for a rehabilitation plan are set out in section 79 of the MR(SD) Act.

3.50 In concert with the requirement to rehabilitate land in accordance with an approved rehabilitation plan, section 81(1) of the MR(SD) Act requires the licensee to rehabilitate land in the course of doing work and must, as far as practicable, complete rehabilitation before the authority under the licence has concluded.

3.51 Mine rehabilitation, upon the closure of the mine, is to be in accordance with the approved rehabilitation plan, which takes into account:

- the characteristics of the land and surrounding environment
- the need to stabilise the land – for it to be safe and stable into the future without further management
- the desirability or otherwise to returning the land to a useful or productive land form
- the potential for long-term degradation or adverse impact to the environment from the rehabilitated land form.

3.52 Under section 79A of the MR(SD) Act, the Minister may require the holder of a mining licence to undertake an assessment of their rehabilitation liability for the purposes of determining the amount of a rehabilitation bond or reviewing the amount of the bond. The licensee for the Hazelwood Coal Mine has not been required to undertake an assessment of its rehabilitation liability under section 79A of the MR(SD) Act.

3.53 The holder of a mining licence was (and remains) required to enter into a rehabilitation bond in accordance with section 80 of the MR(SD) Act for the amount determined by the Minister. The Minister may subsequently require the licensee to enter into a further rehabilitation bond if he or she is of the opinion that the amount of the bond already entered into is insufficient. When the Minister is satisfied that the land is successfully rehabilitated then the Minister must return the bond.

3.54 A rehabilitation bond of $15,000,000 was lodged for the Hazelwood Coal Mine on 1 October 1996[8]. It was re-lodged for the same amount on 8 June 2001[9].

Work authority

3.55 There is no work authority applying to the Hazelwood Coal Mine because the provision for the requirement for a work authority (in place of an authority to commence work) was first introduced in the amendments to the MR(SD) Act in 2000. An authority to commence was approved on 10 September 1996.

Notification of fire

3.56 Under section 41AC(2) of the MR(SD) Act and regulation 33(2)(b) of the MR(SD)(MI) Regulations, the holder of a mining licence must report a major outbreak of fire to the Chief Inspector of Mines. For the Hazelwood Coal Mine Fire, this occurred on 9 February 2014.

Regulation of OHS

3.57 VWA regulates OHS through the following instruments that are publicly available on VWA's website:

[8] Rehabilitation Bond for Mining Licence number 5004, lodged on 1 October 1996 and registered in the mining register on 4 October 1996

[9] Rehabilitation Bond for Mining Licence number 5004, lodged on 8 June 2001 and registered in the mining register on 19 June 2001

- OHS Act, which sets out the key principles, duties and rights in relation to OHS
- OHS Regulations, which specify the way in which a duty imposed by the Act must be performed and prescribe procedural or administrative matters to support the Act
- Compliance Codes, which provide practical guidance to duty holders about how to comply with the Act or the Regulations
- non-statutory guidance, which includes information published by VWA aimed at building people's knowledge and awareness of OHS issues, risks to health and safety and the disciplines and techniques that can be applied to manage and control risks
- WorkSafe positions, which provide guidelines on the way in which VWA will apply the Act or Regulations or exercise discretion under a provision of the Act or Regulations.

3.58 The OHS Act regulates OHS generally in Victoria and Part 5.3 of the OHS Regulations supplements the OHS Act to provide specific regulation in relation to mines.

The OHS Act

3.59 The OHS Act generally imposes obligations on employers at workplaces and those persons (including corporations) who have management or control of a workplace. The Hazelwood Coal Mine site is a workplace for the purposes of the OHS Act. The OHS Regulations impose general and also specific obligations on operators of mines and employees of those operators.

3.60 The OHS Act imposes various duties and obligations on employers, employees and other persons. Generally, sections 21, 23 and 26 of the OHS Act require employers and persons in control of the workplace to ensure that the workplace is safe and without risks to health and safety so far as is reasonably practicable.

3.61 Subsection 21(1) of the OHS Act imposes a duty on employers in respect of their employees and, in some cases, in respect of employees of contractors (see subsection 21(3)). This duty extends to the physical working environment, systems of work, maintenance, the transport of goods and the provision of welfare facilities and training. Subsection 21(2) outlines the obligations imposed by subsection 21(1). Relevantly, section 21 will apply with respect to all employers at the mine site, including the mine operator, contractors and other subcontractors that have employees attending the site, including emergency services and government departments.

3.62 Subsection 23(1) of the OHS Act imposes a duty on employers in respect of persons other than their employees who may be exposed to risks arising from the conduct of the employer's undertaking; for example, visitors to a workplace, contractors on site, the general public, etc.

3.63 Subsection 26(1) imposes obligations on persons, whether employers or otherwise, with management or control of a workplace. These obligations apply even where a person does not have any employees at a particular worksite.

3.64 Contraventions of the general obligations under the OHS Act described above are indictable offences.

3.65 Further to the general obligations described above, section 144 of the OHS Act attributes liability to corporate officers (as that term is described in section 5 of the

OHS Act, which refers to the definition of officer in section 9 of the *Corporations Act 2001* (Cth)) in circumstances where the corporation has contravened the Act and that officer's conduct has contributed to the contravention.

3.66 Section 32 imposes an obligation on persons to not recklessly endanger others.

3.67 In accordance with section 37(2)(d) of the OHS Act, a fire can be a notifiable incident for the purposes of section 38(1) of the OHS Act if the incident exposes a person in the immediate vicinity to an immediate risk to their health and safety. Under section 38(1), an employer must notify VWA immediately after becoming aware that a notifiable incident has occurred at a workplace under its management and control.

The OHS Regulations

3.68 Part 5.3 of the OHS Regulations applies to workplaces where work is being done under a mining licence within the meaning of the MR(SD) Act.

3.69 Generally, Part 5.3 of the OHS Regulations imposes an obligation on the operator of a mine to identify hazards and to control health and safety risks.

3.70 Additional obligations under Part 5.3 of the OHS Regulations apply with respect to the operator of a 'prescribed mine'. The Hazelwood Coal Mine is a prescribed mine. Relevantly, prescribed mines are required to establish and implement a documented SMS (see regulation 5.3.21).

3.71 OHS regulation 5.3.23 imposes further obligations on the operator of a prescribed mine to conduct Safety Assessments in order to assess the risks associated with 'major mining hazards'. Major mining hazards are mining hazards that have the potential to cause an incident that would cause, or pose significant risk of causing, more than one death.

3.72 OHS regulation 5.3.34 imposes an obligation on an operator of a prescribed mine to prepare an emergency plan and use the emergency plan as a means of responding to incidents involving a significant risk of serious injury or death.

3.73 The OHS Regulations also impose a number of other obligations on the operator of a prescribed mine, including the provision of information, instruction and training, and consultation in relation to SMSs, the emergency plan and the safety role for employees.

Memorandum of Understanding

3.74 At the time that responsibility for OHS was transferred to VWA on 1 January 2008, DSDBI's predecessor in functions under the MR(SD) Act, DPI, and VWA entered into a MOU in order to delineate their regulatory practices. A new MOU was entered into by the parties in 2011.[10]

3.75 The 2011 MOU expired on 31 December 2013. Both parties are in negotiations to enter into a new MOU. Under convention, the MOU continues to apply notwithstanding that the operation date has expired, as it has not been expressly revoked.

[10] Available at http://www.worksafe.vic.gov.au/__data/assets/pdf_file/0008/10601/Memorandum_of_Understanding_-_WorkSafe_and_DPI.pdf.

3.76 As stated in the 2011 MOU, VWA and DSDBI share objectives to:

- assist Victorian earth resources workplaces achieve compliance with health and safety laws for workers and the public and to minimise the impact on the environment
- ensure the effective co-operation of both parties in the administration of their respective requirements in relation to the matters set out in the Schedule(s) (to the MOU)
- assist workplaces and other parties affected by the matters set out in the Schedule(s) (to the MOU) to meet the requirements of both parties without any unnecessary duplication of effort.

3.77 Clause 1.2 of Schedule 1 of the 2011 MOU governed the manner in which the parties proposed to manage areas of overlapping responsibilities with respect to work at a mine:

'Overlapping responsibilities

Both agencies have objectives in their legislation that dictate responsibility for public safety matters and the use of explosives. WorkSafe Victoria has responsibility for public safety arising from work-related activities.

WorkSafe Victoria and DPI will consult on matters where their jurisdictions overlap with the lead agency being the agency with the highest degree of control over the issue. (Note: Safety aspects of gathering lines under the *Petroleum Act 1998* will also be referred to EnergySafe Victoria ("ESV").)

Safety related elements	DPI	WorkSafe Victoria
Public safety and amenity	✓ Lead Agency	✓ Support Agency
Public safety (work related)	✓ Support Agency	✓ Lead Agency
Operation design and works approval	✓ Lead Agency	✓ Support Agency
Variations to operation plans and licences	✓ Lead Agency	✓ Support Agency
Well integrity	✓ Lead Agency	✓ Support Agency
OHS	✓ Support Agency	✓ Lead Agency
Explosives	✓ Support Agency	✓ Lead Agency
Blasting impacts (air blast and ground vibration)	✓ Lead Agency	✓ Support Agency
Site rehabilitation planning	✓ Lead Agency	N/A
Site rehabilitation activity	✓ Lead Agency	✓ Support Agency'

3.78 Clause 1.3 of Schedule 1 of the 2011 MOU governed the provision of advice:

'Provision of advice to external stakeholders

WorkSafe Victoria and DPI will work together to ensure good communication of advice which will assist both agencies to effectively administer their respective legislation and to inform and educate duty holders accordingly.

	DPI	WorkSafe Victoria
Technical advice	Sustainable development including design, safe operating standards, approval of work and operations plans, protection of people and site rehabilitation	OHS; Dangerous Goods including explosives licensing'

3.79 Pursuant to clause 1.5 of Schedule 1 of the 2011 MOU, both parties agreed to discharge their duties when responding to a crisis or emergency in accordance with the EM Act 1986.

Regulation of environment protection

3.80 EPA administers the EP Act. As Victoria's environmental regulator, it is EPA's role to monitor businesses and industry to ensure they comply with the EP Act so that all Victorians can enjoy a safe and healthy environment.

3.81 Section 1A of the Act provides that the purpose of the Act is to create a legislative framework for the protection of the environment in Victoria having regard to the principles of environmental protection.

3.82 Section 1A also provides that it is the intention of parliament that in the administration of the Act regard should be given to the principles of environment protection. The principles of environment protection are set out in sections 1B to 1L of the EP Act and are summarised below:

- 1B Principle of integration of economic, social and environmental considerations
- 1C The precautionary principle
- 1D Principle of intergenerational equity
- 1E Principle of conservation of biological diversity and ecological integrity
- 1F Principle of improved valuation, pricing and incentive mechanisms
- 1G Principle of shared responsibility
- 1H Principle of product stewardship
- 1I Principle of waste hierarchy
- 1J Principle of integrated environmental management
- 1K Principle of enforcement
- 1L Principle of accountability.

3.83 The EP Act provides EPA with a number of heads of power to achieve the legislative objectives. Important in the regulatory framework is the licensing and approvals regime which, in part, establishes the basis for enforcement action but which also prescribes and sets the limits of pollution and the obligations within which duty holders must operate. These approvals are informed by best practice standards and help to ensure SEPP objectives are being achieved. Within this framework the Act also creates a number of environmental offences and powers that enable EPA to enforce these standards and undertake prosecutions, to address environmental hazards and to encourage good environmental performance. EPA's approach to compliance is set out in its Compliance and Enforcement Policy. It should be noted that the EP Act does not contain preventative duties. Licences therefore play a critical role in framing clear obligations that operators must meet. This is further supported through EPA's application of its remedial powers and its focus on preventative compliance work.

3.84 An EPA licence is required for all scheduled premises, unless the premises are exempted. Licences contain standard conditions to control the operation of the premises. These conditions address areas such as waste acceptance and treatment, air and water discharges, and noise and odour. The EP Act specifies penalties for breach of licence conditions, and for operating a site without a licence. Each licensee (or duty holder) is required to establish a monitoring program to ensure that they, and EPA, can determine licence compliance. To do this, a licence holder will use a risk-based approach to determine the level of monitoring required.

3.85 A licence holder reports its environmental performance for the previous financial year in the form of an APS. This lists performance against each licence condition and requires an explanation of all non-compliance incidents. APSs must be submitted to EPA by 30 September each year via EPA's online annual reporting system. APSs apply to the standard financial year reporting period (1 July to 30 June).

3.86 EPA licenses the duty holder under licence number 46436. For the purposes of section 20 of the EP Act, the duty holder operates a premises at which activities are undertaken that fall within the definitions in Schedule 1 to the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 and is therefore considered a 'scheduled premises'. The premises plan includes both the Hazelwood Power Station and the Hazelwood Coal Mine. The Hazelwood Coal Mine is subject to the exemptions for mining activities provided for in the regulations for air emissions and waste storage. Despite the exemptions that apply to the mining activities, EPA can use tools such as Pollution Abatement Notices to address any environmental issues that arise at the mine in line with its Compliance and Enforcement Policy.

3.87 The Hazelwood Power Station is directly licensed by EPA due to the significant air and water discharges produced by power generation.

3.88 SEPPs are an integral part of the regulatory framework for the EPA's administration of the EP Act and provide detailed requirements and guidance for the application of the Act. They establish the uses and values of the environment that the community wants to protect, define the environmental quality objectives and indicators and describe the attainment and management programs that will ensure the necessary environmental quality is maintained and improved. SEPPs, such as the SEPP for ambient air quality, focus on long-term outcomes for environmental protection. Under the EP Act, the requirements in environmental regulations, works approvals, licences and other regulatory tools must be consistent with SEPPs.

SEPPs relevant to the regulation of the Hazelwood Coal Mine

3.89 SEPP (Ambient Air Quality) – relevant to licensing of stack emissions:

- sets air quality objectives and goals for the whole State of Victoria and adopts the requirements of the NEPM
- the NEPM sets standards, goals, monitoring and reporting protocols for six common pollutants: CO, nitrogen dioxide (NO2), photochemical oxidants (as ozone), sulfur dioxide (SO2), lead and particles as PM10
- includes a separate objective for visibility reducing particles, which is not included in the NEPM.

3.90 SEPP (Air Quality Management) – relevant to licensing of stack emissions:

- establishes the framework for managing emissions into the air environment in Victoria from all sources of air pollutants, so that the air quality objectives set out in the SEPP are met to achieve the cleanest air possible, having regard to the economic and social development of Victoria
- addresses ambient (or regional) air quality, and also the management of particular sources (for example, industry, motor vehicles and open burning) and local air quality impacts, including air toxics, odorous pollutants, greenhouse gases and ozone depleting substances.

3.91 SEPP (Waters of Victoria) – relevant to licensing of water discharges. The state environment protection policies that protect Victoria's water environments are the:

- SEPP (Waters of Victoria)
- SEPP (Groundwaters of Victoria), which was developed to maintain and, where necessary, improve groundwater quality to a standard that protects existing and potential uses and values of groundwaters.

Overview	Strategic advice, policy and guidelines	Licensing and approvals	Compliance and enforcement

Environmental management framework (drawn from the EP Act)	Development of SEPPs, waste management policies, EPA guidelines, Compliance and Enforcement Policy, 5-Year Plan	Responsible for issuing:
		• Licences (section 20)
		• Works approvals (section 19A)
		• Research, development and demonstration approvals (section 19D)
		• Emergency (section30A) discharge approvals
			Responsible for:
			• Pollution Abatement Notices (section 31A)
			• Infringement notices (section 63B and Schedule A)
			• Clean-up notices (section 62A)
			• Notices to produce (section 55)
			• Seeking injunctive relief where appropriate (section 64A)
			• Offences
			  ○ Licence offences (sections 27(1), (1A), (1B), (2))
			  ○ Industrial waste (sections 27A(1), (2))

Regulation of land use planning

3.92 The PE Act provides a framework for planning the use, development and protection of land. The Latrobe City Council is the relevant planning authority for the Hazelwood Coal Mine and Morwell area for the purposes of the PE Act.

3.93 The Latrobe City Council administers and enforces planning schemes and prepares amendments. In doing so, it must take into account significant environmental effects. It is also responsible for issuing and enforcing planning permits.

3.94 Planning scheme zones specify what uses of designated land are prohibited and which require a planning permit.

3.95 The Hazelwood Coal Mine falls within Special Use Zone 1 under the Latrobe Planning Scheme. Read together with local planning policies, the primary purpose of SUZ1 is to provide for brown coal mining, electricity generation and associated uses. The secondary purpose is to allow interim non-urban uses that will protect brown coal resources and discourage use or development of land that is incompatible with future mining and industry.

3.96 The use of land in Special Use Zone 1 must not adversely affect the amenity of the neighbourhood, including through the emission of noise, light, vibration, odour, smoke, etc. Dwellings are allowed in restricted circumstances.

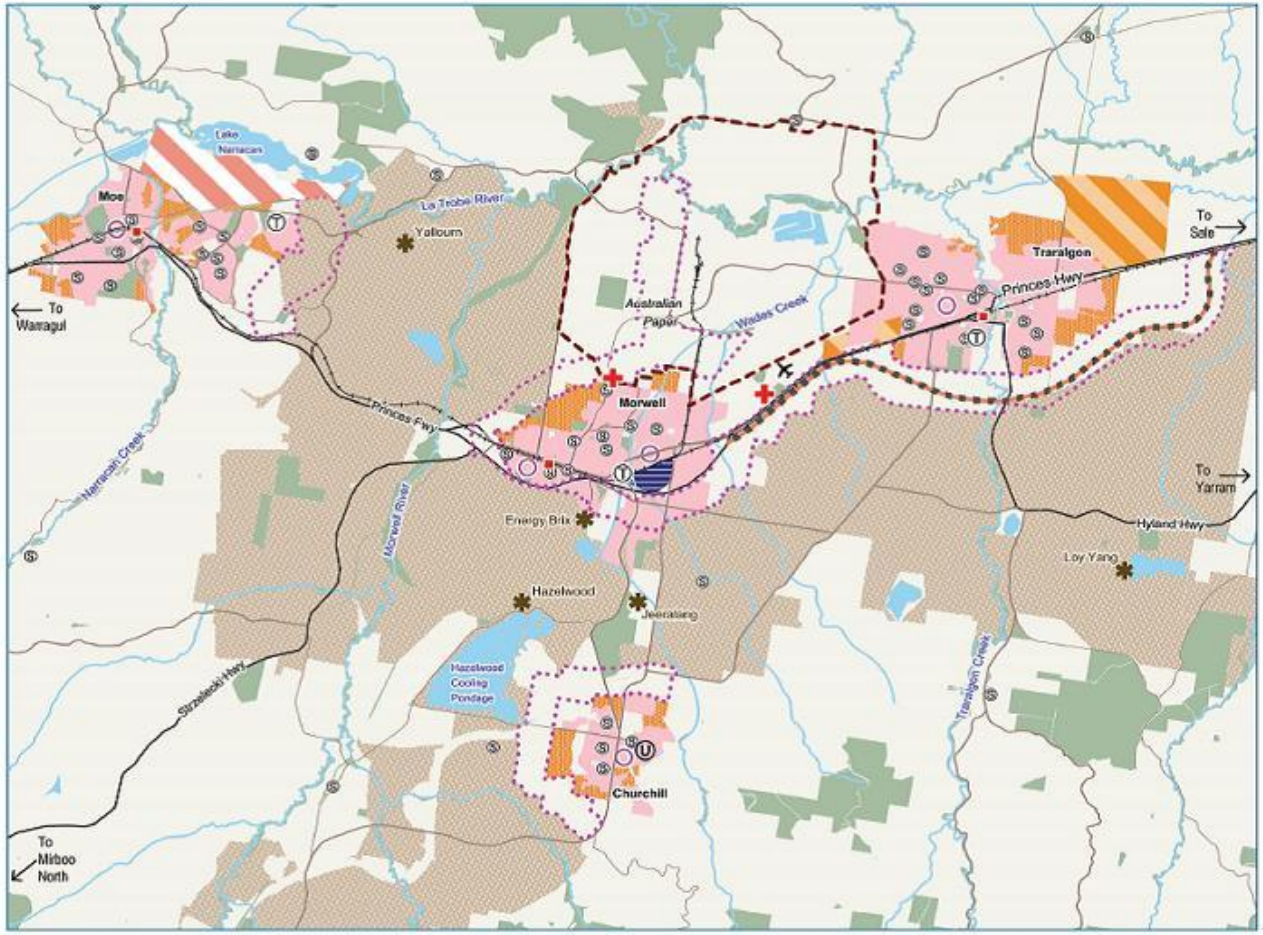
3.97 As the responsible authority, Latrobe City Council must consider a number of issues in deciding on an application to use land in Special Use Zone, including:

- the effect uses may have on land in residential zones
- the effect that a use may have on nearby existing or proposed brown coal mining, and development of brown coal resources in the area
- measures to cope with fire, particularly in the vicinity of a brown coal mine.

3.98 Planning scheme zones specify what uses of designated land are prohibited, which require a planning permit and which are as of right.

3.99 Eight Regional Growth Plans have been prepared to provide direction for accommodating growth and development across regions, protecting key regional economic and environmental strengths, as well as providing high level planning frameworks for key regional centres, such as Latrobe City, one of Victoria's 10 regional cities. The Gippsland Regional Growth Plan includes a Framework Plan for Latrobe City that identifies existing and future areas identified for growth. The map shows the location of coal buffer areas and highlights the proximity of the town of Morwell to coal resources and mines. A copy of the map is provided below.

Gippsland: Latrobe framework plan



As Gippsland's regional city, Latrobe City will accommodate urban growth and be the focal point for high order regional infrastructure and service investment. Growth will be planned to achieve greater integration across the four centres of Traralgon, Morwell, Moe and Churchill to support them functioning as a single urban system.

Planning for urban growth

Implementation of growth frameworks has provided land for residential development across the city to meet short-term and medium-term needs. Further planning work is underway to determine development requirements including infrastructure provision, transport access and amenity and landscape considerations. Considerations for any future urban expansion include managing the interface with coal buffer areas as well as flood and bushfire hazards. A strategy will be developed to advance the growth of Latrobe City as a single urban system.

Growth opportunities in business, manufacturing and services

The commercial and manufacturing sectors, together with the university campus at Churchill provide skills and research capacity to expand economic opportunities based on the region's energy resources. Strategies to improve the city's commercial centres will support greater attraction of technical and professional services, providing more diverse employment opportunities for the city and the wider region.

Transport networks

The city is located along the Princes Highway road and rail corridor and is connected to the southern part of the region via the Strzelecki Highway. The Gippsland Logistics Precinct has been identified to facilitate freight movement through export gateways from the region. Latrobe Regional Airport is a key asset providing access to air services.

- Existing urban area
- Future urban growth (zoned)
- Future urban growth (planned)
- Future investigation for urban growth
- Commercial centre
- Gippsland Logistics Precinct
- Australian Paper buffer
- Coal buffer
- Coal resources and mines
- Power station
- Traralgon Bypass acquisition corridor
- Freeways and highways
- Arterial road
- Rail line and station
- University
- TAFE
- School
- Hospital
- Latrobe Regional Airport
- Public land
- Water body
- Major rivers

Note:
Further detailed investigation and planning for growth should consider natural hazards (including bushfire, flooding and erosion), environmental assets (including water and assets identified in regional catchment strategies), cultural heritage assets (including Aboriginal and historic heritage) and natural resources (including Extractive Industry Interest Areas, other mapped earth resources and timber plantations).

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Regulation of fire mitigation

3.100 Responsibility for the development and implementation of the fire mitigation strategies at the Hazelwood Coal Mine lies with the mine operator, together with the local municipal council and relevant emergency service agencies.

3.101 The mine operator's responsibilities arise, in part, from the general duties imposed on mine operators by the OHS Act and more specific duties imposed by Part 5.3 of the OHS Regulations as previously outlined.

3.102 In meeting these duties, the mine operator is required to consider the risks of fire and to identify and implement control measures to mitigate those risks. VWA is responsible for monitoring compliance with these duties.

3.103 The regulations also specify what needs to be addressed in the mine operator's emergency plan and require that the plan be prepared in conjunction with the emergency services that have responsibility in the area where the mine is located. The regulations state that the plan must be tested annually and that mine employees must be trained to implement the plan. The plan must be used as the primary means of responding to incidents involving a significant risk of serious injury or death.

3.104 The statutory framework for fire prevention planning in an emergency context is described in CFA Act, the EM Act and the EMMV.

3.105 Under CFA Act, each municipal council in the country area of Victoria prepare an MFPP. Section 55A of CFA Act sets out the matters the MFPP must address including the identification of areas, buildings and land use in the municipal district which are at a particular risk in case of fire; how each risk is to be treated and who is responsible for doing so. The MFPP must also identify Neighbourhood Safer Places and community fire refuges in the municipal district.

3.106 Under the EM Act, each municipal council must establish a municipal emergency management committee and also prepare a MEMP. Section 20(2) of the EM Act sets out the matters to be addressed in a MEMP, including the identification of Neighbourhood Safer Places and community fire refuges in the municipal district.

3.107 Part 6 of the EMMV provides planning guidance for municipal emergency management committees. The EMMV provides guidance for how plans for managing emergencies will be prepared. MEMPs identify the special risks that exist within the municipality and the arrangements in place to deal with an emergency.

3.108 Open cut mines and underground mines and quarries are all defined as having special risks and should be identified in the MEMP.

3.109 A Regional Strategic Fire Management Strategy is in place for the Gippsland area, and a MEMP and a MFPP have been developed by the Latrobe City Council. Both the MEMP and the MFPP consider planning for fire across their geographic footprints, including stakeholders and fire mitigation activities and bodies responsible for delivering those activities.

3.110 In addition to the requirement to plan in relation to fire risk, local governments also have a compliance role in relation to fire risk. Each municipal council must appoint a Municipal Fire Prevention Officer under CFA Act.

3.111 The Municipal Fire Prevention Officer is Chair and Executive Officer of the Municipal Fire Prevention Committee , whose principal functions include planned burning or

clearing of fire breaks and advising appropriate authorities as to the existence of, and steps required to remove, fire hazards. The Municipal Fire Prevention Committee also advises the council in relation to preparation of the MFPP. The Municipal Fire Prevention Committee is appointed by CFA. The Latrobe Municipal Fire Committee includes representatives of the coal mines, including Hazelwood Coal Mine.

3.112 The Municipal Fire Prevention Officer may issue fire prevention notices to an owner or occupier of land, if:

- it is necessary or may become necessary to protect life and property; and
- there is no procedure under any other Act or regulation that is more appropriate.

3.113 Under the *Local Government Act 1989*, the council or any other person approved by the council may carry out work required by a fire prevention notice if the subject of the notice fails to carry out work.

Regulation of electricity generation, transmission, distribution and use

3.114 ESV regulates electricity, gas and pipeline safety in Victoria. Part of its role is to ensure the safety of electricity generation, transmission, distribution and use.

3.115 The ES Act sets out requirements for electricity safety.

3.116 Complex electrical installation owners and operators have a general duty under section 75(1) of the ES Act to take reasonable care to ensure that all parts of the installation are designed, constructed, operated, maintained and decommissioned in accordance with the regulations, and are safe and operated safely.

3.117 A 'complex electrical installation' is defined in section 3 of the ES Act to include an electrical installation that has installed generation capacity of more than 1,000 kilovolts. TheHazelwood Power Station meets this threshold.

3.118 As an alternative to complying with prescriptive regulations, the owner of a complex electrical installation can choose to operate under an ESMS under section 116 of the ES Act. If the scheme is accepted by ESV, the scheme operator is able to obtain exemptions from prescriptive requirements in the ES Act, the Electricity Safety (Installations) Regulations 2009 and the Electricity Safety (Registration and Licensing) Regulations 2010. These requirements broadly relate to standards and inspection of electrical installation work, licensing of workers carrying out electrical installation work and the use of certificates of electrical safety after completing electrical work.

3.119 Under section 115 of the ES Act, a person who is the occupier of specified premises may submit an ESMS to ESV in respect of electrical work carried out at those premises by electrical workers employed or engaged by that person.

3.120 The duty holder submitted an ESMS under sections 115 and 116 of the ES Act for the Hazelwood Power Station and Hazelwood Coal Mine and an associated pumping station as the installation locations to which the ESMS applies. ESV accepted the ESMS in November 2013.

3.121 The Electricity Safety (Management) Regulations 2009 set out the content requirements for ESMSs as well as records and reporting requirements.

3.122 Under section 83A of the ES Act, an electric line (other than a private electric line) that is above the ground in a hazardous bushfire area is defined as an 'at-risk electric line', and a 'specified operator' is defined as the operator of an at-risk electric line (excluding major electricity companies).

3.123 Specified operators have general safety duties under section 83B of the ES Act and are also required, under section 83BA, to prepare and submit a Bushfire Mitigation Plan to ESV before the end of 1 July each year setting out the operator's proposals for mitigation of bushfires in relation to the operator's at-risk electricity lines.

3.124 The Electricity Safety (Bushfire Mitigation) Regulations 2013 prescribe, among other things, requirements for the content of a Bushfire Mitigation Plan submitted to ESV.

3.125 The duty holder is a 'specified operator' under the ES Act. The Bushfire Mitigation Plans submitted to ESV by the duty holder for the year commencing 1 July 2013 is an overview of the preventative strategies and programs to minimise the risk of fire ignition from its at risk electric lines and the operation and maintenance plans for those at risk electric lines in the event of a fire.

Regulation of essential services

3.126 The Hazelwood Power Station, including Hazelwood Coal Mine, is a declared essential service[11] under Part 6 of the *Terrorism (Community Protection) Act 2003*. DSDBI administers compliance with this Act on behalf of the Minister for Energy and Resources. These arrangements only apply to the risk of terrorism.

3.127 The Victorian Government is undertaking major reform to the state's crisis and emergency management arrangements to introduce a modern 'all-hazards' (both natural and man-made) emergency management system. More information on this reform is provided in the discussion of Victoria's emergency response and recovery framework in Chapter 6.

[11] Section 26 of the *Terrorism (Community Protection) Act 2003* provides that transport, fuel (including gas), light, power, water and sewerage services are essential services. The Governor in Council can also declare services to be an essential service. Section 28 allows the Governor in Council to declare that the risk management requirements in the Act apply to an essential service or any part of an essential service.

4. Application of the regulatory framework

4.1 This chapter sets out how Victorian Government regulators have applied the regulatory framework to the Hazelwood Coal Mine.

Department of State Development, Business and Innovation

Operational context

4.2 Enforcement and oversight powers are intended to ensure compliance with the MR(SD) Act and manage or remove risks to public safety, the environment and infrastructure.

4.3 The EER Branch of DSDBI operates under a Compliance and Enforcement Policy.

4.4 The policy sets out a hierarchy of responses to a mine operator's non-compliance against its licence, work plan conditions and other statutory obligations. These range from advice, direction, notice, prosecution and licence cancellation. It also sets out processes for compliance monitoring, investigation and enforcement.

4.5 The Earth Resources Regulation has a risk-based system of auditing mines and quarries. Each site is assigned a risk category from 1 to 5, based on established criteria. Category 1 sites are highest risk, mostly the larger and more complex mine and quarry sites. All of the Latrobe Valley coal mines are category 1 sites.

4.6 Category 1 sites are audited at least annually. Lower category sites are audited less frequently. The audits vary in nature and include general compliance audits, issue/risk specific audits (for example, water management) and management systems audits.

Recent compliance history

4.7 As part of DSDBI's regular compliance program, DSDBI has recently audited and inspected the Hazelwood Coal Mine on a number of occasions, including for:

- management of slope stability audit (2008)
- Environmental Management System audit (2009)
- water management (mine stability) (2010)
- water dams (2011)
- environmental dust (2012)
- Morwell Main Drain completion audit (2013).

4.8 DSDBI has also taken enforcement and follow-up actions specific to the Hazelwood Coal Mine fire (2006) and the Hazelwood Coal Mine batter movements (2011). More detail is provided in Chapter 5.

Rehabilitation

4.9 The licence for the Hazelwood Coal Mine addressed rehabilitation as follows:

'**15. PROGRESSIVE REHABILITATION**

15.1 Progressive reclamation will be conducted as per the rehabilitation plan. In addition, any further rehabilitation work will be carried out at the direction of an Inspector.

15.2 As and when directed by an Inspector of Mines, despite any compensation agreements between the licensee and the owner of any private land in the licence, the licensee shall undertake progressive reclamation of the land in the licence.

16. FINAL REHABILITATION

16.1 Final reclamation will be in accordance with the rehabilitation plan and any additional requirements as directed by an Inspector.

16.2 Failure to complete works in accordance with a rehabilitation plan or in accordance with the directions of an Inspector, shall constitute grounds upon which the rehabilitation bond may be forfeited either in whole or in part in accordance with Section 83 of the MRD Act.'

4.10 The original approved work plan included provision for rehabilitation, which was drawn from the provisions of the MR(SD) Act.

4.11 The stated aim of the rehabilitation plan was:

> '… to provide an overall vision for the ultimate rehabilitation of all disturbed land at Morwell Mine in compliance with policy requirements'.[12]

4.12 The rehabilitation plan comprised the following matters:

- screening operations
- final land use
- water management
- visual management
- ecological management
- fire protection
- timing
- critical decision points.

4.13 The rehabilitation plan included an overall Rehabilitation Concept Master Plan, which focused on flooding the mine with water in order to form a lake after removing operational infrastructure from the mine. The remaining land areas would be used for grazing, conservation, recreation and forestry. The rehabilitation plan envisaged five-year rolling implementation plans.[13]

4.14 In 2008, the licensee applied to the department head to vary the work plan for the mine to allow mining for coal in the new Western Field. This was the final stage in a regulatory process that had involved:

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[12] Hazelwood Power Corporation (HPC) 5 Year Rolling Mine Rehabilitation Plans Summer – Autumn 1996, *Victorian Government Gazette* S104 (1996) p34.
[13] Ibid p 36

- amendment of the mining licence to increase the mine area
- preparation and assessment of an EES, amendment to the Latrobe Planning Scheme (Scheme) and four planning permits.

4.15 A planning panel was commissioned to assess the EES and the Scheme amendment and conducted hearings in 2004. The Hazelwood West Field EES panel's terms of reference were successfully challenged at the Victorian Civil and Administrative Tribunal that year, and the matter was remitted to the panel. It then conducted a new hearing in 2005.

4.16 Rehabilitation formed a core component of the proposal submitted to the panel. The Hazelwood West Field EES panel assessed the rehabilitation component of the proposal:

> 'Requirements for mine closure, and especially for rehabilitation, exist at both Commonwealth and State levels. Objective 5.1 of the National Strategy for Ecological Sustainable Development states:
>
> "… to ensure mine sites are rehabilitated to sound environmental and safety standards and to a level at least consistent with the condition of the surrounding land."
>
> More specific requirements are included in the *Victorian Mineral Resources Development Act 1990*, which requires that the rehabilitation plan must take account of:
>
> - any special characteristics of the land;
> - the surrounding environment;
> - the need to stabilise the land;
> - the desirability or otherwise of returning agricultural land to a state that is or as close as is reasonably possible to its state before the mining licence was granted; and
> - any potential long-term degradation of the environment.
>
> In the EES, the proponent addresses each of the above requirements and provides specific information about how they apply to the Hazelwood Coal Mine site.
>
> The land on which the Hazelwood Coal Mine exists does have special characteristics, especially the existence of the below ground surface deep coal seam (Morwell 1 seam) and the deeper highly pressurised aquifers (Morwell or M1 aquifer and the Traralgon or M2 aquifer). The effects of the aquifers on the safety of the mine are critical to the operation of the mine. The maintenance of the integrity of the aquifers and their potential future uses are important issues in the mine closure and its rehabilitation.
>
> The surrounding environment is typical of the land in the Morwell River Valley and floodplain, an area that has been used for farming activities (mainly grazing) for well over 100 years. Considerable infrastructure exists close to the mine, including the Morwell Township, industrial developments, power stations, major roads and railway line. There are relatively limited areas of remnant vegetation, mainly occurring along road reserves and watercourses and as isolated pockets, especially associated with drainage lines.

> Stability of the land is a major issue and includes the stability of the void due to pressures within the aquifers. It also includes the stability of the coal batters due to groundwater pressures in the vertical and horizontal jointing in the coal. The assessment and management of the pressures in the aquifers raise serious questions about ensuring stability of the mine site and the surrounding land. On a wider geographic scale, the existence of the Hazelwood Coal Mine void together with the voids of other mines in the area are important to the geological stability of the Morwell Township and the associated infrastructure mentioned above. The ultimate long-term aim for the mine after mining ceases includes the long-term stability of the land in and around the mine site and also within a few kilometres of the mine.
>
> Returning the land to its pre-existing use as quality agricultural land is unlikely to be feasible. The deep void (Relative Level - 70 metres (70 metres below sea level) to RL – 100 metres (100 metres below sea level)) together with the effects of the aquifers and the limited availability of topsoil all indicate that the mine area will not become agricultural land.
>
> The potential for long-term degradation of the environment will depend on the actions taken as part of the rehabilitation process. For example, instability of the mine could impact on the local surface and subsurface drainage systems. The mine could also be a source of dust unless the revegetation is successful. Unless the risk of fire from the ignition and subsequent slow combustion of coal remaining within the mine void are minimised, smoke could be a significant nuisance. An extreme possibility of an off-site effect is the escape of a fire in the mine area into surrounding land.'[14]

4.17 The Hazelwood West Field EES panel was particularly concerned to ensure that the rehabilitated mine did not pose a bushfire hazard:

> 'The DSE in its submission supported the inclusion of indigenous species in the proposed revegetation of the mine site. However the DSE noted that the use of plant species would depend on their tolerance to coal and overburden. It went on to state:
>
> "It is noted by the proponent that the use of plant species will depend on their tolerance to coal and overburden (EES, p8-22). Additionally, DSE notes that the mine faces will not replicate the original topography of the area, providing very different degrees of insolation and moisture. Initial choice of plants may be limited to the more robust species found in the area but not necessarily on the site."
>
> The DSE indicated a preference for the flattening of the batters and capping them with overburden to "provide a more hospitable substrate for plants to establish in and would have the additional, not insignificant, benefit of reducing the risk of fire on the exposed coal surfaces.'[15]

4.18 DSE further commented:

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[14] *Hazelwood West Field EES Latrobe Planning Scheme Amendment C32, Final Panel Report* (2005), pp194-195.
[15] Ibid p203.

> '… If indigenous vegetation is to be recreated, it may well be a requirement for the correct ecological functioning of that vegetation that it be burnt on a cyclical basis. Ecological burning is likely to be a high-risk operation among exposed coal faces.
>
> The Panel agrees with the DSE about the concern of using fire for ecological reasons on the revegetated mine batters. The Panel would go further than the DSE and suggest that even with capping with over burden, the use of fire in the mine could still be a fire risk. Exposure of coal due to uneven spreading of over burden is a possibility. Erosion of the over burden capping on what would still be quite steep slopes is probably even more likely. And there is always the question of the existence of fire holes in the area; their very existence suggests that fires in the coal occurred well before any intervention by man.'[16]

4.19 The Hazelwood West Field EES panel recommended the following:

> 'The long-term view is that the mine void will become a mine lake but the filling of the mine needs to be done in a controlled and measured way over many years. There are a number of significant uncertainties that need to be resolved before a mine closure plan and rehabilitation plan can be finalised.
>
> There is uncertainty about the hydraulic connection between the Morwell and Traralgon aquifers, which has implications for the stability of the mine. Stability is required to prevent the complete collapse of the mine floor and of the batters into the mine void. Water pressure in the deeper aquifers must be stabilised over time, while water pressure within the joints between the coal blocks must be reduced by some form of drainage system that will continue to function well for perhaps hundreds of years into the future.
>
> A further uncertainty is the choice of techniques and practices that will produce the best revegetation outcome for the rehabilitation of the Hazelwood Coal Mine. There are many variables that are involved but the objective should be very clear – to produce a stable ecosystem in a highly modified environment, one that requires minimal human intervention to sustain it.
>
> These uncertainties are common to all the miners in the Latrobe Valley. Consequently there appears to be considerable advantages by the industry adopting a co-operative approach with DPI taking a coordinating role to assist in the resolution of the rehabilitation issues.
>
> Despite these uncertainties, IPRH [International Power Hazelwood] needs to provide an adequate Mine Closure Plan and a Rehabilitation Plan, or agreement on a process to reach this.'[17]

4.20 In 2008, the licensee filed a rehabilitation plan in accordance with these recommendations with the department head. DSDBI (DPI)'s analysis of the plan raised concerns that the plan:

- overstated the capacity of the licensee to fill the mine with water upon mine closure

[16] Ibid p203.
[17] Ibid pp206-207.

- provided for insufficient rehabilitation of worked out mine batters and the mine floor on a progressive basis.

4.21 The licensee amended the rehabilitation plan to address DSDBI (DPI)'s concerns. In 2009 the work plan variation was approved. Part 6 contained the varied rehabilitation plan.

4.22 The goal for rehabilitation of the mine was to:

> 'Provide a technically feasible, safe stable and sustainable landscape that reflects the aspirations of stakeholders within the practical constraints of rehabilitation for the mine'.[18]

4.23 The goal required the following objectives to be met:

- a safe and stable self-supporting structure
- to maximise the opportunities for establishment of a self-sustaining ecosystem
- to minimise the use of natural resources
- to minimise the cost of recovery of resources.[19]

4.24 The plan identified seven issues for consideration in developing and implementing the rehabilitation plan:

- mine stability
- natural equilibrium
- batter stability
- infrastructure
- rehabilitation material/ecosystem function
- resource recovery
- public safety.[20]

4.25 The lack of availability of overburden is a constraint on rehabilitation. To manage this constraint, the plan identified four stages for the placement of overburden in order to:

- 'provide fire protection and a nutrient base to support plant growth that in turn provides long term batter stability'
- 'assist with counterbalancing aquifer pressures'.[21]

4.26 Figures 6.1 to 6.4 of the rehabilitation plan show the areas where progressive rehabilitation of worked out batters is to take place. Specified rehabilitation is done at the end of each block of mining in accordance with the mining schedule. To date, the mine operator has complied with the current approved rehabilitation plan. Compliance with the licence conditions and work plan(s) are assessed during monthly meetings and at regular audits. DSDBI also conduct mine site inspections as needed, and records the

[18] Hazelwood Coal Mine Rehabilitation Plan (2009) p6-1.
[19] Ibid p 6-1.
[20] Ibid pp 6-1–6-2.
[21] Ibid p 6-3.

outcomes in DSDBI data base. DSDBI acts on any identified non-compliance in accordance with its Compliance and Enforcement Policy and Procedures, and could result in the issuing of notices. In addition, DSDBI can require the mine operator to self-assess its rehabilitation liability.

4.27 Amendments to the MR(SD) Act in 2009 introduced the requirements specific for Declared Mines that expressly required consideration of mine stability in the approval of work plans. Hazelwood mine was gazetted as a declared mine on 8 September 2010.

Victorian Workcover Authority

Operational context

4.28 VWA's functions are set out under section 7 of the OHS Act.

4.29 VWA Earth Resources Unitcomprises a Unit Manager, two Senior Mining Engineers, one Group Leader and six Inspectors, based in Melbourne CBD, Traralgon, Bendigo, Ballarat and Essendon Fields.

4.30 The team undertakes both planned/unplanned and response visits to mines and quarries throughout Victoria.

Risk ranking prioritisation

4.31 In 2009, VWA undertook a risk ranking prioritisation of all mine sites in Victoria. This was based on four criteria:

- number of employees
- complexity of hazards
- expertise on site
- inspector assessment.

4.32 Subsequently, the risk methodology has developed to its present form which includes an additional six criteria:

- annual productions rate
- number of incidents
- total number of hours
- number of lost time injuries
- number of notifiable incidents
- hazard severity.

4.33 The Hazelwood Coal Mine is ranked as one of the highest 12 risk ranked sites. The risk ranking is presently reviewed annually. Due to its risk ranking, the Hazelwood Coal Mine is subject to an annual verification process. The annual review is a weighted ranking system that takes into account the factors identified in paragraphs 4.33 and 4.34 above. The current review of mine sites is due to be completed by the end of July 2014.

Annual mine verification inspection

4.34 The annual verification process was introduced in the mining sector by VWA in late 2010, in order to monitor mine operators' compliance with their statutory obligations to assess the potential for major mining incidents and to provide control measures to prevent or mitigate against such incidents.

4.35 The on-site verification inspection involves checking that certain control measures (as identified in Safety Assessments in relation to major mining hazards and associated elements of the mine's SMS) have been implemented and are functional. The verification process involves desktop document reviews, physical observations of control measures and discussions with on-site personnel.

4.36 Each year, VWA identifies a particular focus for the verification process. In the last three years these have been as follows:

- 2011 – Mining Plant (maintenance and jacking of plant)
- 2012 – Mine Fire (arising from operational plant)
- 2013 – Traffic Management and Contractor Management.

4.37 The next verification inspection at the Hazelwood Coal Mine is due to be undertaken in July 2014.

Oversight inspections

4.38 On-site inspections are conducted by Field Subject Matter Expert Inspectors, who are supported by Senior Mining Engineers and other specialists.

4.39 VWA has conducted both planned and unplanned oversight inspections at the Hazelwood Coal Mine site. These include visits to follow up on recommendations made or statutory compliance notices issued, or to enquire into mine specific hazards.

4.40 VWA undertakes enquiries through on-site inspections to monitor and enforce compliance with obligations on mine operators under the OHS Regulations. Improvement or Prohibition Notices are issued when a non-compliance is identified.

Incident response and service requests

4.41 In addition to verification inspections, VWA attends at workplaces (including the Hazelwood Coal Mine) in response to both incidents and service requests. When an incident is notified or a service request received, the incident/request is triaged to determine the appropriate allocation of resources, and the timeframe within which attendance at the workplace will occur.

Recent compliance history

4.42 Other than the matters already listed above, specific compliance with the OHS Act and Regulations by the mine operator has included the following:

- incident notification
- statutory notices
- verification of SMS, Safety Assessments and emergency plan.

Incident notification

4.43 In accordance with section 38(1) of the OHS Act, the mine operator notified VWA at 16.03 on 9 February 2014 of fires in the mine area and (in the same notification) of an incident where a male employee was struck in the mouth by a fire hose.

4.44 VWA first attended the site on 11 February 2014.

4.45 Following the fire in February 2014, VWA received three further incident notifications (270042, 270199 and 270201) from the CFA regarding CFA firefighters receiving CO exposure.

4.46 In the 12-month period between 9 February 2013 and 8 February 2014, VWA received six incident notices from the mine operators in respect to incidents involving its employees (none of which were fire related).

Statutory notices

2012

4.47 In June 2012, VWA conducted its annual Mine Verification Inspection. The topic of Verification -Mine Fire (arising from operational plant)- was selected following an incident on 21 January 2012 where a fire occurred on a dredger, which resulted in the discharge conveyor boom collapsing to the ground. A Prohibition Notice (V00039402232L/112-01) was issued on the date of the incident, and a subsequent Prohibition Notice (V00039402237L/112-01) was issued on 20 February 2012. The inspection focused on the mine operator's documentation for controlling the risk of such fires.

4.48 In its *Verification Findings Report* (June 2012), VWA stated that Control Measure 6 (CM 6) in relation to the conduct of the Annual Fire Safety Audit was only partially completed in that 'control exists however it is not properly performance monitored'[22].

4.49 VWA concluded that there were five matters requiring improvement under CM 6; under `Conclusions' it stated `The current SA [Safety Audit] for Mine Fire is incomplete, appears partially documented and requires comprehensive review'.[23] VWA inspectors issued Improvement Notice V01017400252L/111-01 on 21 June 2012 during the Verification Inspection, and subsequently followed-up on 11 October 2012 (entry report V01017400282L). The Improvement Notice was complied with.

4.50 VWA provided details of its review of, and the defects in, the conduct of the audit; in particular it noted that once matters had been identified in the audit process and detailed as requiring remedial action, there was no documented process in the SMS to checklist and record the fact that the remedial works had been ordered and then completed.[24]

[22] VWA *Verification Findings Report for Hazelwood Coal Mine* (2012) p6.
[23] Ibid p9.
[24] Ibid pp24–25.

4.51 VWA notified the mine operators of the defects in the safety audit system. The mine operators responded to the findings by stating that they intended to rectify these defects.[25]

4.52 VWA stated that the specific recommendations would be 'progress monitored during future oversight visits by WorkSafe'.[26]

4.53 In Table 4.A, entry numbers 3, 5, 16 and 18 detail the follow-up visits to the mine site undertaken by VWA inspectors in relation to recommendations made in the 2012 Verification Report.

4.54 In Table 4.B, entry 8 relates to the Improvement Notice issued to the mine operators on 14 November 2013 in respect of the defects found in the 2012 Verification Inspection for CM 6. The notice requires the mine operators to review and revise works management systems, ensure proper documentation of work orders, and to maintain records for audit. The notice has been complied with.

2013

4.55 VWA inspectors conducted the 2013 Verification Inspection at the mine site on 25 and 26 July 2013. The focus of the inspection was Traffic Management and Contractor Management. VWA carried out two inspections as a part of the Verification process.

4.56 In addition, there were 16 on-site inspections carried out by VWA at the Hazelwood Coal Mine for the period 9 February 2013 to 8 February 2014. These inspections included oversight inspections, incident response, service requests and notice follow-up visits (see Table 4.A).

4.57 During this period, there were nine Improvement Notices issued (see Table 4.B). All nine Improvement Notices issued have been assigned an 'End' status, meaning that the requirements of the notice have been complied with.

4.58 TABLE 4.A: ENTRY REPORTS/VISITS TO THE MINE 2013

No	Date	Entry Report no	Nature of visit
1	5 March 2013	V0107400314L	Follow-up to check documents on mine control centre relocation and conveyor inspections
2	27 March 2013	V0107400319L	Incident Report of minor electric shock to a worker & to follow up conveyor inspections
3	2 May 2013	V01017400322L	Follow-up on CM 1, 2 and 5 from *Verifications Findings Report* (June 2012)
4	16 May 2013	V0107400325L	Incident Report: gridmesh on walkway fell from under a worker, follow up on inspections

[25] Ibid p26.
[26] Ibid p10.

No	Date	Entry Report no	Nature of visit
5	31 May 2013	V0107400332L	Discuss 2013 Verification Inspection; follow-up on 16 May incident; follow-up on CM 1 from *Verifications Findings Report* (June 2012)
6	7 June 2013	V0107400333L	Follow-up on Improvement Notices of 16 May
7	9 July 2013	V0107400341L	Incident Report: laceration to worker, another incident involving plant (nil injuries); follow-up on various safe work procedures
8	19 July 2013	V0107400342L	Provide information on the 2013 Verification Inspection
9	25 July 2013	V0107400344L	2013 Verification Inspection
10	26 July 2013	V0004803551L	2013 Verification Inspection (cont)
11	26 July 2013	V0107400345L	Inspection of aspects of safety documents for verification
12	1 August 2013	V0107400348L	Follow-up on aspects of 2013 Verification (contractor management and training for mobile equipment)
13	22 August 2013	V0107400351L	Follow up on Improvement Notices of 26 July
14	16 September 2013	V0107400355L	Follow up on Improvement Notices of 26 July
15	10 October 2013	V0107400366L	Discussions regarding prevention of workplace injuries and diseases
16	14 November 2013	V0102250085L	Follow-up focus on 2012 Verification Inspection CM 6 Oversight of Annual Fire Safety Inspections – requirement to see works orders for rectification of defects
17	18 November 2013	V0107400373L	Incident Report: overburden collapse (nil injuries)
18	6 December 2013	V0107400382L	Follow up on 2012 Verification Inspection CM 1

4.59 TABLE 4.B: IMPROVEMENT NOTICES ISSUED TO THE MINE OPERATORS, 2013

No	Date	Improvement Notice no	Issue requiring improvement
1	16 May 2013	V0107400325L/1 11-01	Coal spillage around conveyors (housekeeping)
2	16 May 2013	V0107400325L/1	Barricading over fallen gridmesh on

No	Date	Improvement Notice no	Issue requiring improvement
		11-02	walkway
3	16 May 2013	V0107400325L/1 11-03	Failure to maintain tail end of conveyor
4	26 July 2013	V0004803551L/1 11-01	Height restriction warnings
5	26 July 2013	V0004803551L/1 11-02	Traffic and other signage
6	1 August 2013	V0107400348L/1 11- 01	Records for training on use of mobile plant
7	1 August 2013	V0107400348L/1 11- 02	Records for contractor management
8	14 November 2013	V0102250085L/1 11-01	Arising from the oversight of annual fire safety inspections, review and revise works management systems, ensure proper documentation of work orders, maintain records for audit.
9	6 December 2103	V0107400382L/1 11-01	Fail to maintain fire suppression equipment in dirty water pump station

Safety Management System

4.60 Regulation 5.3.21 requires the mine operator to implement a SMS. As outlined (above), aspects of its SMS were last inspected by VWA during the on-site verification inspection conducted on 25 and 26 July 2013.

4.61 As outlined above, an Improvement Notice was issued by VWA on 14 November 2013 requiring rectification of defects in the SMS in relation to the oversight of annual fire safety inspections.

4.62 A total of eight other Improvement Notices were issued to the mine operators in the course of 2013 (see Table 4.B). Follow-up visits were conducted on each occasion to monitor compliance (see Table 4.A).

4.63 VWA is not a licensing or approval authority with respect to an operator's SMS. However, on occasions, VWA has consulted or sought the opinion of other agencies, such as DSDBI, ESV and EPA, when a need is identified by VWA. This has not occurred at the Hazelwood Coal Mine.

Safety Assessments

4.64 Regulation 5.2.23 requires the mine operator to conduct Safety Assessments of identified major mining hazards. In order to ensure compliance, a selection of these Safety Assessments were reviewed by VWA during its annual Verification Inspections. As noted above, the focus of the 2012 Verification Inspection was 'Mine Fires'. 'Mobile Plant Interactions' Safety Assessment was the focus of the 2013 annual Verification Inspection.

4.65 VWA's primary role is to review and determine compliance of an operator's Safety Assessment. VWA is not an approval authority for the Safety Assessment.

Emergency plan

4.66 Regulation 5.3.34 requires the mine operator to prepare an emergency plan, which includes procedures and protocols for responding to a fire event. The emergency plan must be prepared in conjunction with the emergency services and the municipal council.

4.67 On 30 October 2009, VWA inspected this plan and noted that it had been prepared in conjunction with the emergency services.

4.68 The current emergency plan is dated 15 May 2013. The emergency plan includes procedures and protocols for responding to a fire event.

Stakeholder engagement

4.69 VWA chairs the Earth Resources Tripartite Safety Forum of which the MCA (which represents the operator of the Hazelwood Coal Mine, amongst others) is a key member.

4.70 VWA is also represented on a number of industry bodies, such as the Mineral Council of Australia Safety and Health Working Group.

Environment Protection Authority

Operational context

4.71 As Victoria's environmental regulator, a key role for the EPA is to monitor compliance with the EP Act to ensure a safe and healthy environment.

4.72 In line with current international regulatory practice, the EPA adopts a 'risk based' regulatory approach. The EPA has developed an operational framework to allocate resources according to where the biggest difference can be made based on the potential harm to the environment and the likelihood of non-compliance with the law. The EPA's adoption of 'risk based' regulation is detailed in its Compliance and Enforcement Policy.[27]

The EPA's 5 Year Plan and transformation

4.73 In 2010, following a series of reviews of the EPA's regulatory performance, and strong recommendations from both the Victorian Auditor General's Office and the Victorian Ombudsman, the EPA undertook a commitment to fundamental transformation as a regulatory authority. As part of its strategic priorities, this transformation is outlined in its 5 Year Plan 2011-16. The Plan focuses on the EPA's capability as a regulator and its approach to regulating – transforming to an effective regulator and influential authority.

4.74 In addition to the transformation, the execution of the 5 Year Plan is programmed through three component strategic priorities – Deal with Past Pollution, Tackle Current

[27] EPA, Compliance and Enforcement Policy (2011) pp6-7

Environmental Issues, and Shape the Future. The strategy for Tackle Current Environmental Issues focuses on maximising the time spent on strategic preventative work by rationalising the time spent on pollution response and maintenance of statutory tools such as licences and notices. This is primarily achieved through a risk based approach.

4.75 Sitting across the three strategic priorities, the EPA has further focused its attention on six key environmental protection priorities, representing key pollution sources. These are landfills, organic waste processors, stormwater, waste stockpiling, industry/residential encroachment, and contaminated land. Each of these is subject to a dedicated operational strategy that employs resources from across the spectrum of regulatory functions within the EPA to drive a positive outcome for the environment.

Compliance and Enforcement Policy

4.76 The changes to its regulatory approach as part of the EPA's transformation followed extensive community and industry consultation and is articulated in its final form in the Compliance and Enforcement Policy.[28] The Policy sets out EPA's approach, methods and priorities for compliance. It is a foundation policy that frames how the EPA will implement its mandate, make decisions and apply environment protection laws.

4.77 An important part of this policy is the statement of the EPA's principles that guide its compliance and enforcement activities:

- Targeted
- Proportionate
- Transparent
- Consistent
- Accountable
- Inclusive
- Authoritative
- Effective.

4.78 The Policy informs many operational decisions including the processes and operational systems in place for compliance and enforcement.

Annual compliance planning – a riskbased approach

4.79 Critical to the EPA's approach as a risk-based regulator is the ability to determine how best to apply its available resources to achieve maximum effect. The EPA assesses the outcomes of its risk assessments, and through the ACP establishes a plan that sets out the annual priorities for compliance and enforcement.

4.80 To provide transparency, the EPA publishes the ACP and its intended focus and priorities for regulatory activities for the year ahead. The ACP explains the means by which the EPA allocates its resources to responsive work, the maintenance of statutory instruments including licences, and its strategic and broad scale preventative work. For

[28] EPA, Compliance and Enforcement Policy (2011)

2013-14, it is estimated that around 40 per cent of 3,000 field inspections and 1,800 desktop assessments would be related to the compliance with statutory instruments.

EPA licensing system – its purpose and historical approach to regulation

4.81 The Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 specify the activities, based on an assessment of the risk of the activities, which require an EPA licence. The licence allows the EPA to impose conditions on the pollution and waste generated by a business in relation to those activities. The licensing instrument sets up a specific regulatory regime for the site in addition to the general legislative offences under the EP Act available for unlicensed entities.

4.82 The regulatory regime for licensed sites involves significant levels of direct regulatory contact, with evidence over time that the environmental impacts of these businesses have diminished with greater levels of compliance.

4.83 While this licensing system provides pollution controls and accountability for those sites that require a licence, it has become evident that there are many unlicensed businesses that individually and collectively have an adverse impact on the environment. To remedy this imbalance, through the development of the ACP, the EPA has shifted from a predominantly direct intervention model with licensed businesses to a more systemic and risk-based approach, with an obligation on businesses to demonstrate compliance rather than the onus being on the regulator to detect non-compliance.

Approach to regulating licensed businesses

4.84 There are currently around 700 sites that hold an EPA licence providing requirements around the control of waste emissions specific to the site and its activities.

4.85 In 2010, a requirement was introduced for licenced businesses to produce an APS. The APS is a detailed assessment of the business performance against licence conditions, including a requirement to provide sufficient information to demonstrate compliance, as well as declaring any non-compliances. The EPA reviews each of these submissions. As part of the 2013-14 ACP, the EPA will select 50 of these sites for a more detailed follow-up audit, which occurs either as an on-site inspection or through desktop assessment. These actions may determine the need for compliance and enforcement action such as notices or sanctions.

4.86 In addition to the systemic approach provided by an APS, the EPA is nearing completion of a risk-based earned autonomy program, based on best practice – the Licensed Operator Risk Assessment program. The building of this framework, based on the operational risk appraisal system used by the United Kingdom Environment Agency, involves a detailed audit of all licensed sites over two years, with scoring against a set of criteria.

4.87 The final risk scores are used to structure the licensed regulatory program – with low scorers receiving more significant regulatory attention, and high scorers being provided more autonomy and experiencing less frequent intervention. It is expected that for high performing sites, the EPA may only physically attend the site every one to two years. In the 2013-14 ACP, there is a target of 300 inspections of licensed sites to check compliance with licence conditions, and to further populate the Licensed Operator Risk assessments.

4.88 The rationalisation of this element of its regulatory work is critical in allowing the release of resources to focus on identified environmental priority areas. The risk based approach does not apply in the same way where there is overlap with the environmental priorities, for example landfills. In these areas of strategic environmental significance, even though these sites will be licensed, the strategic work will take priority over any risk-based rationalisation of regulatory work.

Regulatory tools for licensed businesses

4.89 In addition to APS and Licensed Operator Risk Assessment – a variety of regulatory tools and methods are used in the regulation of licensed entities. The following is a brief explanation of the purpose of each.

- Emergency discharge:[29] this provision of the EP Act establishes an approval system, where in response to an emergency the EPA has power to approve on a temporary basis the discharge or storage of pollution (which includes discharge, deposit, handling of waste) on a site. The emergency approval is for a limited period of time (max 120 days) and is subject to the conditions set out in the approval. The benefit of this provision is the recognition of discharge resulting from an emergency (for example accident, fire or spill) and makes legislative provision for controls to be imposed to minimise the adverse impacts of an emergency.
- Desktop assessment: under the risk-based assessment approach as applied through the Licensed Operator Risk Assessment program, the EPA has implemented a system for undertaking desktop assessment of licence and permit holders. The level of assessment, and whether an inspection is triggered, will turn on a number of factors including the risk level, the reported compliance in the APS and history of compliance. Desktop assessments are recorded against a duty holder's compliance history.
- Incident notification: sites that hold an EPA licence are bound by a condition requiring notification to the EPA of any non-compliance with licence conditions. The EP Act does not impose a general duty to notify the EPA of pollution incidents.
- Pollution Abatement Notice:[30]: the EPA has the power to issue a Pollution Abatement Notice on the occupier of a site or the person responsible for a pollution event. The pollution events and grounds for a Pollution Abatement Notice are broad and include a breach of standards, policy or licence or the creation of an environmental hazard. The notice may require a number of responses including that an activity cease, be modified or comply with standards or the provision of information within a set period of time. Contravention of a Pollution Abatement Notice constitutes an indictable offence with a maximum court penalty of 2,400 penalty units and an additional daily penalty of up to 1,200 penalty units for a continuing offence.

[29] Section 30A of the EP Act.
[30] Section 31A of the EP Act.

- Minor Works Pollution Abatement Notice:[31]:where the EPA estimates that the cost of compliance with the requirements of the Pollution Abatement Notice will not exceed $50,000, it may issue a Minor Works Pollution Abatement Notice where urgent action is required. Contravention of this provision is a summary offence with a maximum court penalty of 300 penalty units and an additional daily penalty of 50 penalty units.
- Cleanup Notice[32]: the EPA has the power to issue a notice ordering the taking of clean-up measures by an occupier of premises or a person responsible for causing pollution (which includes abandoned, dumped or handing industrial waste in a hazardous manner). The provision includes power to make conditions for cleaning up in a particular manner, to a prescribed standard, or in a time frame required by the EPA. Contravention of a notice is an indictable offence and carries a penalty of 2,400 penalty units.

Regulation of the Hazelwood Power Station and Hazelwood Coal Mine site

4.90 The Hazelwood Power Station is a scheduled premises under the EP Act. A works approval was granted in 1997 with the original licence issued on 30 April 1997. The licence has been held by the following partnership since 12 July 2013:

- National Power Australia Investments Ltd
- Hazelwood Pacific Pty Ltd
- Australian Power Partners BV
- Hazelwood Churchill Pty Ltd.

4.91 As outlined above, while the Hazelwood Coal Mine is regarded as part of the premises, the exemption of mining activities through the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 means that the licence pertains to the discharges and storage of waste from the Hazelwood Power Station only.

4.92 During the period in which the Hazelwood Power Station has been in operation, the EPA has undertaken 81 licence related actions (amendments, transfers, revocation of conditions). It has issued seven works approvals, two approvals for research and development and demonstration programs, 13 approvals for emergency discharge and there have been some 30 site assessments and 65 performance monitoring activities. The history of regulatory activity of the power station is extensive.

Recent compliance history

4.93 The following is a summary of recent compliance activities:

- two emergency discharge (section 30A) approvals between 2011-14 – related to water discharges in excess of licence limits
- four site visits and two desktop assessments between 2011-14 (excluding the Hazelwood Coal Mine Fire).

[31] Section 31B of the EP Act.
[32] Section 62A of the EP Act.

4.94 The most recent visit was a licence inspection on 18 March 2013 as part of the ACP. Advice was given regarding the chemical storage and monitoring plan. There were no follow-up remedial actions or sanctions.

4.95 The most recent APS submission (2012-13 financial year) indicated non-compliance with seven of the 22 conditions on the licence. These related to four incidents:

- 29 December 2012: recycled saline water-ash return water ash line ruptured, ejecting scale and ash water across internal dirt road
- 19 January 2013: steel flange on an ash disposal pipe at stage 4 began to leak ash and ash water onto internal business embankment
- 6 February 2013: a high-density polyethylene pipeline split at a weld, resulting in an ash and ash water spill onto internal embankment
- 22 April 13: turbine oil tank loss of approximately 468 litres overnight.

4.96 Each of these resulted in minor on-site impacts and required no further EPA activity.

4.97 The APS also reported non-compliance with licence condition G06 Financial Assurance. This is a matter of ongoing discussion between the EPA and the sector as financial assurances (or rehabilitation bonds) are also required by DSDBI.

Enforcement

4.98 The current licensee has not been issued any penalty infringement notices or been the subject of any proposed prosecutions.

4.99 In 2001, the previous licensee paid $25,000 for community environmental projects across the Latrobe Valley. This was paid in lieu of a number of penalty infringement notices relating to the handling of Polychlorinated Biphenyls (PCBs).

Engagement

4.100 The duty holder runs a quarterly Environmental Review Committee, of which the EPA is a standing member. The last meeting of the Environment Review Committee was held on 26 November 2013.

5. History of key events and previous reviews

5.1 The first section of this chapter provides a concise history of the key events that have shaped the regulatory framework relevant to the Hazelwood Coal Mine. The following section provides more detailed information on reviews undertaken following previous fires at the Hazelwood Coal Mine and changes made as a result of those reviews.

Regulation of the Hazelwood Coal Mine – concise history of key events

Development of Morwell (1940s and 1950s)

5.2 In 1947, plans were outlined to develop a new open cut mine south of Morwell. At first there were discussions about Morwell's survival as a town as it lay over coal and preliminary planning documents recommended building a 'New Morwell'. In little more than 20 years, an open cut mine, briquette factory and a power station were built to the south of the town. The residential area of Morwell expanded to the east and north and shops were built on the north side of the railway line. The Housing Commission built over 2,000 houses to cater for the increase in population. In the decade after 1947, Morwell grew by 10,000 people to a population of 13,000. The current population is approximately 14,000, comprising approximately 5,700 households.

5.3 As a result of planning and mine development decisions made in the late 1940s, the township of Morwell is in close proximity to the Hazelwood Coal Mine.

5.4 Between 1968 and 1983, the State Electricity Commission demolished much of Yallourn to enable the expansion of mining of the underlying brown coal reserves. Many of the people who were relocated from Yallourn moved to the surrounding towns in the Latrobe Valley: Morwell, Moe, Newborough, Traralgon and Yallourn North.

Privatisation (September 1996)

5.5 In 1996, the mine was privatised and its operations brought under the regulatory regime of the MR(SD) Act, thereby separating regulation of mining operations from the mine operator. On 10 September 1996, the Governor in Council ordered that mining licence number 5004 be granted to Hazelwood Power Corporation under section 47A of the EI Act. Included with the licence approval was approval for a work plan and a rehabilitation plan.

5.6 Although the issue of the licence and approval of the work and rehabilitation plans was outside the framework established by the MR(SD) Act, the contents of these instruments and their regulation by the then regulator was consistent with that framework.

OHS- for mines comes under the OHS Act (October 2002)

5.7 Prior to 2002 mines were exempt from the *Occupational, Health and Safety Act* 1985. OHS for mines was regulated under the MR(SD) Act. The government removed that exemption in 2002 when workplace OHS in all mines became regulated under the *Occupational, Health and Safety Act* 1985.

5.8 The Occupational Health and Safety (Mines) Regulations 2002 were introduced and set out general duties relating to the identification and control of risks to health and safety and included specific requirements for coal mines (and other prescribed mines) to establish a 'safety management system'.

5.9 Though OHS in mines was now effectively regulated under the OHS Act, the regulations made under the MR(SD) Act still required work plans to address OHS. VWA delegated the regulation of OHS in mines under the OHS Act and Regulations to DSDBI (DPI). This allowed DSDBI (DPI) to remain in charge of regulating OHS for mines until 1 January 2008.

5.10 In 2004, the *Occupational, Health and Safety Act* 1985 was replaced by the OHS Act. In 2007, the Occupational Health and Safety (Mines) Regulations 2002 were replaced by the OHS Regulations. Neither of these changes fundamentally changed the regulatory arrangements or requirements for mines. See the 'Regulation of OHS section in Chapter 4-3 for details.

Yallourn mine wall collapse (November 2007)

5.11 In November 2007, the northern wall of the Yallourn coal mine collapsed due to water pressures and ingress in natural cracks in the wall that separated the Latrobe River mine from the mining operation.

5.12 In 2008, the Mining Warden submitted the *Yallourn Mine Batter Failure Inquiry Report* into the facts, circumstances and causes surrounding the collapse.

Transfer of administration of the OHS Act from DSDBI to VWA (January 2008)

5.13 In May 2006, Neil Pope reported to the then Minister for Energy and Resources about the regulation of OHS in Victoria's earth resources industries-*Report into the Regulation of Occupational Health and Safety in Victoria's Earth Resources Industries* (2006).

5.14 There were two recommendations specifically related to OHS in Victoria's mining sector in the Pope Report. The report argued that administration and enforcement of OHS should be administered in the mining sector similarly to other industries (which was consistent with the subsequent recommendations in the State Service's Authority's *Review of the Mining Warden* (2009) related to dispute resolution). Mr Pope recommended that responsibility of the administration of the OHS Act in relation to mines should be moved from DSDBI (DPI) to WorkSafe.

5.15 The government accepted Mr Pope's recommendations. On 1 January 2008, delegations to officers of DSDBI (DPI) concerning the exercise of OHS powers under the OHS Act and the regulations were withdrawn.

5.16 The requirement for an OHS plan in the work plan was removed from the Mineral Resources Development Regulations in 2010 and remaining references to OHS were removed from the MR(SD) Act in 2011.

Risk management of mine stability for 'declared mines' (June 2010)

5.17 To support the implementation of the government's response to the Mining Warden's *Yallourn Mine Batter Failure Inquiry Report*, a risk management approach for mine stability for 'declared mines' was introduced by DSDBI. The changes required the licensee of declared mines (including Hazelwood, Loy Yang and Yallourn) to

demonstrate management of mine stability to the mine regulator, DSDBI within their work plan and also by regular reports.

Hazelwood Coal Mine batter movements (February 2011)

5.18 Sink holes developed in and near the Morwell Main Drain following a close succession of significant rain events. Movement occurred in the northern batter of the Hazelwood Coal Mine, with cracking in the adjacent land and the Princes Freeway. As a precaution the freeway was closed until late September that year.

5.19 DSDBI (DPI) issued notices under section 110 of the MR(SD) Act requiring remedial works. The licensee undertook a number of control actions, including installation of horizontal bore holes to drain the coal batters and lining of the Morwell Main Drain.

Yallourn mine flood (June 2012)

5.20 In June 2012, a diversion of the Morwell River failed, that runs across the mine, and flooded the Yallourn mine. The diversion was approved to allow the expansion of the mine. Approval of the project was subject to an EES in 2001, with the resulting work plan variation in 2002.

5.21 DSDBI (DPI) commenced a formal investigation of the flooding under the MR(SD) Act to determine the causes of the failure and whether there has been any breach of statutory requirements on the part of the mine operator. Findings of the investigation indicate that there was insufficient evidence to suggest a breach of statutory requirements.

***Emergency Risks in Victoria: Report of the 2012-13 State Emergency Risk Assessment* (February 2014)**

5.22 The *Emergency Risks in Victoria: Report of the 2012-13 State Emergency Risk Assessment* (February 2014) noted the risks of mine operations, including coal mine fires.

Previous fires at the Hazelwood Coal Mine

The 1944 fire

5.23 On 14 February 1944, embers from a bushfire north west of the then township of Yallourn ignited a fire in the Yallourn open cut coal mine, causing damage to infrastructure at the mine.

5.24 A Royal Commission into the Yallourn fire was established, headed by the Hon Leonard Stretton. His Honour's main criticisms were of the absence of any plan to protect Yallourn township, the mine and power station from bushfire, and the lack of a general plan within which the various components of the SECV worked together.

5.25 The Commission also noted the 'negligible' work done outside the Commission's boundaries to afford protection for Yallourn.

5.26 His Honour's preference as to the subject matter and focus of the plan was clear:

> 'Fire is an almost unavoidable concomitant of brown coal open cut mining. Inflammable dust is created by the mining process and by the necessary traffic in

the mine. No very elaborate internal protection against fire caused by bush fires is necessary if sufficient protection is given against the normal, industrial fire risk.'

The 1977 fire

5.27 On 4 November 1977, a fire was believed to have been ignited by a passing truck in the Hazelwood Coal Mine. It was extinguished two days later. By then over 1,400 SECV workers had been involved in the emergency response along with personnel from CFA and the Royal Australian Air Force.

5.28 The SECV commissioned a committee to review the incident and make recommendations. The committee found that mine preparation for the fire was inadequate in light of the risk of ignition inherent in coal mining and the hot, windy weather conditions on the day. This was due, in part, from a lag in maintenance caused by recent industrial action.

5.29 The committee made 28 recommendations, principally that the SECV increase and improve fire service reticulation, spray manifolds and equipment.

5.30 The SECV accepted the committee's recommendations. In 1981 it prepared the code of practice, which it revised in 1984 and then in 1994.

The Code of Practice

5.31 By the time of the 1994 revision, the code of practice fulfilled the requirements of what it described as the 'emergency services acts':

- 'Country Fire Authority Act 1958
  - Section 43(1) "It shall be the duty of every municipal council and every public authority to take all practicable steps (including burning) to prevent the occurrence of fires on and to minimise the danger of the spread of fires on or from – any land vested in it or under its control or management.
  - Notwithstanding, Section 20 of this Act gives the CFA "The duty of taking superintending and enforcing all necessary steps for the prevention and suppression of fires and for the protection of life and property in case of fire".
  - Section 30 gives the Chief Officer of the Authority powers to take control and direction which may be exercised "Where the Chief Officer believes on reasonable grounds that there is danger of fire occurring or where a fire is burning or has recently been extinguished".
- Emergency Management Act 1986
  - Sections 6 and 16, gives [sic] the Coordinator in Chief of Disaster Control, or other delegated person, authority to ensure that adequate measures are taken by Government Authorities to prevent and respond to emergencies and to assume a co-ordinating role in the implementation of Displan (which includes an actual or imminent occurrence of fire).
  - Dangerous Goods Act 1985 and regulations (1990)
  - Section 4 states objectives of the Act which among other things "promote the safety of persons and property" in relation to dangerous goods, and

"ensure that adequate precautions are taken against certain fires, explosions," etc.

- Occupational Health and Safety Act 1958
  - Section 21. "An employer shall provide and maintain so far as is practicable for employers a working environment that is safe and without risks to health."'

5.32 Clause 4.4 of the Code of Practice set out the minimum requirements to protect worked out batters:

- 'All benches are to be clay covered.
- All berms are to be eliminated by trimming or by filling with clay such as to shed fretted coal provided that batter stability calculations indicate that neither of these options will cause batter failure
- Tanker filling points are to be provided such that a tanker on any part of the worked out batters is within 5 minutes travel of a tanker filling point. Fixed sprays should be used in conjunction with the droppers for the tanker filling points in order to provide wetted breaks.

Alternatively:

- Where practicable, fire break zones extending down to full depth of each batter may be utilised such that the length of exposed coal in any one batter is not greater than 500 m. These zones can be in the form of metalled vehicle access ramps or clay covering.'

Fire safety and the work plan

5.33 Following privatisation in 1996, a work plan and rehabilitation plan for the Hazelwood Coal Mine were approved by the Minister for Agriculture and Resources.

5.34 With respect to fire safety, the rehabilitation plan was governed by the Code of Practice and the document entitled *Trees and Fire Protection*.

5.35 Clauses 7.4 to 7.7 of the approved work plan governed bushfire mitigation and fire protection. They provided as follows:

'7.4 Bushfire Mitigation Program

In recognition of the fact that the Mine is situated in high bushfire risk area and the potential consequences on the Mine infrastructure of a bushfire, HPC (Hazelwood Power Corporation) contributes to funding a Bushfire Mitigation Program in the area surrounding the mine. The Bushfire Mitigation Program conforms with the "Latrobe Valley Open Cut Mines – Fire Service Policy and Code of Practice" – see Section 7.7 below.

7.5 Emergency Response Plan

HPC has developed an Emergency Response Plan to be followed in the event of an emergency such as fire or flood, catastrophic failure of Mine or plant, bomb threats, hazardous materials etc.

7.6 Fire Instructions

As part of Fire Prevention management HPC has promulgated a set of Fire Instructions for Mine personnel, these instructions are updated prior to every fire season – usually in December. Prior to the fire season each year all Mine personnel are required to undertake fire training conducted by the Mine's fire service section. The Fire Instructions are incorporated as part of the Mine's Emergency Control Plan.

7.7 Fire Protection Policy

HPC adheres to the "Latrobe Valley Open Cut Mines – Fire Service Policy and Code of Practice" issued April 1994 for the Mine, bunkers and their surroundings to ensure adequate:

- Management Accountability
- Preparedness and Planning
- Training and Personnel
- Installed Fire Protection Systems
- Fire Extinguishing Capability
- Emergency Procedures

The Fire Service Policy and Code of Practice contains the essential requirements and operating procedures for fire protection services for the Mine and its surrounding area.

An extensive network of water reticulation and sprays has been established in the Mine for fire protection.'

The 2005 and 2006 fires

5.36 In August 2005, the Emergency Services Commissioner released *A Report of Fire Service Delivery in Latrobe City*. The report examined in general the 'appropriateness and capacity of fire service delivery, in terms of prevention and response, with particular reference to the electricity industry in the municipality of Latrobe City'. The Emergency Services Commissioner found that, among other findings:

- fire service delivery by CFA and emergency management arrangements in Latrobe City were generally sound and appropriate
- service delivery was not based on a comprehensive analysis of risk
- private contractors used by the electricity industry were able to maintain an effective first response capacity.

5.37 In 2005 and 2006, two fire events prompted DSDBI (DPI) to exercise its delegated powers under the OHS Act to require the operator to modify practices at the mine and revise the Code of Practice.

5.38 On 30 December 2005, a fire ignited in an old fire hole in a disused part of the south-eastern corner of the mine and spread. CFA contained the fire two days later.

5.39 The licensee convened a panel of inquiry to investigate the cause of the fire and make recommendations. The panel recommended that the licensee:

- improve emergency response procedures
- improve fire fighting ability

- reduce the threat of fire by establishing fire break zones and developing a fire training facility for mine employees.

5.40 On 12 October 2006, a malfunction in a conveyor belt started a fire in the working face of the mine. The fire spread due to hot and windy weather conditions and defects in the immediate emergency response.

5.41 Following the fire both CFA (assisted by DSDBI) and the licensee (which commissioned engineering and environment consultant GHD) prepared incident investigation reports. CFA report investigated the cause of the fire. GHD reported on the causes of the fire and proposed recommendations for regulatory and operational reform.

5.42 GHD's '*October 2006 Mine Fire Investigation Report January 2007*', included the following findings and recommendations:

- Annual internal audit of all fire services facilities, systems and procedures as specified in current 'Mine Fire Service Policy and Code of Practice'had not been completed.
- The *Mine Fire Service Policy and Code of Practice* definition of the pre-summer and fire season works program designates December and January as the months in which crucial fire preparation is to be undertaken, including fire training. It does not consider current weather, fire or mine conditions.
- No formalised or predefined conditions available for declaring a Fire Alert.
- Fire Alert processes are understood but are not always fully complied with.
- Roles and responsibilities of fire services and personnel to support fire services during a Fire Alert and in an incident should be reviewed.
- Work procedures and practices within the 'Mine Fire Service Policy and Code of Practice' and the 'Fire Instructions' are not systematically reviewed.
- According to the 'Mine Fire Service Policy and Code of Practice', the wet testing system is required on or about 12 December each year. This predefined date does not consider current weather, fire or mine conditions, nor does it consider ensuring a continual functioning system.
- Organisational responsibilities in fire prevention and safety precautions on plant, outlined within the 'Fire Instructions for the Hazelwood Power Mine' are not systematically reviewed.
- No formalised arrangements with CFA to be put on alert for a fire.
- Some CFA non-Morwell personnel did not have an understanding of fighting coal fires.
- Roles, responsibilities and procedures outlined within the Emergency Response Plan are not systematically referred to during an emergency and should be more user friendly.
- Interface and communications between operations, fire services and maintenance need to be reviewed in terms of fire systems, particularly in relation to the power supply for the fire pumps.
- Inadequate preparation and establishment of the ICP.
- No formalised media communication protocol between the ICC and the ICP.

- Differing information between the IPRH Significant Issue Corporate Response Plan and the IP Corporate Serious Incident Procedure.
- The detection of smouldering bearings from faulty idlers relied on visual inspection from mine personnel.
- While it should be recognised that the priority was to ensure that sufficient water was used to control the spread of fires, some mine personnel did not understand the impacts of large quantities of water being transferred to the power station.
- Resourcing during an ongoing incident response did not take into account both power station and mine requirements.

5.43 GHD made 20 recommendations, which are set out below. In summary, it required a wholesale review of the Code of Practice and the licensee's emergency management plan:

- In July of each year, a plan should be developed for the upcoming fire season based on weather predictions and mine conditions. Note that with the current conditions, a fire season may need to be designated from October to March.
- An annual audit of the fire system should be undertaken prior to the start of the fire season in accordance with the fire season plan (refer to Recommendation 1). The audit should review all aspects of the fire service facilities, systems and procedures. This should include hardware, documentation, fire pumps and electrical supply, spray coverage of coal levels and firefighting training, etc.
- Predefined conditions should be identified to assist in determining whether a Fire Alert should be declared. The criteria should not be based solely on CFA total fire bans as CFA criteria includes factors relating to conditions that are not applicable to an open-cut coal mine.
- Fire Alert processes are understood but are not always fully complied with. As the Fire Alert is a critical control to prevent fires, the procedures including roles and responsibilities should be reviewed, updated, reiterated and enforced for mine personnel.
- Roles and responsibilities of fire services and personnel to support fire services during a Fire Alert and in an incident should be reviewed. The review should cover the responsibilities and tasks required by the Fire Services Group including the Fire Services Officer, Supervisor and Operators for the normal daily tasks, during a Fire Alert and during an incident. The review should also cover which mine personnel or contractors would provide a valuable and effective resource to support fire services during a Fire Alert and an incident dependent on their roles and responsibilities. For instance, utilising the maintenance crew for additional fire spotting after a Fire Alert has been declared.
- Interface and communications between operations, fire services and maintenance need to be reviewed in terms of fire systems, particularly in relation to the power supply for the fire pumps.
- Roles, responsibilities and procedures outlined within the IPRH emergency response plan should be reviewed and rewritten utilising a checklist approach

so that each person undertaking an emergency role can confirm that they are undertaking their key activities.

- In a significant fire, each coal level should be treated as a fire zone and a zone leader allocated after consultation with CFA.
- Once it has been determined that there is a significant fire, all supervisors should return to the ICP for a briefing and to undertake a role of co-ordinating the fire teams. A co-ordinated approach to fighting fires is more effective than just a large number of fire fighters.
- The ICP should continue to be established as a special facility separate from normal operations or mine activities. The ICP should have available all essential equipment required for an emergency response, that is easily and quickly accessible; and able to be transported to any on-site facility. This equipment may be available as a mobile 'kit'.
- IPRH should consider notifying CFA immediately once a spot fire has been reported and verified on site. CFA remains on alert for a nominated amount of time (for example, 15 minutes). Within this time frame it must receive further notification from the site that the fire has been extinguished otherwise it will send out an initial response crew in anticipation that the fire has escalated and assistance is required. This practice is undertaken at other mines in Latrobe Valley.
- The IPRH Significant Issue Corporate Response Plan and the IP Corporate Serious Incident Procedure should be reviewed and updated to ensure there are no discrepancies; and the IPRH Emergency Response Plan should be consistent with the IPRH Significant Issue Corporate Response Plan.
- Work procedures and practices within the 'Mine Fire Service Policy and Code of Practice'and the'Fire Instructions'should be systematically reviewed and updated.
- While it should be recognised that the priority is to ensure that sufficient water is used to control the spread of fires, particularly to ensure no burning coal is transferred to the power station, mine operations should be trained to understand the effects of excessive water being transferred to the power station.
- The use of thermal imaging cameras and other technology in detection of faulty idlers should be investigated for their application and used where appropriate.
- The use of thermal imaging cameras is effective during firefighting and should be considered as well as other technology for wider use in spotting fires within the mine.
- A procedure for dealing with CO during firefighting, including the use of CO monitors, should be developed since personnel safety is a major responsibility and concern in fighting coal fires.
- While the efforts of all mine, contractor and CFA personnel are highly commended in their assistance with the firefighting, it should be emphasised and reinforced to all personnel that no job is so important that they should take excessive risks.

- Allocating IPRH operations staff to CFA strike teams during a fire should be included within IPRH procedures (for example, Emergency Response Plan and/or Fire Instructions) and reinforced so that it becomes normal practice.
- To ensure that the ongoing efficient operations of the mine are not comprised over the long term as a result of the fire incident, a detailed risk analysis should be carried out to assess the life cycle impact of the fire on maintenance costs and longevity of the mine infrastructure assets.

5.44 On 13 February 2007, an Inspector of Mines issued an Improvement Notice under the OHS Act requiring the licensee to ensure that risks associated with fire in the mine be eliminated or reduced as far as is practicable. The notice nominated implementation of GHD's recommendations as one way of complying with the notice.

5.45 Incident Management Support Services provided a report to CFA in relation to the October 2006fire. The report included findings that:

- plans need to include notification and escalation arrangements, staging area layout, logistics management and communications
- plans need to ensure adequate preventative measures (both on the part of the mining operators and CFA)
- the most significant welfare issue was the exposure of crews and mine workers to large concentrations of CO
- having the ICC off-site led to delays and communications issues.

Review of the Code of Practice

5.46 The Code of Practice was also reviewed at this time. The 'Purpose' section of the revised Code of Practice removed reference to the *Country Fire Authority Act 1958* and the EM Act 1983. The Hazelwood Coal Mine Fire Service Policy, Code of Practice and related documents formed part of the mine's SMS, which it was required to have as a prescribed mine under OHS Regulations. The purpose of the policy was stated to be the following:

- 'The purpose of this Fire Service Policy and Code of Practice is to achieve the Fire Protection Policy requirements by providing acceptable operating procedures for fire protection services for Mining Operations. This will be provided by:
- Establishing a clear strategy and standard of open cut fire protection to:
  - protect all personnel within the Hazelwood Mine;
  - protect all plant and equipment required for the maintenance of coal winning operations, and
  - protect coal reserves to enable continuation of coal winning activities.
- Ensuring that all personnel associated with the Hazelwood Mine or the Fire Service systems have an understanding and awareness of the effects of fire, the requirements of fire protection and are aware of their responsibilities.
- Providing a framework which ensures that fire protection objectives are coordinated, coherent and translatable into action and to ensure that these objectives are carried out.

- Ensuring that relevant statutory regulations are met and that a cooperative and coordinated approach is undertaken with relevant statutory authorities.
- Ensuring that the equipment used for fire service activities meets relevant operational standards.
- Setting procedures for the testing of new equipment and practices before being approved for general use in the Hazelwood Mine.'

5.47 The revised Code of Practice was based on the following principles:

- 'The control of sources of ignition such as cutting and welding, mobile equipment and motor vehicles and the safe storage of potentially flammable materials.
- The effective limitation and management of forested, wooded or grassed areas external to the open cut to inhibit the progress and effect of an external fire.
- Provision and maintenance of back-up facilities to fight and control any fire.
- An organised approach to prevention and suppression of fire and the formulation of emergency response plans and fire instructions.
- The use of an adequate communications system to mobilise and coordinate firefighting facilities.
- The use of approved & tested firefighting equipment and fittings which are compatible with outside combat agencies.
- The provision of water supplies, reticulated water and spray systems together with the trained personnel necessary for the operation of these systems to prevent or suppress fires. Note: Whenever pipelines are to be disconnected from the water supply, all efforts must be made to have water restored back to the affected line before the end of the shift. If this is unachievable, then a temporary water supply is to be set up.
- The provision of adequate training sessions and exercises to ensure that each employee understands the appropriate techniques and Hazelwood Mine procedures for fighting brown coal fires and undergoes refresher training sessions at regular intervals.
- The reduction of loose dry coal in the open cut, conveyors and coal bunker areas, by the application of appropriate design measures in conjunction with constant monitoring and wash down exercise where coal build up could become a fire hazard.
- In order to properly protect all parts of the Hazelwood Mine, pipe work and sprays are to be installed as laid down by this Fire Service Policy and Code of Practice. However, it must be understood that a larger water supply system would be required to run all the sprays and protection systems simultaneously. This policy provides for diversity in the simultaneous application of the fire protection water supplies and distribution.
- The maximum demand as defined in this Fire Service Policy and Code of Practice is an allowance of water usage upon which the design of the water supply system is based. The maximum demand rate of water use is considered to be sufficient to meet any likely contingency within the Hazelwood Mine. The

distribution of this allowance of water usage is reasonably flexible for any situation but the use of more water than allowed for in one area may cause a reduction in the performance of the system.'

5.48 Clause 3.4 of the revised Code of Practice sets out minimum requirements for worked out batters. It provided as follows:

- 'All benches are to be clay covered.
- All berms are to be eliminated by trimming or by filling with clay such as to shed fretted coal provided that batter stability calculations indicate that neither of these options will cause batter failure.
- Tanker filling points are to be provided such that a tanker on any part of the worked out batters is within 5 minutes travel of a tanker filling point. Fixed sprays should be used in conjunction with the droppers for the tanker filling points in order to provide wetted breaks.

Alternatively:

- Where practicable, fire break zones extending down to full depth of each batter may be utilised such that the length of exposed coal in any one batter is not greater than 500 m. These zones can be in the form of metalled vehicle access ramps or clay covering, a minimum of 8 m wide.'

5.49 On 13 September 2007, the licensee finalised the revised Code of Practice. On 14 September 2007, the Inspector of Mines accepted, among other documents submitted by the licensee, the revised Code of Practice and advised the licensee that the Improvement Notice under the OHS Act was deemed to be complied with.

The 2008 fire

5.50 On 14 September 2008, a fire broke out on disused batters in the South East part of the Hazelwood Coal Mine affecting a non-operational part of the mine. VWA Inspectors attended at the site on 15 September 2008 to inspect, observe and make enquiries into arrangements for workers working in buildings affected by the fire smoke and the use of CO monitors.

5.51 On 15 September 2008, VWA received notification from CFA of an incident that resulted in two firefighters becoming overcome by smoke and CO.

5.52 A VWA Inspector attended at the site again on 16 September 2008 to follow up in relation to the reported incident and to discuss the monitoring and testing of CO procedures. The inspector noted that the monitoring and testing appeared to be working well and was advised that the firefighters had both been released from hospital and their health was good.

5.53 On 22 September 2008, a VWA Inspector, Senior Mining Engineer and Principal Safety Analyst attended on site to discuss the findings from the 2008 Inspection. During this visit, VWA was informed that, except for a few hot spots, the fire had been extinguished and that GHD had been contracted to investigate the fire incident.

6. Emergency response and recovery framework

6.1 This chapter sets out the framework for emergency response and recovery in Victoria.

Introduction

6.2 The management of major emergencies in Victoria is underpinned by a governance framework set out in legislation, regulations, documents prepared under legislation and operational documents.

6.3 Emergency incidents occur in a dynamic environment and the circumstances of a particular emergency may require adaptation of some of these arrangements to ensure lives and property are protected. Accordingly, the governance framework is broad and flexible in nature to allow for adaptive application.

6.4 The framework for emergency management is multi-agency, which enables the exercise of roles and responsibilities, and the capacity to adapt to new or changed circumstances within a systematic framework.

6.5 The objectives of Victoria's emergency management arrangements[33] are to:

Deal with all hazards	While most attention is given to the obvious emergencies such as fire, flood and transport accidents, a wide range of hazards are dealt with using the emergency management arrangements and resources.
Be integrated (involve relevant people and agencies)	The management of emergencies is a shared responsibility involving many people and organisations in the community. It is not something done by one sector of the community to or for the rest of society, although some organisations have specialist roles. Emergency services, government departments, municipal councils, private sector organisations and members of the community are collectively involved. Emergency management in Victoria embraces the WoVG and whole of the community.
Be comprehensive (cover prevention, response and recovery)	These elements are not phases or stages of emergency management, but seen as clusters of activities. They take place as needed, and do not necessarily follow one another in a sequential order.

[33] EMMV (Part 1) – Objectives of the Arrangements (extract).

Current legislation

Emergency Management Act 1986

6.6 The objectives of the EM Act 1986 are to ensure that the following components of emergency management are organised to facilitate planning, preparedness, operational co-ordination and community participation:

- Prevention: the elimination or reduction of the incidence or severity of emergencies and the mitigation of their effects
- Response: the combating of emergencies and the provision of rescue and immediate relief services
- Recovery: the assisting of people and communities affected by emergencies to achieve a proper and effective level of functioning.

6.7 The EM Act 1986 defines most of Victoria's emergency management structure, assigns significant roles and responsibilities, and provides for special needs concerned with the management of emergencies. The EM Act 1986 describes its objective as being to ensure that prevention, response and recovery are organised within a structure that facilitates planning, preparedness, operational co-ordination and community participation.

6.8 The Victorian emergency management framework is undergoing significant reform. This is described in more detail below.[34] The first tranche of legislative reform, the EM Act 2013 will commence operation on 1 July 2014. The focus of that Act is primarily on the establishment of key statutory positions under the new governance arrangements, including the creation of the EMC as the successor to the FSC with a broader oversight, control and coordination role in relation to emergencies. Future legislation is planned to progressively repeal and replace the EM Act 1986, but, for now, the EM Act 1986 is extant and needs to be read in conjunction with the EM Act 2013.

6.9 The operational roles of the fire services are set out in their governing Acts, as follows.

Fire Services Commissioner Act 2010

6.10 The FSC Act establishes the position of FSC, and provides for the functions and powers of the FSC. The FSC Act also amends the *Forests Act 1958* to make the position of chief fire officer in DEPI a statutory position. The FSC Act also makes related amendments to the EM Act 1986, the *Country Fire Authority Act 1958*, the *Forests Act 1958* and the *Metropolitan Fire Brigades Act* 1958. In addition to functions and powers (Division 1), the FSC Act also sets out four functions that must be carried out:

- fire services reform action plan (Division 2)
- performance standards for fire agencies (Division 3)
- incident management operating procedures (Division 4)
- community warnings about fires (Division 5).

[34] See subchapters entitled Victorian Emergency Management Reform, New emergency management legislation and Victorian Critical Infrastructure Reform below.

6.11 The FSC Act will be replaced by the EM Act 2013 once it commences operation on 1 July 2014. The position of FSC will be replaced by the position of EMC with effect 1 July 2014.

Country Fire Authority Act 1958

6.12 The *Country Fire Authority Act 1958* established CFA. It:

- provides that the general duty of CFA is to take, superintend and enforce all necessary steps for the prevention and suppression of fires and for the protection of life and property in case of fire in the country area of Victoria as defined in that Act, which in effect includes all private property outside the 'metropolitan fire district', which is defined in the *Metropolitan Fire Brigades Act 1958* (s 20)
- vests the general control of all stations, brigades and groups of brigades in the country area of Victoria in the authority. In general terms this encompasses all private land outside the metropolitan fire district. Responsibility for fire prevention and suppression on public land in country Victoria rests with DEPI, and is further described in paragraph 6.16 below.
- provides that, subject to the general powers and directions of CFA, brigades are under the order and control of the Chief Officer (section 27)
- provides for the powers of the Chief Officer of CFA (which, as noted above, are the powers of the FSC (or any other Chief appointed) when in overall control of response activities under section 16 of the EM Act 1986) (section 30). These powers relate to the prevention of fire, extinguishing or restricting the spread of the fire and protecting life or property.

Metropolitan Fire Brigades Act 1958

6.13 The *Metropolitan Fire Brigades Act* 1958 established MFB. MFB and MFB Chief Officer:

- have a duty to attend fires in the metropolitan district (in contrast to CFA, which has a power to attend fires in the country area of Victoria) (section 32B)
- provide fire prevention services in the metropolitan district (section 7), which is defined in the *Metropolitan Fire Brigades Act 1958*
- provide for emergency prevention and response services in the metropolitan district.

6.14 MFB may attend activities outside the metropolitan district, subject to request (section 55E) and must assist in the response to any major emergency occurring within Victoria (section 7AA), which includes a major fire under the control of the FSC.

Forests Act 1958

6.15 DEPI's Secretary has legislative responsibilities under the *Forests Act 1958* including the responsibility for fire suppression and prevention in state forests, national parks and protected public land. DEPI's Secretary has authorised the Chief Fire Officer of DEPI in accordance with section 29 of the *Forests Act 1958* to perform certain functions in respect of fire-related activities.

Mineral Resources (Sustainable Development) Act 1990

6.16 Emergency prevention and response with respect to fire is not governed by the MR(SD) Act, with one exception. Under section 41AC(2) of the MR(SD) Act and section 33(2)(b) of the MR(SD)(MI) Regulations, the holder of a mining licence must report a major outbreak of fire to the Chief Inspector of Mines.

6.17 The emergency management functions of government agencies for fire at the mine are otherwise governed by the OHS Act and the EM Act 1986. DSDBI has an advisory and support role under that legislation. Pursuant to Part 7 of the EMMV, DSDBI is:

- a control agency for the following types of incidents:
  - electricity disruption
  - natural gas, petroleum and liquid fuels disruption
- a support agency for the following types of incidents:
  - natural gas, petroleum and liquid fuels disruption
  - a mine/quarry rescue
- a primary provider, during the recovery phase of an emergency, of:
  - support and advice to small business
  - employment and economic development program(s) to communities.

Planning, control, coordination and incident management arrangements

Overview

6.18 Under the Victorian emergency management arrangements, agencies involved in emergency response operate within a framework of cooperation and support and they must also acknowledge and accept the accountability of their roles to the Victorian community and to other agencies. This requires agencies to adopt functions-based incident management systems together with a scalable chain-of-command management structure and key decision-making points (command/control points). Command involves the direction of personnel and resources of an agency in the performance of that organisation's roles and tasks. Authority to command is established in legislation or by agreement within an agency, and it operates vertically within an agency. Control involves the overall direction of response activities in an emergency. Authority is established in legislation or in an emergency response plan, and carries with it the responsibility for tasking other agencies in accordance with the needs of the situation. Control relates to situations and operates horizontally across agencies. Coordination involves bringing together agencies and resources to ensure effective response to and recovery from emergencies. Coordination operates throughout the management of response, including immediate relief, and recovery activities.

Control arrangements

6.19 The EM Act 1986 provides for the control of the response to a major fire (section 16). The FSC has the overall control of response activities in relation to a major fire, which is burning, may occur or has occurred in any area of Victoria. The EMMV describes the

emergency management system in Victoria, functions, roles and responsibilities. It includes the SERP Part 3), the State Emergency Recovery Plan (Part 4) and other matters relating to emergency management such as the guidelines for municipal fire management planning.

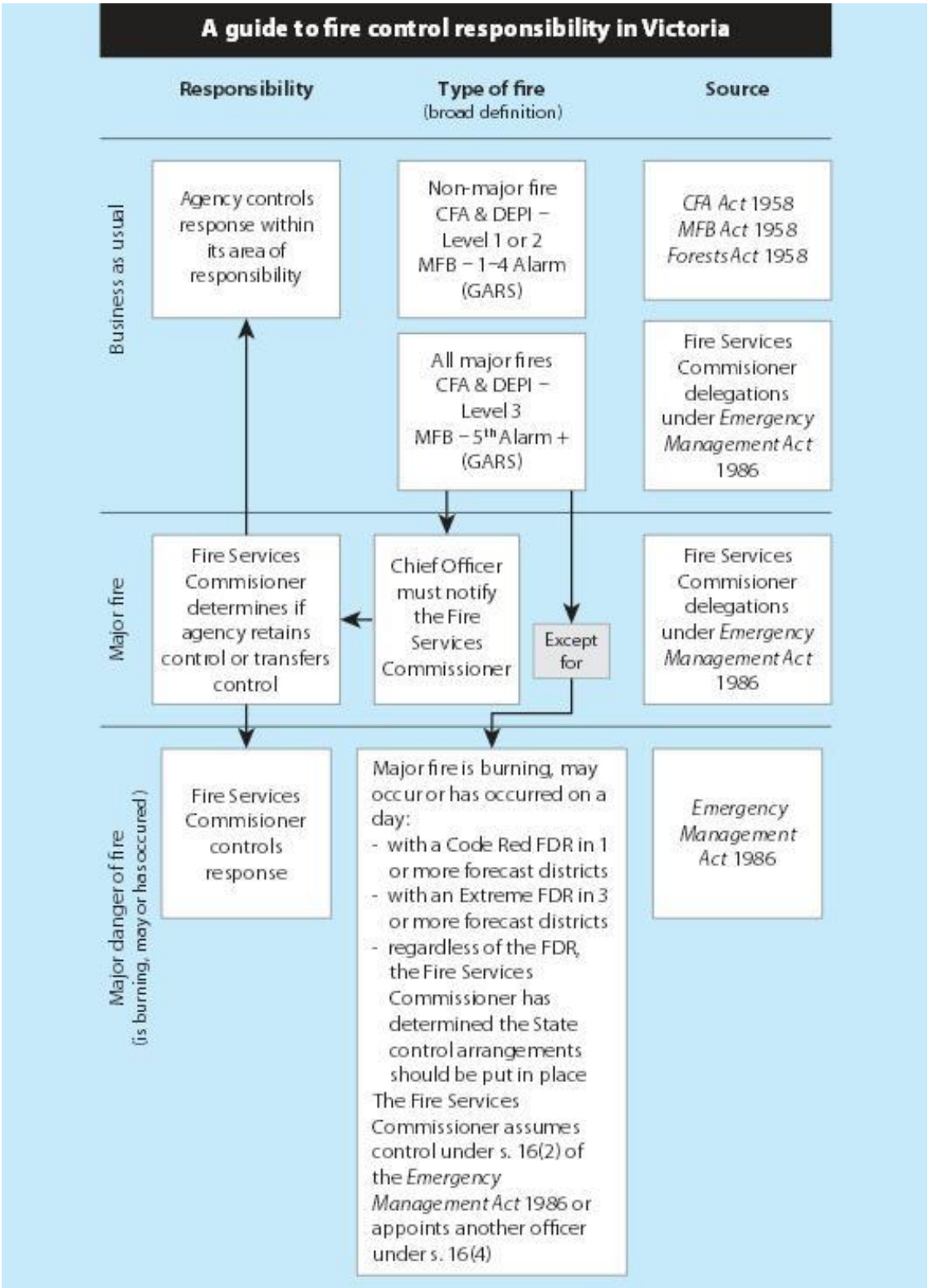
6.20 The EMMV assigns Emergency Management Agency roles (Part 7) under the EM Act 1986, including that:

- the FSC is the State Controller for major fires, (as defined in the FSC Act 2010)
- the control agency for HazMat incidents is:
  - CFA in the country area of Victoria
  - MFB in the metropolitan district
  - Airservices Australia (aviation rescue and firefighting) for incidents at some airports
- DHS is the coordinating agency for emergency recovery at both the state and regional level, working in collaboration with municipal councils that have a responsibility at the local level.

6.21 The SERP (incorporated in the EMMV) supplements the EM Act 1986 and sets out in detail the arrangements for responding to emergencies. It includes provisions that assign responsibility for control to various agencies for responding to emergencies.

6.22 The following diagram[35] sets out how the fire services and FSC assume control of fires:

[35] From the *Victorian Bushfire Handbook*, edition 3 (August 2013).



6.23 At the incident level, an Incident Controller, who leads an IMT, is responsible for the overall direction of response activities. The Victorian fire services utilise AIIMS at the incident level. As the control function operates across the fire services, the Incident Controller is responsible for the operational activities of all fire personnel who attend the incident.

6.24 There are eight regions in Victoria, and the Regional Controller will monitor fires in their region and assist the Incident Controller with resourcing and reporting to the State Controller.

State Emergency Response Plan and sub-plans

6.25 The Minister for Police and Emergency Services is responsible for the preparation and review of the SERP (section 15, EM Act 1986). The Minister has delegated this responsibility to the CCP. The SERP contains a number of sub-plans including the SHERP.

6.26 The EM Act 1986 specifies the matters that must be addressed in the SERP including:

- identifying, in relation to each form of emergency specified, the agency primarily responsible for responding to the emergency (the 'responsible agency')
- relating to the co-ordination of the activities of other agencies in support of a responsible agency in the event of an emergency
- specifying the roles of agencies in the event of an emergency
- specifying the roles and responsibilities of police officers appointed as regional or municipal emergency response coordinators
- defining geographic regions for the purposes of regional and municipal emergency response coordination.

6.27 The SERP provides broad direction on the response to an emergency. Given the variety of the types of emergency that may occur and for which the SERP is intended to apply, the SERP is necessarily general and high level in nature to allow adaptive application.

6.28 The SERP also includes the Strategic Control Priorities to provide clear direction from the State Controller to Regional Controllers and Incident Controllers on the priorities that they must pursue when responding to an emergency.[36]

6.29 The State Command and Control Arrangements for Bushfire in Victoria were developed by the FSC and issued under section 21 of the FSC Act. They provide for the State Controller and Regional Controllers to be rostered full time over the fire season (Paragraph 2.2.2 of the State Command and Control Arrangements). The FSC makes these rostering arrangements through his powers under section 16 of the EM Act 1986 in relation to the risk or actual occurrence of major fires. The Regional and State Controllers ensure standing readiness arrangements are in place during dangerous fire weather so IMTs can quickly respond to an incident.

6.30 The EM Act 1986 also provides for the appointment of a Chief Officer or another officer of a fire services agency to have the overall control of response activities, and the appointment of one or more assistant controllers or the transfer of control of any response activity (section 16 of the EM Act 1986). An appointment has effect for the period specified in the instrument of appointment.

[36] The FSC has developed a policy highlighting the importance of the Strategic Control Priorities, which is called the State Controller's Intent.

6.31 In relation to fires and as specified in the relevant instruments of appointment, assistant controllers are known as Deputy State Controllers when appointed to support the performance of state-level functions. Deputy State Controller is the term used for consistency with Victoria's Emergency Management Arrangement and AIIMS. This also distinguishes those assistant controllers who are appointed to operate at the regional level, known as either the Regional Controller or Deputy Regional Controller.

6.32 The EM Act 1986 also provides that the FSC (or Chief Officer or other officer if appointed to have overall control of the response activities) may exercise the powers and authorities of the Chief Officer of CFA under section 30 of the *Country Fire Authority Act 1958* in relation to the control of response activities (section 16 of the EM Act 1986).

6.33 The SHERP is the Victorian pre-hospital and hospital response plan for emergency incidents and is a sub-plan of the Victorian SERP. The SHERP outlines the arrangements for coordinating the health response to emergency incidents that go beyond day-to-day business arrangements. The SHERP describes the principles, command and coordination arrangements, and roles and responsibilities for a health emergency response that involve pre-hospital care, patient transport, receiving hospitals and other health care facilities.

Emergency Management Team arrangements

6.34 Where multiple agencies respond to an incident, the SERP requires the establishment of an Emergency Management Team at each tier of emergency response.

6.35 The Emergency Management Team supports the controller at each tier of emergency management (incident, region and state level) to develop a multi-agency approach to identifying and managing the likely risks and consequences of the incident.

Incident management operating procedures

6.36 The FSC Act 2010 provides for the development of operating procedures for the planning and preparation of the response to and responding to, major fires, including:

- training, development and accreditation
- incident management facilities
- incident management systems
- management of the SCC for the response to major fire

6.37 Section 21 of the FSC Act underpins:

- the State Command and Control Arrangements for Bushfire in Victoria. Under these arrangements, Regional Controllers and the State Controller are in place full time during the fire season. The Regional and State Controllers ensure standing readiness arrangements are in place during dangerous fire weather so IMTs can quickly respond to an incident.
- FSC SOPs:
  - FSC SOP 05/2011: Control of Major Fires
  - FSC SOP 04/2011: Regional Strategic Plan

  - FSC SOP 03/2011: The Management of the State Emergency Management Team – Fire
  - FSC SOP 02/2012: Reporting of Significant Incidents to the FSC
  - FSC SOP 01/2011: Personnel Approved for Appointment to Regional Controller and Level 3 Incident Controllers Positions.
- JSOPs developed collaboratively between the relevant agencies to ensure they are operating consistently. In particular, JSOP 2.03 provides for IMTs to be prepositioned in areas or periods of high bushfire risk.

6.38 The *Country Fire Authority Act 1958* provides that CFA must comply with incident management procedures prepared by the FSC (section 6E). Similar provisions apply to MFB and DEPI under the *Metropolitan Fire Brigades Act 1958* (section 7B) and the *Forests Act 1958* (section 61F) respectively.

6.39 The FSC Act 2010 also provides that the FSC's incident management operating procedures prevail over any inconsistent procedures that a fire services agency has in place, including any JOPs (section 21 of the FSC Act).

6.40 Pursuant to section 24(1) of the FSC Act, the FSC has a statutory duty to issue warnings and provide information to the community in relation to fires in Victoria for the purposes of protecting life and property. Section 26(1) of the FSC Act empowers him to delegate this duty to, among other people, the Chief Officer of CFA. Section 26(2) of the FSC Act empowers a delegate to sub-delegate any such delegation. There is a standing delegation in place, executed by the FSC on 5 January 2011, under which, among other things, the FSC delegated the duty to warn the relevant fire agency head in relation to fires occurring in the fire agencies'respective jurisdictions. This delegation was in force for the duration of the fire in the Hazelwood Coal Mine.

State Emergency Recovery Plan

6.41 According to the State Emergency Relief and Recovery Plan*: Part 4* EMMV, recovery from emergencies is a developmental process of assisting individuals, families, neighbourhoods and communities to manage the re-establishment of those elements of society necessary for their wellbeing, and recovery coordination. The emergency recovery system can be described in four key functional areas (or environments) that require coordination arrangements as part of the recovery process. These functional emergency recovery environments focus on the various needs of communities following an emergency:

- People, social, health and community - the emotional, social, spiritual, financial and physical wellbeing of individuals and communities.
- Economic - re-establishment of economic wellbeing and help to ameliorate financial hardships in affected communities.
- Built - the restoration of essential and community infrastructure.
- Natural - the rehabilitation of native ecosystems, public lands and national parks and water catchments and productive land.

Recovery coordination arrangements

6.42 The State Emergency Relief and Recovery Plan structures responsibilities to enable the planning, management and coordination of emergency relief and recovery activities

for emergencies affecting Victoria. The EMMV states that local, regional and state emergency recovery activities can operate concurrently at multiple levels. Under the EMMV, DHS is responsible for coordinating the Victorian Government's emergency relief and recovery activities at regional and state level. Meanwhile, local government coordinates relief and recovery at the local level.

6.43 Emergency relief and recovery commences at the same time as the response to a major emergency. Relief and recovery generally involves a range of government and non-government departments, agencies and organisations, working cooperatively to deliver services and information to impacted individuals, households and communities. Emergency relief is the front end of social recovery and is coordinated to provide essential and urgent assistance to families and communities during and in the immediate aftermath of an emergency.

6.44 The State Recovery Coordinator (a DHS officer) has responsibility for ensuring the development and maintenance of policies and procedures for effective emergency relief and recovery inter-agency coordination. The State Recovery Coordinator can also assist agencies and organisations interested in formalising their role in emergency management in Victoria by facilitating their participation in regional and local planning activities.

6.45 State departments and agencies are responsible for providing emergency related services such as law enforcement, human services and recovery services, agriculture, education, transport, health and ambulance provision, land use planning policy, building control policy, and emergency management policy. DHS is the coordinating agency for emergency recovery at both the state and regional level, working in collaboration with municipal councils that have that responsibility at a local level.

6.46 A Regional Recovery Coordinator in each Victorian Government administrative region has responsibility for the preparation and maintenance of Regional Emergency Recovery Plans for their respective regions. The Regional Recovery Coordinator (a DHS officer) can activate a Regional Emergency Recovery Planning Committee in response to a regional-level emergency to consider issues of regional significance, advise the Regional Recovery Coordinator of key issues for consideration and assist in coordinating recovery (including information, communications and service provision).

6.47 Initial recovery management is always undertaken at the municipal level. The impact of an event may lead to community needs that exceed the capacity of a municipality. The municipality may then seek to escalate the level of management to a regional level. This escalation provides an additional layer of management rather than a replacement layer. Further escalation to the state level of management may be necessary in respect of certain service needs in very large or complex events.

6.48 Municipal councils have responsibility for coordinating recovery at a local level because they are the closest level of government to their communities, and have access to specialised local knowledge about the environment and demographic features of their local government areas.

Relief and recovery coordination arrangements

6.49 DHS and DH operate a shared service – HHSEM – to prepare for, deliver and/or support both departments' respective emergency management responsibilities.

6.50 When a major emergency occurs – or in advance of a forecast or potential emergency – HHSEM activates its SEMC, with staff, technology and other resources ready (or on standby) to deliver its emergency responsibilities. HHSEM:

- operates centrally and regionally
- plans and delivers all the of DHS's relief and recovery functions, as well as its Human Services command function
- is administratively based in DHS
- can act on behalf of DH with its explicit approval or tasking, and thus supports DH in meeting its emergency management responsibilities under the EMMV.

6.51 The SEMC is adopting the underpinning principles and concepts of the AIIMS structure, which includes a Public Information Unit function.

Commonwealth-State Natural Disaster Relief and Recovery Arrangements (NDRRA)

6.52 Under the NDRRA, assistance is provided by the Commonwealth Government to alleviate the financial burden on States and Territories that have been affected by a disaster. It also supports the provision of urgent financial assistance to disaster-affected communities.

6.53 Under these arrangements, the State or Territory Government determines which areas receive NDRRA assistance and what assistance is available to individuals and communities. Claims and advance payments provided under the NDRRA in Victoria are administered by the Victorian DTF.

6.54 Where the NDRRA is activated, depending on States and Territories reaching financial thresholds, the Commonwealth Government will fund up to 75 per cent of the assistance available to individuals and communities. For the 2010-11 floods, the Commonwealth contributed about 50 per cent of the total estimated damage cost under the NDRRA. In Victoria, this contribution is delivered through a number of NDRRA measures and may include:

- personal hardship and distress assistance
- counter-disaster assistance
- restoration or replacement of essential public assets
- concessional loans and interest rate subsidies for small businesses, primary producers and not-for-profit organisations

6.55 In addition, on the Premier or Chief Minister's request and subject to the Prime Minister's approval, clean-up and recovery grants may be made available to assist businesses, including farm businesses, to resume trading as soon as possible. The grants may be used for clean-up activities, replacement of damaged equipment and stock, and other general repairs. A full summary of the NDRRA provisions activated for the Hazelwood Coal Mine Fire is provided in Chapter 11 (Relief and recovery).

6.56 On 28 April 2014, the Commonwealth Government asked the Productivity Commission to undertake a public inquiry into the efficacy of current national natural disaster funding arrangements. The Commission will analyse the full scope (incorporating the quantum, coherence, effectiveness and sustainability) of current Commonwealth, State and Territory expenditure on natural disaster mitigation, resilience and recovery. The Commission will report back in December 2014.

Victoria's emergency communications and information arrangements

6.57 Victoria's local, regional and state-wide preparations for, response to, and recovery from a major emergency is governed by the EM Act 1986. The practical application of the Act is detailed in the EMMV, that includes a structure and process for:

- the issuing of public emergency warnings and information during response (Part 3.7 EMMV)
- community engagement and communications during relief and recovery (Part 4.6 EMMV)
- public information and media during emergencies (Part 8, Appendix 12 EMMV).

6.58 The annual *Victorian Bushfire Handbook* (Ed 3, 2013) also provides advice tailored for typical summer season fire incidents, relating to warnings and advice.

6.59 Together, these documents prescribe a hierarchical structure for emergency communications and community engagement that is scalable depending on the size and complexity of the incident. That structure is simply summarised as:

- local incident information (including the issuing of community warnings and advice), managed and issued by the ICC, under authority from the Incident Controller
- regional communications, managed at a RCC for larger and more complex incidents, aimed at coordinating all agency communication and media
- state level communications, coordinated across government by the EMJPIC, which is chaired by Victoria Police.

6.60 Beyond the 'formal' structure outlined above, there are two additional and complementary 'agents' involved in communications and media at the State level, and, at times, at the regional and local level, too – depending on the scale, complexity and public/media interest in the incident. These agents are:

- the Victorian Emergency Communications Committee, chaired by DPC, which plans and coordinates WoVG emergency communications strategies (for example, the annual summer fire preparedness campaign), and emergency campaign advertising issued on demand, on behalf of the Victorian Government
- the FSC, which can provide key inputs as deemed necessary or required, into any communications/media activities at all levels.

6.61 The state's emergency management structure uses a systems approach across myriad media to disseminate public warnings and information, and deliver community engagement, primarily through:

- emergency information websites and apps, such as the FireReady app
- other department and agency websites
- Twitter, Facebook, YouTube and a range of other social media
- geographically-based telephone alerting
- emergency broadcasters including ABC Radio, Sky-TV News, and commercial broadcasters and designated community radio stations

- telephone information lines, such as the Victorian Bushfire Information Line
- print, radio and TV advertisements (either generic prepared ads, or the ability to quickly produce more tailored messaging)
- traditional print, radio and television media interviews and the production of media releases
- tailored newsletters and letter drops to impacted communities
- face-to-face community engagement: door knocking, meetings, information hubs, forums, workshops.

Principles that guide strategic communications

6.62 In addition to the arrangements for the development and delivery of key communication initiatives detailed above, in many instances action to be taken requires the application of judgement drawing on practitioner knowledge, experience and strategic communications best practice.

6.63 In Victoria, this includes the provision of consistent information in a timely, tailored, relevant and accessible manner.

6.64 The Victorian Warning Protocol (Version 2.0 July 2013)[37] provides emergency response agencies with coordinated and consistent direction on advice and/or warnings to inform the Victorian community of a potential or actual emergency event. The Protocol adopts a systems approach to provide timely and appropriate warnings to communities based on the 14 national warning principles.[38]

6.65 The Victorian Government's Emergency Management Reform White Paper (December 2012) (the White Paper) states that the better informed the community is, the more able it is to respond effectively in a crisis. The corresponding policy 'action' is to:

> 'Continue to develop the current multi-agency, multi-hazards and multi-channel approach to providing community warnings and information, focusing more on understanding and responding to the various ways communities choose to access information.'

6.66 The Recovery communications practitioners observe the National Principles for Disaster Recovery[39] that state 'successful recovery is built on effective communication with affected communities and other stakeholders', by:

- ensuring that all communication is relevant, timely, clear, accurate, targeted, credible and consistent
- recognising that communication with a community should be two-way, and that input and feedback should be sought and considered over an extended time

[37] http://www.firecommissioner.vic.gov.au/policies/victorian-warning-protocol/.
[38] http://www.em.gov.au/Emergency-Warnings/Pages/Emergencywarningsguidelinesandprinciples.aspx.
[39] http://www.em.gov.au/Emergencymanagement/Recoveringfromemergencies/Pages/NationalPrinciplesforDisasterRecovery.aspx.

- ensuring that information is accessible to audiences in diverse situations, addresses a variety of communication needs, and is provided through a range of media and channels
- establishing mechanisms for coordinated and consistent communication with all organisations and individuals
- repeating key recovery messages, because information is more likely to reach community members when they are receptive.

6.67 These principles have been endorsed by DHS's consultant disaster trauma psychologist, Dr Rob Gordon.

6.68 The art of communicating effectively with people affected by disasters requires not only clear and timely messaging, but also knowledge of the audience to understand its needs, expectations and how it consumes its information.

Key communication tools

6.69 The primary communication tools for the SEMC Public Information Unit at regional and state levels are the Emergency Relief and Recovery Victoria website ('the Recovery website'), and VERIL.

6.70 HHSEM developed both tools in 2013 in response to recommendations from the Final Report 2009 Victorian Bushfires Royal Commission (July 2010); the Review of the 2010-11 Flood Warnings & Response-December 2011 (The Comrie Review); and the Victorian Auditor-General's Report on Flood Relief and Recovery (June 2013). The Victorian Government's White Paper further confirmed the need for such tools.

Public information in the HHSEM SEMC

6.71 During an emergency, the SEMC's Public Information Unit is responsible for a range of general communications, media and public information tasks relating to regional and state-wide relief and recovery, including:

- updating the Emergency Relief and Recovery Victoria website (www.recovery.vic.gov.au)
- updating scripts for the VERIL on 1300 799 232
- distributing relief and recovery information messaging/content across government and all other relevant stakeholders, via multiple media, to reach the public in the most timely and effective manner
- liaising with communications, media and public information outlets across government
- monitoring key media outlets, to help inform SEMC planning and decision-making
- supporting regional DHS/DH colleagues with their public information needs, including the deployment of communications officers
- where necessary, liaising with, advising and assisting local councils with complex public information tasks.

Emergency Relief and Recovery Victoria website

6.72 The Comrie Review argued for a single online source (web portal) where emergency impacted individuals, businesses and local governments could access information on emergency grants/financial assistance from the Victorian Government. Mr Comrie recommended this information be relevant to 'all hazards', not just floods.

6.73 Up to early-2013, HHSEM had created and maintained a WoVG flood recovery website that addressed most of Mr Comrie's concerns. However, in response to the Comrie Review, HHSEM began developing a new 'all hazards' relief and recovery information website (in conjunction with DHS's Online Engagement Team). This resulted in the launch of the new Emergency Relief and Recovery Victoria website in late-August 2013, together with a mobile platform version. Both were built by DHS's Online Engagement Team, using best-practice HTML coding to ensure the site could handle all current and future content needs, and perform at an optimum level across all popular user platforms and devices.

6.74 From October to December 2013, HHSEM partnered with the State Library of Victoria and Victoria's Office of Multicultural Affairs and Citizenship to produce new relief and recovery content for the website suitable for Victoria's 12 key Culturally and Linguistically Diverse communities, including AUSLAN (via video).

6.75 Earlier, in June 2013, HHSEM initiated a service agreement with an external contractor, Ladoo, to update – under direction from the Public Information Unit – website content over holiday long weekends, and 24/7 during the summer fire season.

Victorian Emergency Recovery Information Line

6.76 HHSEM initiated the VERIL in September 2013 as a support for the Recovery website. The VERIL runs from DEPI's call centre in Ballarat (which also operates the Victorian Bushfire Information Line).

6.77 DEPI has surge capacity to operate the VERIL after hours as required, and share relief and recovery information scripts with Victorian Bushfire Information Line inquirers as well.

Control and Support Agencies

6.78 In addition to Control Agencies, Part 7 of the EMMV also identifies key Support Agencies for response and relief and recovery. These agencies provide essential services, personnel or material to support or assist a Control Agency or relevant persons.

Emergency management arrangements for DTPLI

6.79 Under the EMMV (Part 7), DTPLI's role is to lead, in collaboration with stakeholders and the community, transport portfolio emergency management and preparedness. Following machinery of government changes in 2013, DTPLI has a broader portfolio with responsibility for emergency management coordination that encompasses transport, as well as planning and local government functions. DTPLI does not have an operational role in the planning and execution of transport arrangements as this rests with PTV.

6.80 The Emergency Risk and Resilience Division of DTPLI has a portfolio coordination role including representation in WoVG emergency management forums. Other portfolio agencies and entities, such as VicRoads, Public Transport Victoria and the Port of Melbourne Corporation, have emergency management functions and/or involvement in portfolio or whole-of-government arrangements.

6.81 LGV administers the Municipal Emergency Resourcing Program(in recognising the importance of local councils in delivering emergency management planning and implementation activities to their communities. This program provides funding across the 64 municipalities within CFA boundaries to take steps required to prepare their organisation, townships and communities for the eventuality of being affected by emergency events. Latrobe City Council and Baw Baw Shire Council share $120,000 of funding as part of this program.

6.82 Since 2010 the Municipal Association of Victoria has received $500,000 per annum to coordinate and support the emergency management funding of local government. From 1 July 2014 this funding will cease and LGV will undertake these functions. In preparation, a new LGV emergency management position has been created and will be filled prior to 1 July 2014.

Planning and guidance material

State Bushfire Plan (2012)

6.83 The State Bushfire Plan provides a high-level overview of the objective and principles relevant to bushfire prevention, response and recovery arrangements. The State Bushfire Plan was prepared by the FSC. The State Emergency Response Planning Committee endorsed it as a sub-plan of the SERP.[40]

Guidance Notes

6.84 The FSC has also produced the following Guidance Notes:

- FSC Guidance Note 01/2011: Incident Management – Incident Controller's Guide
- FSC Guidance Note 02/2012 – Transfer of Control
- FSC Guidance Note 03/2012: Factors to Consider when Allocating Firefighting Aircraft.

6.85 Unlike the FSC SOPs, these are not underpinned by section 21 of the FSC Act 2010 and as such, the fire services agencies are not under a statutory obligation to comply. However, they are intended to assist fire agency personnel in the performance of their functions.

Victorian Bushfire Handbook

6.86 The *Victorian Bushfire Handbook's* purpose is to provide fire agency personnel with a convenient reference to the key structures and systems required to ensure safe and effective firefighting operations in the event of a bushfire. The *Victorian Bushfire*

[40] The Plan is referenced in Appendix 10 of Part 8 of the EMMV.

Handbook is subordinate to the EMMV, the operating procedures produced by the FSC and all other procedures and manuals.

6.87 The 2013/14 *Victorian Bushfire Handbook* was published on the authority of the FSC, Chief Officer CFA, Chief Fire Officer DEPI, Chief Officer, MFB, Chief Officer Operations VicSES, Assistant Commissioner State Emergencies and Security, Victoria Police and the Director, HHSEM.

State Control Centre

6.88 In addition to the arrangements outlined in the EM Act 1986, the FSC Act provides that another function of the FSC is to manage the state's primary control centre for the response to emergencies (including major fires), on behalf of, and in collaboration with, all agencies that may use the primary control centre in response to emergencies (section 10(1)(h)).

6.89 This function, in combination with the FSC's function of having overall control of major fires/of bushfires under the State Command and Control Arrangements, underpins the development of:

- the SCC daily schedule
- a range of plans including the State La Trobe Valley Fires Plan, the Monthly State Readiness Plan, the SCT 7-day action plans and the Regional Control Team 7-day action plans.

Victorian Emergency Management Reform

6.90 The 2012 White Paper details the Government's overall reform program for emergency management. The existing arrangements, encapsulated under the EM Act 1986 and supporting documentation, underwent comprehensive re-evaluation after the catastrophic bushfire events of 2009 and floods in 2010-11 and 2012. A number of reforms have already been implemented, based on recommendations from the 2009 Victorian Bushfires Royal Commission and the Review of the 2010-11 Flood Warnings and Response (the Comrie Review).

6.91 These reforms included key changes to fire management including 'establishing the role of the Fire Services Commissioner, developing and implementing the Fire Services Reform Action Plan, improving state command and control arrangements, and legislative amendments that enable greater interoperability'.[41] Flood planning and response information available to agencies and communities has also been improved.

[41] *Victorian Emergency Management Reform (White Paper)* - December 2012, Introduction, page 1.

6.92 The White Paper articulated a vision supported by three key principles, explained in the following diagram.: [42]

Vision	**A sustainable and efficient emergency management system that minimises the likelihood, effect and consequences of disasters and emergencies on the Victorian community**		
Principles	**Community** Emergency management built on community participation, resilience and shared responsibility	**Collaboration** Efficient governance arrangements that clarify roles and responsibilities, embed cooperation against agencies, and ensure emergency management reform is coordinated across the sector	**Capability** A genuine 'all hazards, all agencies' approach built on networked arrangements, greater interoperability and a stronger emphasis on risk mitigation.
Strategic Priorities	Building community resilience and community safety Streamlining governance arrangements Establishing clear and effective response and control arrangements Building capacity and capability of the emergency management sector Strengthening emergency management planning processes		

6.93 These principles underpin the reform process. Central to the principle of 'Collaboration' is the need for 'efficient governance arrangements that clarify roles and responsibilities, embed cooperation across agencies, and ensure emergency management reform is coordinated across the sector'. [43].

6.94 The notion of collaboration re-affirms the existing principle of Victoria's emergency management arrangements of shared responsibility between individuals, communities, emergency services organisations, business, industry and government. The White Paper states that the 'new governance arrangements are designed to achieve this collaborative approach and clarify respective emergency management responsibilities'.[44]

WoVG communications reform

6.95 The scale and frequency of natural disasters experienced in Victoria has given Victorian emergency managers many opportunities to develop, trial and evaluate a range of strategies and tools to communicate potentially life-saving warnings and critical public information.

[42] Ibid, page 3.
[43] Ibid, page 3.
[44] Ibid, page 2.

6.96 Most recently, the state's public communications, along with other aspects of emergency management, have been shaped by recommendations from the 2009 Victorian Bushfires Royal Commission and the Comrie Review. The White Paper drew on these reviews as well as submissions from a range of stakeholders to set out the future of emergency management in the state.

6.97 The policy articulated in the White Paper, combined with first-hand experience of practitioners involved in these incidents, has led to marked improvements in the effectiveness for warning and informing Victorians during emergencies.

6.98 Additionally, further progress has been made over the past 18 months by various government departments and agencies to build and socialise new online communications tools and supporting technology, to better inform Victorians during an emergency. Key innovations include:

- the FireReady app, redeveloped by DOJ and FSC
- the Vic Emergency website,[45] developed by the FSC
- the Emergency Relief and Recovery Victoria website,[46] developed by HHSEM (a shared service for DH, and DHS)

State Crisis and Resilience Council

6.99 Under the White Paper, a new governance structure for emergency management was recommended that included the SCRC as the peak body for advising government on state emergency management policy and strategy. [47]. The SCRC was established administratively in April 2013 pending its establishment under the EM Act 2013.

6.100 The SCRC's Terms of Reference state that the 'SCRC will focus on strategy and policy and will not be involved in operational or tactical control of the response to crises or major emergencies'. Its role in a complex or large-scale crisis or emergency is to ensure that the broad social, economic, built and natural environmental consequences are addressed at a whole-of-government level, including identifying and accessing government resources as required and oversight of media strategies.

6.101 The SCRC is chaired by the Secretary DPC and its membership consists of:

- Secretaries of all government departments
- CCP
- CEO of the Municipal Association of Victoria
- Executive Director, Police and Emergency Management, DOJ (in an interim capacity until the role of Chief Executive of Emergency Management Victoria is established under the EM Act 2013)
- FSC (in an interim capacity until the role of the EMC under the EM Act 2013 commences)

[45] www.emergency.vic.gov.au.
[46] www.recovery.vic.gov.au.
[47] Ibid, (Action 11), page 20.

- the ESC is an observer (in an interim capacity until the role of Inspector General for Emergency Management is established under the EM Act 2013).

6.102 The SCRC replaced the Central Government Response Committee and the Victorian Emergency Management Committee, which consisted predominantly of Deputy Secretary level representatives of departments and agencies closely involved in emergency response and recovery activities.

6.103 The Government's intention, in establishing the SCRC before the EM Act 2013 commences operation and puts the SCRC on a statutory footing, was to ensure a seamless transition from the Central Government Response Committee to facilitate implementation of the White Paper reforms, while ensuring effective whole-of-government oversight and coordination for any major emergencies and their consequences.

6.104 Section 7 of the EM Act 2013 will upon commencement[48] formally establish the SCRC as the peak crisis and emergency management advisory body in Victoria responsible for providing advice to the Minister in relation to:

- Whole-of-government policy and strategy for emergency management in Victoria
- the implementation of that policy and strategy.

New emergency management legislation

6.105 As an outcome of the White Paper, the EM Act 2013 provides for new emergency management arrangements to implement efficient governance arrangements that:

- clarify the roles and responsibilities of agencies
- facilitate cooperation between agencies
- ensure the coordination of emergency management reform within the emergency management sector.

6.106 The EM Act 2013 will repeal the FSC Act and parts of the EM Act 1986 to create a consolidated set of governance arrangements with the establishment of the:

- SCRC
- Emergency Management Victoria
- Chief Executive of Emergency Management Victoria
- EMC
- Inspector General for Emergency Management.

Victorian Critical Infrastructure Reform

6.107 The Victorian Critical Infrastructure Resilience Interim Strategy (the Strategy) sets out the framework to reform Victoria's security and emergency management

[48] Commencement is currently scheduled for 1 July 2014.

arrangements for critical infrastructure in line with the White Paper) and the *Roadmap for Victorian Critical Infrastructure Resilience* (December 2012).

6.108 Managing risk effectively is a critical aspect of service delivery in government. Risks to Victorian critical infrastructure have the potential to affect large areas of the state or the state as a whole. It is therefore appropriate that the State, consistent with the Victorian Government Risk Management Framework, has arrangements in place that are aimed at maximising the service continuity to the Victorian community.

6.109 The current arrangements for managing risk for Victorian critical infrastructure consist of Part 6 of the *Terrorism (Community Protection) Act 2003* and the *Victorian Framework for Critical Infrastructure Protection from Terrorism* (April 2007). *The Terrorism (Community Protection) Act 2003* mandates risk management planning and preparedness in relation to terrorist acts for services that the Victorian Government declares essential to the community. Declared essential service owners and operators must produce, and annually exercise, a risk management plan to prepare for a terrorist act. Victoria is unique in having a legislative mandate to ensure all declared essential service owners and operators meet terrorism-related risk management standards. The Hazelwood Power Station, including the Hazelwood Coal Mine, is currently a declared essential service under Part 6 of the *Terrorism (Community Protection) Act 2003.*

6.110 The Framework complements the *Terrorism (Community Protection) Act 2003*by encouraging owners and operators of other critical infrastructure facilities and sectors to also undertake risk management actions. There are presently nine critical infrastructure sectors: banking and finance; communications; energy; food supply; government; health; police and emergency services; transport; and water. Thirty-seven essential services have been declared in the three sectors of energy, transport and water, which are the most mature sectors.

6.111 The current arrangements have been the subject of review over the past five years by the Auditor-General (2009) and the Public Accounts and Estimates Committee ((2011). These reviews focussed on governance of critical infrastructure and essential services, the role of DPC, the distinction in terminology between 'declared essential services' and the 'critical infrastructure' and how the state determines the risks to be managed.

6.112 In May 2012, the former Premier commissioned Lieutenant General Mark Evans to review Victoria's critical infrastructure arrangements, in particular 'Part 6 – Essential Services Infrastructure Risk Management' of the *Terrorism (Community Protection) Act 2003*(the Evans Review). Lt-General Evans presented his report in August 2012. A key recommendation from the Evans Review was that while the legislative arrangements under Part 6 of the *Terrorism (Community Protection) Act 2003* had proved sound, there was a need to reform these to ensure they meet the objectives of the state's broader risk and emergency management frameworks.

6.113 The new critical infrastructure resilience arrangements will be comprised of the Strategy, legislation, supporting regulation and guidance materials. The new arrangements will require owners and/or operators of vital critical infrastructure to implement risk management activities to improve resilience for all hazards, not just for the protection of infrastructure from terrorism. An all-hazards risk management regime will assist essential service owners and operators to prepare for, and respond to, the risks most likely to threaten the continuity of supply of their essential service. The regime will also promote cross-sectoral and cross-jurisdictional planning and exercising, which will assist industry and government respond to an event requiring multi-agency participation.

6.114 The key policy proposals in the Interim Strategy include:

- a new method of assessing the criticality of Victoria's infrastructure
- flexible, all-hazards risk-based requirements for critical infrastructure
- introducing a robust performance measurement and assurance framework
- expanding ongoing engagement between industry and government.

6.115 Responsibility for the administration of the new critical infrastructure arrangements will shift to the Minister responsible for administering the EM Act 2013, which is currently the Minister for Police and Emergency Services. This shift in accountability emphasises that critical infrastructure resilience is as a key component of an all-hazards approach to emergency management. Emergency Management Victoria will assume responsibility for supporting the Minister with a whole-of-Government purview for the arrangements. Departments will then have responsibility for managing compliance and reporting on resilience in their respective sectors.

6.116 The Strategy is currently an interim document to allow for any necessary technical updates or amendments following the passage of the proposed legislation.

Emergency Risks in Victoria

Background

6.117 The Victorian Government released the document, *Emergency Risks in Victoria*, dated February 2014 (the Report), which was a report of the results of the 2012-13 State Emergency Risk Assessment. The Report contains information about a range of important emergency-related risks, and a comparison of their severity relative to each other. This report provides information to support and assist users, whether state or local government officials, non-government organisations, researchers or businesses, to better understand the emergency risks that exist in Victoria. It also sets out what is being done about those risks, and sources of further information, in order to better support strategic priority-setting. It will be updated every few years to reflect the changing status of risks, and some risks not covered in the Report.

6.118 The Victorian Government published this inaugural risk assessment report as a Council of Australian Government initiative under the National Strategy for Disaster Resilience, all states and territories are publishing their emergency risk assessment information to demonstrate that they have an appreciation of the major emergency-related risks facing their jurisdiction, and to explain what is being done about those risks. The National Strategy for Disaster Resilience expresses a national commitment to providing risk assessments in order to empower stakeholders and decision-makers to exercise choice for the emergency risks they live with and/or for which they share responsibility.

Scope

6.119 The Report does not detail the emergency risks for any specific location. Some localised risk information is published by emergency services as part of their community awareness activities, particularly for bushfire and flood. The geographic context of this assessment is the State of Victoria. A state-level risk assessment assesses risk for the whole state (or territory) rather than some part of the state such as a municipal district or a region. State level is sometimes termed as state-wide, emphasising that the assessment covers the whole area.

6.120 This assessment assumes the whole area to be equally at risk, even though in reality this is not the case. To differentiate between parts of the state requires smaller-area risk assessments to be undertaken on a consistent basis. The benefit of a state-level assessment is that it provides an overall picture to enable strategic decision-making. The risks that are included in this Report are a broad selection of the risks that exist, but they do not necessarily represent all of Victoria's emergency risks, nor all the ways that emergency risk could manifest in Victoria.

Risk priorities

6.121 The Report explains that the highest priority emergency risks are bushfire, flood and pandemic influenza. Following these are a group of risks that are more technological in origin, such as transport infrastructure emergency, mine failure (specifically coal mines supporting electricity generation), marine pollution and electricity supply disruption. Then come several risks that arise from natural processes, such as heatwave, insect pest incursions and emergency animal disease.

6.122 In the Report, mine failure is listed as an emergency risk in the context of the open cut coal mines in the Latrobe Valley and the continuity of coal supply associated with power generation. The stability of open cut mine walls (batters) can be affected by extreme weather and geological patterns, leading to collapse as occurred in Yallourn in 2007. The Report also notes that mining operations can introduce an additional fire risk from the coal mines, and environmental consequences for local and regional air and water quality.[49]

[49] *Emergency Risks in Victoria* – Report of the 2012-13 State Emergency Risk Assessment (February 2014), DOJ, p 37.

7. Origin and circumstances of the fire

7.1 The Order in Council that appointed the Board of Inquiry into the Hazelwood Coal Mine Fire included the following specified matter for inquiry:

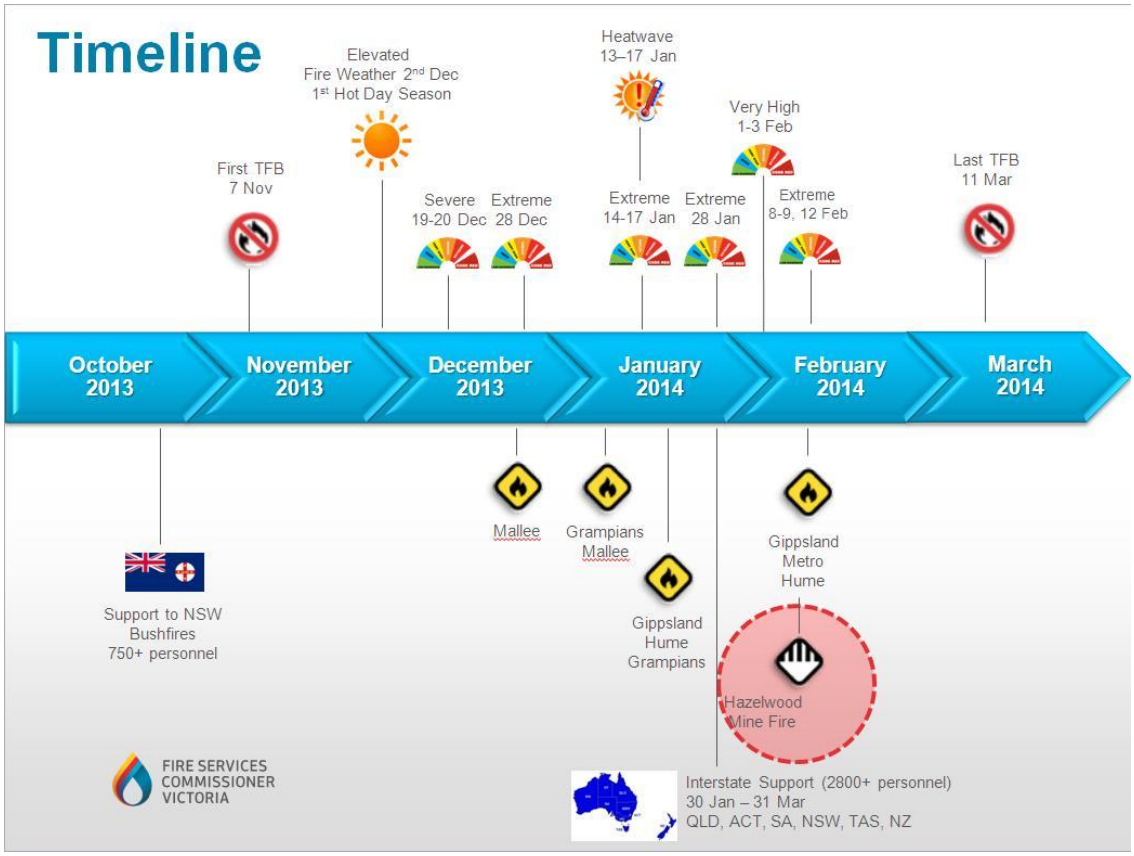
> '1. The origin and circumstances of the fire, including how it spread into the Hazelwood Coal Mine.'

7.2 This Chapter responds to that matter and includes other relevant information, including on emergency preparedness and the response to the fires near Morwell on and around 9 February 2014.

Summary of 2013-14 summer season

7.3 The 2013-14 summer season in Victoria was severe. There were 13 heatwave days between 19 December 2013 and 13 February 2014. CFA brigades responded a total of 51,415 times to 24,306 incidents between October 2013 to March 2014. This activity included a broad range of responses given the diversity and varying complexity of emergencies experienced by the service in protecting Victorians.

7.4 The timeline below summarises the extreme weather and major fires that took place during the season:

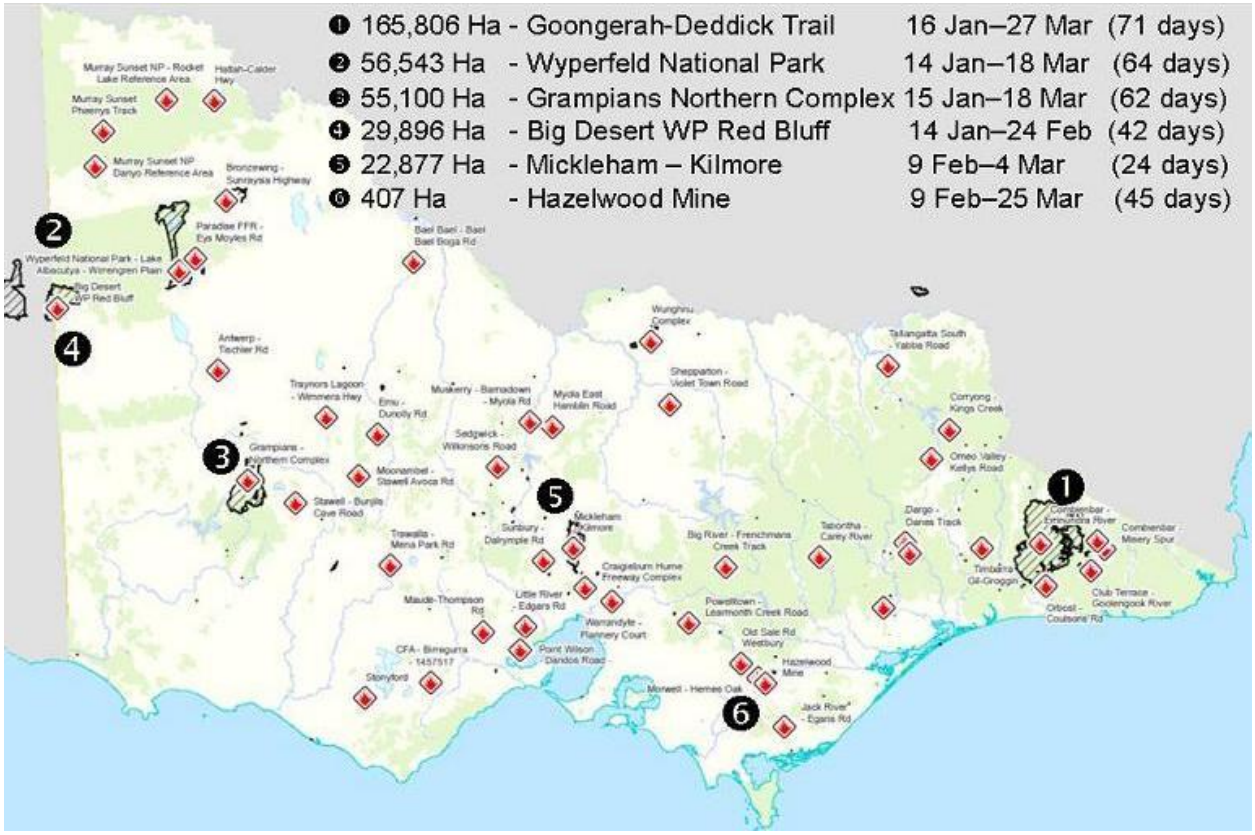


7.5 Impacts of the 2013-14 summer season included:

- one bushfire-related death, as the result of bushfire in the Wartook Valley

- approximately 4,600 grass and bush fires
- 19 days of severe and extreme fire danger ratings
- around 3,580 warning and advice messages were provided to communities[50]
- over 463,000 hectares of land burnt (compared to 193,910 hectares in the 2012-13 summer season), including over 22,600 hectares of pasture, crop and plantation
- 80 houses destroyed, including 61 primary places of residence
- almost 3,000km of fencing destroyed
- 21,664 livestock killed
- MFB attended to 8,931 incidents[51]
- use of the telephone alerting system, Emergency Alert, 79 times to provide direct and targeted warnings to specific communities.

7.6 The map below summarises the fires that occurred across the 2013-14 summer season and highlights in particular six of the more significant fires of particular interest. It provides an indication of the relative burden on the fire services both before and after 9 February 2014:



[50] Including 'Emergency Warning', 'Watch and Act' and 'Advice/, including for the first time in Victoria a formal 'Recommendation to Evacuate'.
[51] From 1 February until 30 March 2014.

7.7 Given the high level of activity and long duration of many fires, a high number of volunteers and staff had already experienced the strains of a busy summer season before the onset of the very severe conditions experienced on 9 February 2014.

Preparedness for the Hazelwood Coal Mine Fire

2013-14 summer season

7.8 Preparation for the 2013-14 summer season formally commenced in September 2013, following months of planning and preparation. It included a range of briefings and preparatory work undertaken by the fire and emergency services, and more broadly Victorian Government departments and agencies, as part of a pre-season briefing and exercising program. The 2013-14 summer season was expected to be another demanding season with the potential for multiple and significant fires across the state, and preparation was conducted accordingly.

Latrobe Valley

7.9 The Gippsland Regional Strategic Fire Management Strategy is in force in the Gippsland area. It incorporates information regarding fire history, assets at risk and current controls. It categorises the Hazelwood Power Station as an extreme risk.

7.10 The Latrobe City Fire Management Planning Committee has a municipal fire management plan for its district. The plan sets out fire history information, assets at risk and control measures.

7.11 Both these plans consider planning for fire across their geographic footprints, have included multiple stakeholders and detail with a range of fire mitigation activities and bodies accountable for delivering those activities. The plans also draw linkages to other specific plans including agency and mine mitigation, response and recovery plans ranging from government agencies, catchment management authorities and major essential service providers/sites including the coal mines.

7.12 The three open cut coal mines in the Latrobe Valley are located in the Yallourn North, Morwell and Traralgon CFA fire brigade districts. These three fire brigades have the responsibility to operate under SOP and as part of their brigade preparedness program have a training and exercise program that includes the power generators and coal mines.

7.13 Local firefighting capability in the Latrobe Valley is broader than the three primary brigades. There are support (escalation) plans that include neighbouring brigades including Churchill and Moe, along with support from the three CFA groups of brigades at Traralgon, Morwell and Narracan, which have coordination responsibilities.

7.14 Volunteer and career firefighters train according to the risk within their area of responsibility, which in the Latrobe Valley includes the power generation industry and coal mines. Some volunteer fire-fighters have enhanced knowledge of the power and coal industry as they work within the industry and therefore have technical knowledge of coal mine operations.

7.15 The Morwell and Traralgon CFA fire brigades have both career and volunteer firefighters. Yallourn North and the other support brigades within the Latrobe Valley are wholly volunteer brigades. The career officers and fire fighters have a key

responsibility to work with the power and coal industry to improve planning and response to these major infrastructure facilities.

7.16 CFA has enhanced its firefighting capability over recent years, with government funding for two aerial appliances being allocated to the Latrobe Valley. One of these appliances has been commissioned at Traralgon. A program to refresh and modernise the firefighting fleet across the Latrobe Valley has taken place. Additional career firefighters have been deployed to both Morwell and Traralgon over the last five years.

7.17 In the past, firefighters would manage and process 000 emergency calls prior to responding. This role has now been centralised into the Emergency Services Telecommunications Authority central state-wide system. This allows firefighters to respond immediately, and has improved response times.

7.18 CFA has a SOP[52] in place for responding to coal mine and power generation fires. The document outlines in general terms the approach to be taken when responding to fires in such facilities.

Hazelwood Coal Mine

7.19 Emergency response arrangements between CFA and the Hazelwood Coal Mine operator have evolved over many years. CFA at a local level has developed strong relationships with mine staff and management and through the operation of the Central Gippsland Essential Industry Group, which has met bi-monthly since about 1996. A number of CFA volunteers are employees of the Hazelwood Coal Mine operator, which has facilitated further knowledge sharing.

7.20 CFA have also worked with the mine operator to support them in developing their own firefighting capability including water monitors fitted to cranes, fixed monitors and water tankers.

7.21 The Emergency Response Plan for the Hazelwood Coal Mine dated 15 May 2013 sets out the arrangements between CFA and the mine's operator in responding to fire. Site inductions and visits to the Hazelwood Coal Mine by local brigades are conducted on a regular basis.

7.22 Joint training exercises between CFA and the mine's operator are also carried out annually. The most recent exercise was held on 11 December 2013. A video, 'Brown Coal Firefighter Awareness', was produced some years ago and continues to be used as a training tool.

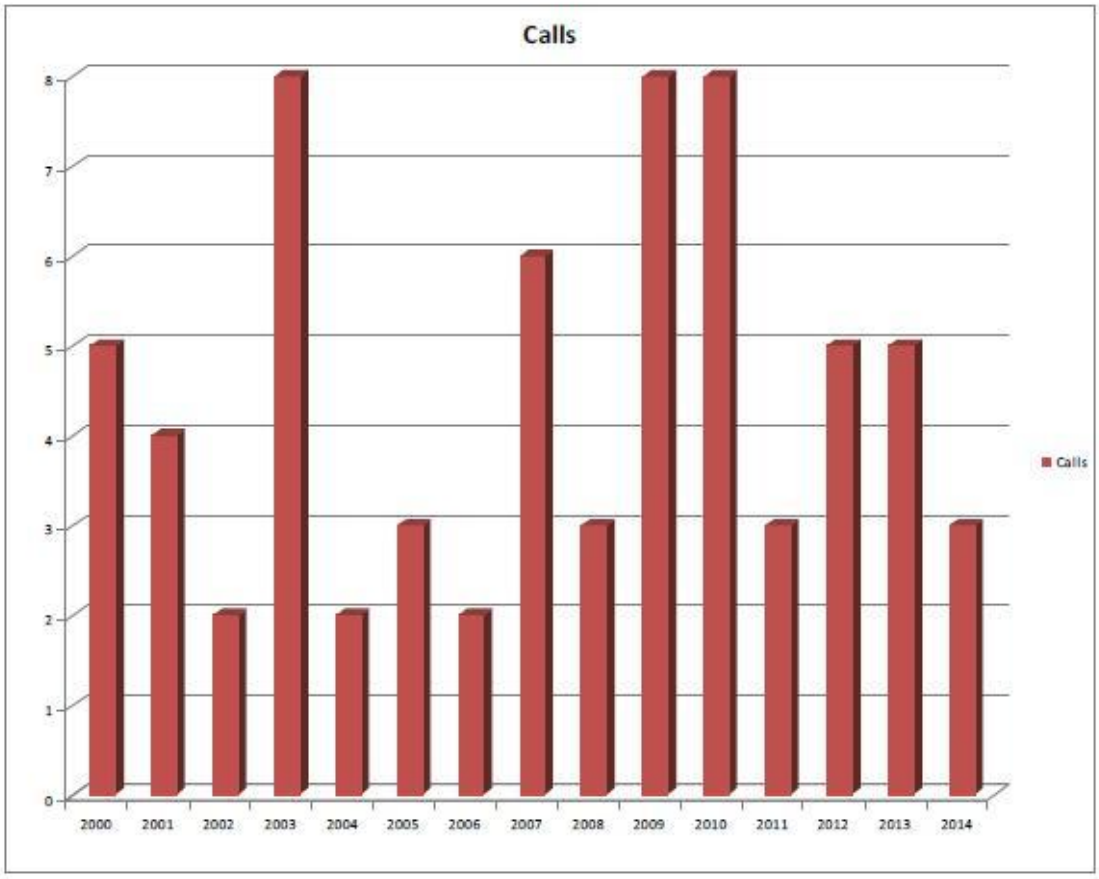
7.23 The working face and converyor area of the Hazelwood Coal Mine had a fully charged and operating water reticulation system in place as at 9 February 2014. The non-working areas of the mine. The non-working areas of the mine had some degree of water reticulation infrastructure in place, however, not all of this infrastructure was fully operational at that time.

7.24 There are 94 personal CO monitors located at Latrobe Valley CFA brigades for use in initial response to coal mine fires These have been regularly used for day-to-day activities, as well as initial response into the coal mines. During the 2006 and 2008 coal

[52] SOP 10.23.

mine fires, CFA further developed the testing regime to ensure fire fighters were not exposed to CO at unsafe levels.

7.25 Since 2000, between two and eight calls have been made each year for local brigades to attend the Hazelwood Coal Mine, as shown in the following graph:



Fires in December and January 2014

7.26 The Southern Australia Seasonal Bushfire Outlook 2013-14 issued by the Bushfire Co-operative Research Council in September 2013 noted below average rainfall and underlying dryness across much of the state, with the potential for above normal grassfire and forest fire potential.

7.27 By the middle of January 2014, the weather across Victoria was hot and dry. Much of the grassland across the state had been dried out and presented a significant fire risk, particularly north of the Great Dividing Range. By this time, many forest areas across Victoria were also dry enough to present a similarly significant fire hazard. These conditions, particularly under north winds, posed a risk of high rates of fire spread. There was also significant fire activity due to ignitions from dry thunderstorms.

7.28 There were some significant fires in December and January 2014. On average, around 20 to 30 grass or bush-fires started each day over the summer season. Total fire bans were declared across the state during this period. Many of the fires that started in mid-January would pose complex control and major extended resourcing commitments for emergency services, including the deployment of specialised forest fire-fighting

personnel from New South Wales and New Zealand. Many of the fires would continue for many days and some for many weeks, such as:

Fire	Size	Duration
Grampians Northern Complex	55,100 hectares	83 days
Goongerah–Deddick Trail	165,806 hectares	71 days
Wyperfield National Park	56,543 hectares	64 days
Big Desert Red Bluff	29,896 hectares	42 days

7.29 Throughout January 2014, increasing temperatures saw heatwave conditions and very high to extreme fire danger ratings across Victoria, particularly over the period 13 to 17 January. The Bureau of Meteorology subsequently recorded that an extreme heat wave affected Victoria during that period. Numerous records were broken for extended periods of heat. The averaged data revealed that Victoria had its hottest four-day period on record, for both maximum and daily mean temperatures. In both cases these surpassed records set in 2009, while for three-day periods the 2014 heatwave ranked second behind that of 2009.

7.30 In the west of the state, two significant fires in the Wyperfeld National Park and in the Grampians began on 14 and 15 January respectively and immediately placed a demand on the state's firefighting resources. Both fires continued to burn for the next two months.

7.31 On 17 January 2014, a 'Recommendation to Evacuate' was issued in relation to the Grampians Northern Complex fire. This was the first time that a Recommendation to Evacuate had been issued in Victoria.

7.32 These and other new and existing fire starts in the weeks leading up to 9 February 2014 continued to threaten communities and to impact on private and public property and assets. Significant emergency services resources were utilised in responding to these fires.

7.33 In view of the extreme heat and fire conditions experienced over January and forecasted to continue in February 2014, a special meeting of the SCRC was held on 21 January 2014. SCRC reviewed the heat and fire preparedness and response for January. SCRC then agreed that to make further preparations for the summer, members and senior officials would familiarise themselves with the *Code Red – forecasting, determining and notifying* document and the *Code Red Determination and Communication Plan,* advise the Chair of their organisation's preparedness for a Code Red day and brief their Ministers on portfolio implications of Code Red days.[53]

[53] A Code Red day is declared by the fire services in the worst conditions for a bush or grass fire. When a Code Red day is declared, community members are advised to leave high-risk bushfire areas the night before or early in the day.
-See more at: http://www.cfa.vic.gov.au/warnings-restrictions/about-fire-danger-ratings/#sthash.iWQA2v8t.dpuf.

The lead-up to the Hazelwood Coal Mine Fire

7.34 By 31 January 2014, 11 fires were still listed as going across the state, mainly in Gippsland.[54] These fires were being managed from the Orbost, Bairnsdale and Heyfield ICCs. Four of the fires that would eventually become the largest of the season were already alight. The first week of February was forecast to be very hot across the state, with fire services expecting 3 February to be a significant fire weather day due to high temperatures and an early wind change with the potential for lightning. By late afternoon on 3 February 2014, a total fire ban had been declared across Victoria, and six new fires had been added to the list of fires still going.

7.35 On 3 February 2014, emergency services received initial indications that the weekend of 8 and 9 February would likely be significant fire weather days. The Bureau of Meteorology's SCC fire weather briefing on 3 February indicated deteriorating weather conditions by the following weekend, and noted that 9 February would be the next critical fire weather day. It appeared possible that 9 February could be the worst fire weather day in Victoria in the last five years, with the forecast temperatures expected to exceed 40 degrees and wind speeds to be between 70 to 100 km/h.

7.36 On 3 February 2014, significant planning and preparation was undertaken for the fire weather forecast for 8-and 9 February. The need to plan and be prepared for this period was discussed by the SCT, SEMT Regional Fire Control Team, REMT and at meetings within agencies. This included planning for the potential for the declaration of Code Red should the fire danger ratings increase. Emergency services warned the community that extreme fire danger ratings would apply across much of Victoria over the weekend of 8-and 9 February.

7.37 This planning and preparation continued in the lead-up 8 and 9 February 2014, in addition to managing fire risk and going and new fire starts. The SEMT met at least two to three times per week during that period. At the state and regional level there were a number of preparedness briefings. Fire services liaised with the Commonwealth to establish what resources could be put in place.

7.38 In the week leading up to 9 February 2014, the SCC was operating at the highest level of readiness (Tier 3 – Red). At this level, all key agencies, departments and critical infrastructure organisations are represented. The SCT, comprising the fire agencies chief officers, the CHO, the Victoria Police State Emergency Response Officer and the Director of Emergency Management Health and Human Services met daily during this period.

7.39 Given the apparent risk, on 6 February 2014, the FSC formed the view that a major fire, within the meaning of the EM Act 1986, may occur. Accordingly, the FSC maintained overall control of response activities throughout 8 and 9 February. As part of these arrangements, operational oversight of metropolitan and outer metropolitan areas was separated from oversight of regional fires in order to assist the FSC to better exercise control of response activities in relation to major fires. The FSC gave two Deputy State Controllers concurrent responsibilities for the greater metro area and rural Victoria respectively, and ensured that change-over shifts overlapped to ensure situational awareness capability and capacity was provided over the next 72 hours.

[54] Club Terrace, Goongerah and Snowy River clusters.

7.40 On 7 February 2014, due to the expected extreme weather conditions, the Chief Officer of CFA consulted with the SCT and regional controllers, and decided to make an early declaration of a total fire ban across the state for both 8 and 9 February 2014. The declaration was publicised during a press conference held at 11:00 on 7 February by the FSC, AV and the Bureau of Meteorology.

7.41 On 7 February 2014, the emergency services issued a document entitled *State Fire Operational Brief – Overview for Fire and Heatwave*. The document highlighted the readiness arrangements, planning requirements and key considerations necessary for the forecast significant fire weather and potential impact for 8 and 9 February. This included:

- the ability to operate the SCC redundancy site in East Burwood
- testing and ensuring back-up and redundancy arrangements at RCCs and ICCs
- development of the aviation resources plan, including bringing on additional aircraft and arranging access to aviation resources from New South Wales.

7.42 On 7 February 2014, at around 15:30, the Hernes Oak fire ignited to the west of Morwell. The Hernes Oak fire caused the closure of the Princes Highway that day and interrupted regional train services. Strike teams attended to a number of passive fire areas within the fire perimeter.

7.43 By the evening of 7 February 2014, 16 fires were still listed as going in Victoria, including the Hernes Oak fire. Emergency warnings accompanied by the Standard Emergency Warning Signal were issued for the areas of Hernes Oak, Yallourn, Yallourn North and Newborough in relation to this fire. The SCT put arrangements in place to have MFB appliances and personnel moved up into five CFA stations to release further CFA resources by 8:00 on Saturday.

7.44 On 8 February 2014, conditions were as forecast by the Bureau of Meteorology and resulted in 59 warning and advice messages being issued, including a further Recommendation to Evacuate for the community of Goongerah. By 16:00 on 8 February 2014, the State Situation Report noted that 25 fires were listed as going across Victoria.

7.45 Bureau of Meteorology records for the Latrobe Valley weather station indicate that 6, 7 and 8 February 2014 recorded maximum temperatures of 33, 38 and 39.5 degrees respectively, accompanied by low humidity.

Other fires in Victoria on 9 February 2014

7.46 The fires of 9 February 2014 in the vicinity of the Hazelwood Coal Mine need to be considered in the broader context of the fire activity elsewhere in the Latrobe Valley and around Victoria on that day.

7.47 On 9 February 2014, fire danger ratings across Victoria were 'Extreme' in six weather districts, 'Severe' in two and 'Very High' in the south west. The fire danger rating in the West and South Gippsland weather district, in which the Hazelwood Coal Mine is

located, was 'Extreme'. Several locations recorded a Forest Fire Danger Index[55] spiking 100 or more, aided by north-west winds with average wind speeds between 40-60 km/h, including at East Sale, Melbourne Airport, Mangalore and Swan Hill. A peak Grass Fire Danger Index of 150 was recorded at Melbourne Airport.

7.48 Warning and advice messages continued to be issued over the evening of 8 February 2014 and early morning of 9 February for going fires, including 'Emergency Warnings'for fires, particularly in East Gippsland. New fire starts commenced before sunrise on 9 February near Geelong with progressively more fires being reported and responded to as wind speeds picked up with the predicted change moving across the state. By 7:30, 25 fires were going across the state.

7.49 At 09:00 on 9 February 2014, the temperature at the Latrobe Valley Airport in Traralgon was 33 degrees, ahead of a maximum of 41.2 degrees. The wind speed increased significantly early in the afternoon. A maximum wind gust of 76 km/h was recorded at this site at 13:02. The change was not accompanied by any rainfall. By 15:00, the temperature had fallen to 25 degrees.

7.50 Throughout the day fire services responded to over 950 fires and incidents, including many that would threaten people and their homes and cause property losses. This required ongoing prioritisation and reprioritisation by the fire services. Significant fires on that day included:

Fire	**Size**	**Impact**
Sunbury – Dalrymple Rd	2,585 hectares	5 homes lost
Warrandyte	11 hectares	3 homes lost
Mickleham/Kilmore	22,877 hectares	18 homes lost Continued for 23 days
Mt Ray – Boundary Track	6,872 hectares	3 homes lost
Jack River – Egans Rd	2,879 hectares	2 homes lost
Wunghu Complex	9,283 hectares	3 homes lost
Keilor	850 hectares	Threat to high value assets at Melbourne Airport
Yallorn	Not available	Direct threat to power supplies

7.51 Of these fires, the Jack River fire to the south of Morwell drew significant resources in the Latrobe Valley area on 9 February 2014. This fire is discussed further below.

7.52 277 'Warning and advice' messages were issued over the course of the day, including 100 'Emergency Warnings', many accompanied by the Standard Emergency Warning Signal.

[55] The Forest Fire Danger Index measures the degree of danger of fire in Australian forests. The index combines a record of dryness, based on rainfall and evaporation, with meteorological variables for wind speed, temperature and humidity. Ratings of 100 and over for forest fires, and 150 and over for grass fires, are considered catastrophic (Code Red).

7.53 The CCP and the FSC discussed during the day whether any of the emergency declarations were necessary or would provide any additional benefits. Emergency declarations were not considered to be required at that point.

7.54 On 9 February 2014, 11,163 calls were made to the Victorian Bushfire Information Line. This is the greatest single day call volume made into the Line, and 12 per cent greater than that experienced on Black Saturday. The call volume related to significant fire activity across the state including Gippsland and to the immediate north and north west of Melbourne.

7.55 On 9 February 2014, ESTA answered 7,371 emergency calls. This is the highest number of emergency calls on record for a single day. This exceeded the 6,993 and 7,010 calls answered on 16 January and 17 January 2014 respectively, and the 6,974 calls answered on Black Saturday in 2009.

7.56 By late afternoon, over 950 fires had been reported in the country area of Victoria, with 327 calls in the metropolitan fire area. As at 17:30, 78 fires were still going across the state, including fires near the town of Morwell. Many of the fires that started on 9 February 2014 would continue into the following days, and in some cases weeks. The fire services were required to commit significant resources to these fires on an ongoing basis.

7.57 Despite the extent of fires and property losses across Victoria, no lives were lost as a result of the fires already going or igniting on 9 February 2014.

Fires linked to the Hazelwood Coal Mine

7.58 There were three fires in the immediate vicinity of the Hazelwood Coal Mine on 9 February 2014:

- the Hernes Oak fire
- the Hernes Oak extension fire of 9 February 2014 (Hernes Oak extension fire)
- the Driffield–Strzelecki Highway fire.

7.59 At the time of this Submission, the points of origin of some of these fires, and the location of fire entry into the Hazelwood Coal Mine, is the subject of a Victoria Police criminal investigation. Accordingly, sensitive information pertaining to those investigations is not included in this Submission.

7.60 These fires need to be considered in the broader context of the fire activity elsewhere in the Latrobe Valley and around Victoria on that day. Importantly, from around 10:15 on 9 February, an outbreak of fire occurred at Jack River, to the south of Morwell. This fire would develop to 1,799 hectares in size by end of the day. This fire drew both physical firefighting resources from those available to the Region and incident control resources from the same ICC that would eventually also be responsible for the fires adjacent to and in the Hazelwood Coal Mine.

7.61 The Hernes Oak fire ignited on 7 February 2014 at around 15:30.

7.62 By 20:00 on 7 February 2014, the Hernes Oak fire was an estimated 150 hectares in size. By nightfall on 7 February 2014, the Hernes Oak fire had subsided.

7.63 The fire was held within the fire perimeter by 8 February 2014. As at 10:30 on that day, there was no running edge[56] to the fire. As at 23:00, the fire had covered 156 hectares and a control line was established around the perimeter of the fire.

7.64 During worsening weather conditions in the early afternoon on 9 February 2014, at approximately 13:15, the Hernes Oak fire escaped its containment lines. A breakaway of the Hernes Oak fire was first reported at 13:15. The fire moved quickly in a south-easterly direction, alongside and between the railway line and Princes highway, towards Morwell and the Hazelwood Coal Mine. The fire moved so quickly that it was unsafe for fire crews to directly attack the head of the fire. The fire also spotted to the south of Old Morwell Road in Morwell West, igniting a fire that ran through pine plantations to the Australian Paper Mill at Maryvale.

7.65 When the Hernes Oak fire reached the north-west edge of the Hazelwood Coal Mine, a south-west wind change arrived and caused the fire to burn in a north-easterly direction, towards the edge of the West Morwell residential area. The fire began to burn near houses. It also spotted into the Yallourn open cut mine.

7.66 The Hernes Oak fire spotted to the west of Latrobe Street and then burned into the plantations north of Morwell.

7.67 The speed of the fire meant that there was insufficient time between the fire breaking its containment lines and its impact on residential areas to safely conduct an evacuation. At the same time as the fire was burning in the Hazelwood Coal Mine, the protection of the people of Morwell became critical.

7.68 In the space of just over an hour, significant threats developed to the lives and property of several people and to major infrastructure including the Hazelwood Coal Mine, the Yallourn mine and the Australian Paper Mill at Maryvale.

7.69 By 14:30 on 9 February 2014, the fire services began receiving reports from the fire crews at the Hazelwood Coal Mine, and from members of the public via the 000 emergency number, that a fire was spotting into the Hazelwood Coal mine. The FSC believes that the Hernes Oak fire spotted into the north-western side of the Hazelwood Coal Mine at around this time, while the Hernes Oak extension fire and/or the Driffield-Strzelecki fire may have also spotted across to ignite the western side of the Hazelwood Coal Mine.

7.70 At this point, the fire was being attended to by the on-site mine firefighting services. The fire crews employed by the Hazelwood Coal Mine were initially successful in stopping this spotting. As the wind picked up in the course of the afternoon and evening, it appeared the fire then spread further into the Hazelwood Coal Mine. Spotting may also have occurred to the south-east of the point of ignition, leading to a further small fire which may, have then also spotted across into the western side of the Hazelwood Coal Mine.

7.71 The extent of the Hazelwood Coal Mine Fire was unclear at this time and would not become apparent until daylight on 10 February 2014.

7.72 By 19:30 on 9 February 2014, the fire services received reports of a fire at briquette factory at Commercial Road, Morwell. The factory is located outside the perimeter of

[56] The head of the fire, or part of the fire that spreads with the greatest speed.

the Hazelwood Coal Mine, on the mine's eastern side. It is operated by Energy Brix Australia Corporation Pty Ltd.

7.73 During 9 February 2014, there was a large shroud of smoke in and around the Hazelwood Coal Mine from the fires referred to above, as well as from the Jack River fire, which was burning around 50 kilometres south east of the Hazelwood Coal Mine. It is likely that there was also smoke from the Hazelwood Coal Mine itself. Fire alarms in buildings in Morwell were being triggered and responded to by the fire services.

Emergency services response to the fires around Morwell

Overview

7.74 The response to the fires in and around Morwell on 9 February 2014 occurred in the context of escalated fire activity in the Latrobe Valley and elsewhere in Gippsland on that day. In particular, the resource demands of the Jack River fire were significant.

7.75 The response to the fires was according to the line of control, with resources prioritised and deployed as the demand arose. There was a clear structure in place to enable a response to each reported outbreak, with a nominated Level 3 Incident Controller and a Level 3 ICC in place and operating.

7.76 The speed with which the Hernes Oak extension fire and the new outbreaks along the Strzelecki Highway at Driffield developed and created new threats meant that the protection of human life and property around the town of Morwell rapidly became the overarching priority in responding to these fires. The Hernes Oak extension fire directly threatened hundreds of homes on the edge of suburban Morwell, spotted into the Yallourn open cut mine and ran to the edge of the Hazelwood Coal Mine.

7.77 The causation of the Hernes Oak and Driffield-Strzelecki Highway fires is considered suspicious and remains the matter of police investigation.

Detail

7.78 The Hernes Oak, Hernes Oak extension and Driffield-Strzelecki Highway fires, along with the Jack River fire, Yallourn open cut mine fire and the Australian Paper Mill major hazard facility fire, were all being managed through the Traralgon Level 3 ICC. The Gippsland RCC was operating across all fires in Gippsland.

7.79 Local CFA resources responded to the Hernes Oak fire at around 15:30 on 7 February 2014. By late afternoon, the Hernes Oak fire was being managed from a Local Control Facility at Churchill. A local control facility is an approved facility that can be used as a forward or division command point. They are buildings with resources such as radios, computer and telephones.

7.80 The Gippsland Regional Controller was in contact with the SCC and the Deputy State Controller regarding status of the fire.

7.81 Transfer of control to the Traralgon ICC was achieved by 20:15 on 7 February 2014. The Traralgon ICC was not being staffed on the night of 7 February 2014. Consideration was given to transferring control to the Heyfield ICC. However, the fire services determined that it was best to retain local control, as there was local experience in dealing with fires in the area surrounding the coal mines.

7.82 On 8 February 2014, the following day was still forecast to be a critical fire weather day following hot overnight conditions. In response, the fire services took further action to refine planning. Aviation resources for the weekend were bolstered, bringing the total number of aircraft to 54 (above the normal base of 42). The fire services had also arranged access to aircraft from New South Wales and South Australia. The going Gippsland fires retained a significant commitment of aircraft, including nine helicopters and five firebombers, supported by an additional six aircraft provided by New South Wales. In addition, aerial intelligence gathering was being conducted from specially equipped aircraft.

7.83 At 08:00 on 8 February 2014, the Regional Controller was advised by the Incident Controller that the Hernes Oak fire was contained and that fire investigation was underway. The Princes Freeway and the regional railway line were closed as a result of damage from the fire. By 09:30, a control line was established and a dangerous tree assessment was underway along the freeway at the western end of the fire. CFA resources from the Southern Metropolitan Region were released.

7.84 The prospect of the Hernes Oak fire moving into both the Yallourn and Hazelwood mines was identified by the REMT at its 10:30 meeting and CFA Regional Agency Commander on the afternoon on 8 February 2014. In view of this, both the Central Gippsland Essential Industry Group and the plantation managers, Hancocks, were consulted.

7.85 On the afternoon of 8 February 2014, computer modelling suggested that the Hernes Oak fire could spread into a small community to the south west of Hernes Oak. Accordingly, in the early evening of 8 February, Victoria Police and SES door knocked community residences to ensure they were fully aware of the potential impact and that a recommendation for evacuation could be made. Ultimately, evacuation was not required.

7.86 In view of the risk that the Hernes Oak fire could breach control lines and run into the Hazelwood Coal Mine, a Level 3 ICC was put in place at Traralgon overnight on 8 February 2014. Four strike teams were made available for rapid response overnight. The Incident Controller rated the prospect of the fire occurring overnight at 60 per cent. Aviation was readied for a 08:00 start on 9 February 2014. The FSC discussed additional aircraft needs at Hernes Oak with the Gippsland Regional Controller, but it was determined that there were already sufficient aircraft available for the fire.

7.87 On 8 and 9 February 2014, full day and night shifts were run at the SCC. The SOP identifies in detail where resources were deployed in preparation for the anticipated conditions on 9 February 2014. CFA had made arrangements across the state for increased capacity and very high levels of readiness, and MFB had arranged extra capacity. However, some state resources were at lower levels of availability due to commitments to the existing fires.

7.88 On the night of 8-to 9 February 2014, the two additional strike teams that had been sent to the Latrobe Valley were activated and started working on the Hernes Oak fire. From shortly after daybreak at least four aircraft were allocated to the fire. During the course of the day, some of these aircraft were diverted to the Jack River fire which ignited at about 10:15. It was necessary to divert aircraft to that fire because of the immediate threat to life and property that it posed.

7.89 After it ignited, the Jack River fire became a priority for the Traralgon IMT. That fire destroyed one residence shortly after it started. It also had the potential to make a

large, uncontrolled run towards the town of Yarram, if sufficient resources were not allocated to suppress it quickly.

7.90 Based on an analysis of risk conducted by the SCT, the fire services arranged to pre-position strike teams at strategic locations. Southwest and Wimmera region resources were moved to central Victoria to follow the predicted wind change as it moved through the State on the morning of 9 February 2014. Slip On[57] and light tanker[58] strike teams were also planned to be deployed to Gippsland for first attack and surge capacity. Resources from CFA's Southern Metropolitan Region were prepared for deployment to Gippsland if required. MFB provided three strike teams, one to be utilised to release CFA resources and the others to be positioned in the north and south metropolitan areas for reactive deployment, primarily for asset protection. Two additional MFB pumpers were deployed to Traralgon and Morwell to provide additional response capacity for any fires in the power generation facilities and related critical infrastructure. Up to 60 vehicles were made available by forestry industry brigades in south west Victoria. New South Wales resources were also ready to backfill or supplement Victorian resources.

7.91 All eight of the state's RRCs were stood up and 34 ICCs around the state were either operating, due to existing fires, or would be stood up.[59]

7.92 Police resources in country Victoria were also bolstered to help prevent fires and investigate the cause of fires, in accordance with state-wide Operation Firesetter. This included a dedicated 24/7 response capability that could be deployed to any area of the state to support police investigations.

7.93 On the morning of 9 February 2014, there was ongoing containment and patrol of the Hernes Oak fire. Given that fire activity of the Hernes Oak fire overnight had largely subsided, resources focused on burning trees that could pose problems as weather conditions worsened. This included the use of a bulldozer.

7.94 Resources were deployed on 9 February 2014 to the Hernes Oak fire to continue containing the fire and in order to attempt to bring it under control. There was a wind change predicted to come in from the north west followed by a very strong wind shift to the south west. In view of the deteriorating conditions, firefighting resources continued to be prioritised to protect human life and property elsewhere.

7.95 There were limited resources available to be redeployed directly to the Driffield-Strzelecki Highway fire and the Hernes Oak extension fire. Resources continued to be prioritised to protect human life and property elsewhere.

7.96 The minutes from the 14:30 meeting of the REMT on 9 February 2014 note that the Traralgon ICC was working on the possibility that the fire had spread into the Hazelwood Coal Mine. The minutes of the SEMT meeting at 18:00 on 9 February 2014 note that the Hernes Oak fire had escaped its control lines earlier in the day, and that there were fires in the mine.

[57] A 4WD 1-tonne light utility vehicle fitted with a 400-litre tank, pump and limited firefighting equipment and carrying two crew.
[58] A 6-tonne 4WD vehicle carrying up to 1,500 litres of water, firefighting equipment and five crew.
[59] In accordance with FSC document entitled Joint Standard Operating Procedure 2.03.

7.97 Between 15:56 and 21:52on 9 February 2014, five 'Emergency Warnings', the first two accompanied by the Standard Emergency Warning Signal, were issued for the Hernes Oak fire. At 23:04, a 'Watch and Act' containing the following information was issued:

> 'Firefighters are working to stop the spread of the grassfire in the DRIFFIELD and HAZELWOOD area. It is not yet under control. This fire is affecting the open cut mine. Fire services and mine management are working to bring this fire under control. Smoke will continue to be visible and affect nearby communities including Morwell…'

7.98 The minutes for the SCT meeting at 7:30 on 10 February 2014 note that the Hazelwood Coal Mine was on fire and that the Hernes Oak fire had spread to the Energy Brix factory. Initially, the Hernes Oak fire, the Hernes Oak extension fire and the Driffield-Strzelecki Highway fire were managed as sectors by the same ICC. On 11 February, a dedicated ICC was established for the Hazelwood Coal Mine Fire and Yallourn mine fire, as noted in the State Situation Report for 11 February 2014 at 6:00. The Traralgon ICC continued to run the Hernes Oak and Jack River fires, as these still required management.

7.99 The Driffield-Strzelecki Highway fire was contained on 13 February 2014. The Hernes Oak fire was also contained on 13 February. The Yallourn mine fire was returned to the control of the mine operator on 19 February.

7.100 This was achieved as a result of applying a risked based emergency management approach in place from a state, regional and local level. These structures were continually reviewed and altered as the circumstances demanded.

7.101 The following map shows an aerial photograph of the Hazelwood Coal Mine, and a comparison of the size of the mine to major Australian cities.

8. Emergency response

8.1 This chapter sets out the Victorian Government's emergency response to the Hazelwood Coal Mine Fire, including WoVG communications.

8.2 It is noted that information about the fires around Morwell that may have caused the Hazelwood Coal Mine Fire, and the emergency services response to those fires, is set out in Chapter 7 above.

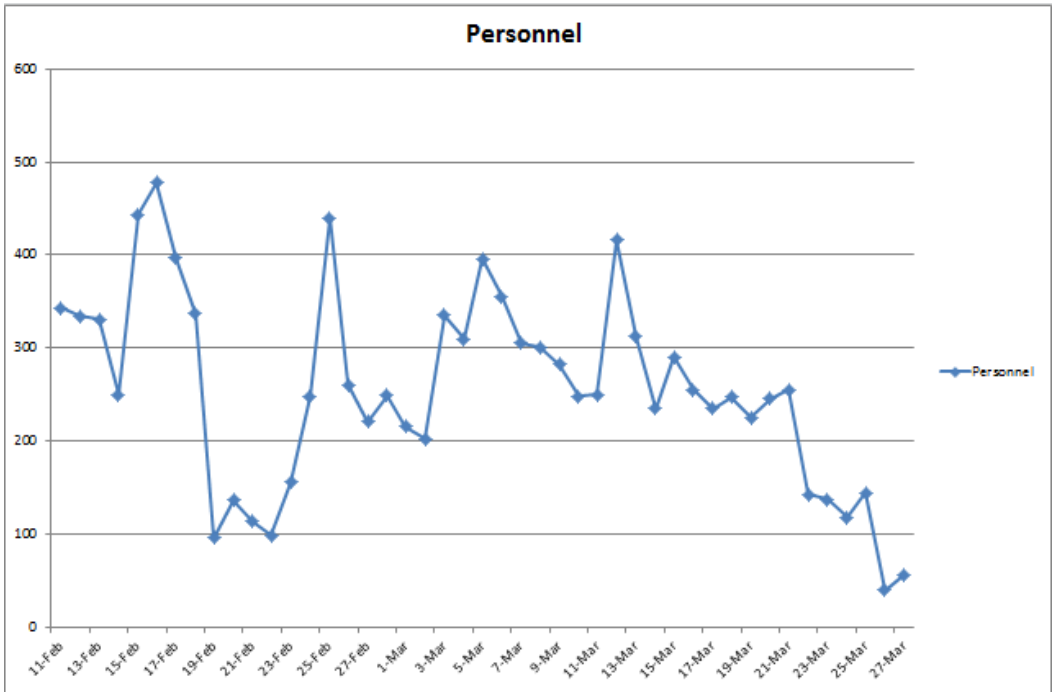
8.3 This chapter does not set out all aspects of the government's response. For additional detail on:

- environmental issues, see Chapter 9 below
- health issues, see Chapter 10 below
- relief and recovery, see Chapter 11 below.

Resources used during the Hazelwood Coal Mine Fire

8.4 The Hazelwood Coal Mine Fire was a State significant event, requiring a large contingent of ongoing resources to bring under control. Significant resources were also committed to manage the local community consequences, particularly in the town of Morwell. The operation was underpinned by an integrated approach across all departments, agencies, industry and the community.

8.5 A significant number of people worked at the Hazelwood Coal Mine Fire and in related jobs. The numbers of emergency services personnel deployed to the Hazelwood Coal Mine Fire is depicted in the following graph. The personnel figures include Victorian and interstate fire fighters, incident management personnel, staging area and support staff.



8.6 Other resources used in responding to the Hazelwood Coal Mine Fire included:

- around 120 million litres of water was used per day on peak days
- aircraft used an average of 1540 litres of foam per day on the fire
- over 300 accommodation bookings were made each day in Morwell, Traralgon, Moe and Sale for staff from many different agencies working on the fire and its effects
- over 400 interstate and international personnel supported the response
- around 130 official advices and warnings were issued in relation to the fire, including 'Watch and Act' and 'Emergency Warning'.

8.7 Victorian Government departments and agencies worked in partnership to respond to the Hazelwood Coal Mine Fire. Involved agencies included the FSC, CFA, MFB, DEPI, Parks Victoria, SES, Victoria Police, EPA, DH, AV, DHS, DEECD, VicRoads, Small Business Victoria, PTV, DSDBI, Tourism Victoria, DTPLI, Regional Development Victoria and LGV.

8.8 The response to the Hazelwood Coal Mine Fire included career and volunteer fire-fighters from Victoria, New South Wales, Tasmania, South Australia, Queensland, the ACT, Aviation Rescue and Firefighting Service and GDF Suez. Other parties involved in the response, relief and ongoing recovery effort included Latrobe City Council staff supported by other local government areas, the Red Cross, Victorian Council of Churches, St John Ambulance and the Insurance Council of Australia.

Initial emergency services response to the Hazelwood Coal Mine Fire

8.9 This subchapter sets out the initial emergency services response to the Hazelwood Coal Mine Fire in chronological order. It is noted that information about the fires around Morwell, which may have caused the Hazelwood Coal Mine Fire, and the fire services' response to those fires, is set out in Chapter 7 above.

9 February 2014

8.10 The Hazelwood Coal Mine Fire commenced on 9 February 2014.

8.11 CFA and MFB crews had already been responding to other fires around Morwell and the Hazelwood Coal Mine. It was difficult at these initial stages for the fire crews to know the size and locations of the fire due to the significant amount of smoke within and around the mine. Crews were redeployed to the mine during the afternoon of 9 February 2014. Crews accessed the Hazelwood Coal Mine through the main gate to the mine, off Brodribb Road.

8.12 The fire in its initial stages damaged power supplies into the open cut, pumping stations and to the coal conveyor to Energy Brix. However, power generation continued at a reduced capacity. Coal extraction was stopped in the open cut mine on 9 February 2014.

8.13 Overnight on the night of 9-to 10 February 2014, one strike team of CFA vehicles was deployed to the mine. They were tasked to protect critical mine assets to avoid loss of power generation, which included the 66kv line to the north of the northern batters that provides power to dredges and to protect the water pumps in the operation part of the mine. They were successful in this task both on this first night and throughout the course of the Hazelwood Coal mine Fire.

8.14 The fire services' initial strategy was to protect the critical infrastructure in the working batter, utilising tankers and aircraft along with fixed and portable monitors. Fire fighter health monitoring was an early priority. All CO detectors and personnel health monitors throughout CFA District 10 were recalled to assist.

8.15 The initial command and control arrangements on 9 February 2014 were in accordance with the SERP and the Command and Control Arrangements for Bushfire. This meant that the Incident Controller had responsibility for providing direction to the crews from all agencies and for requesting additional resources. The Gippsland Regional Controller provided support and prioritised resourcing across the region, as well as reporting to the State Controllers. The State Controller was located in the SCC and was supported by a Deputy State Controllers. At this stage, the ICC at Traralgon was managing fires in and around Morwell.

8.16 An SEMT meeting was held at 18:00. It was chaired by the State Controller and attended by the Minister for Police and Emergency Services and CCP. At the meeting, the State Controller:

- outlined the information known about the current fires, including the fire impacting the Hazelwood open cut mine
- provided advice regarding a planned meeting of power industry personnel and the emergency services to take place later that evening
- advised that a CFA Deputy Chief Officer had been sent to the Latrobe Valley earlier that afternoon to oversee the fire suppression planning and resourcing requirements
- advised that the Traralgon ICC would manage each of the three Morwell fires (Hernes Oak fire, Hazelwood Coal Mine Fire, Yallourn mine fire) as separate divisions, as well as and the Jack River fire.

8.17 At 22:00 on 9 February 2014, at a meeting between Hazelwood Coal Mine management and a senior CFA officer, it was made clear that CFA was the control agency for the fire in the Hazelwood Coal Mine. The Incident Controller made contact with Hazelwood Coal Mine staff and informed them that CFA had assumed control and that a strategic plan was being created in partnership with Hazelwood Coal Mine management.

8.18 The Hazelwood Coal Mine Fire consisted of fire burning within the coal on three levels of batters on the northern and southern sides of the mine and the mine floor itself. It covered a length of around three kilometres and approximately 400 hectares. These were non-working areas.

8.19 The Hazelwood Coal Mine Fire represented one of the first substantial tests of the state's new emergency response arrangements beyond bushfire response.

10 February 2014

8.20 By the morning of 10 February 2014, the IMT had developed a better understanding of the fires around Morwell and within the Hazelwood Coal Mine. VWA was monitoring and liaising with the mine operators regarding safety aspects. The Traralgon relief centre had been set up and a community education bus was located there. Plans were underway to begin production of a community newsletter. Fire crews worked on suppression including vegetation within and surrounding the Hazelwood Coal Mine.

8.21 In response, the IMT altered its firefighting techniques, reducing the volume of water and increasing its use of foams. The licensee installed additional pumping capability at the mine.

8.22 On the afternoon of 10 February 2014, CFA Deputy Chief Officer went to Latrobe Valley to oversee the fires in and around Morwell, including the Hazelwood Coal Mine Fire.

8.23 A document entitled *State Fire Operational Brief – Overview* was issued by the SCC on 10 February 2014. It noted that the Hazelwood Coal Mine Fire would burn for up to a month. DH had established public messaging about bushfire smoke and health on its website. The State Fire Operational Brief – Overview noted that 'smoke is a health hazard to fire fighters and the community. Smoke is impacting Morwell, and other areas to the west including Moe, Trafalgar and toward Warragul'. The brief also highlighted the State Controller's priorities. It provided that protection and preservation of life is paramount, including:

- the safety of emergency services personnel, noting the particular smoke and air quality issues for firefighters
- the safety of community members, including vulnerable community members, and visitors/tourists located within the incident area, also related to potential air pollutants and smoke visibility related issues.

11 and 12 February 2014

8.24 At 8:00 on 11 February 2014, a separate ICC was established and was located at the Hazelwood Power Station's Emergency Operations Centre. Additional fire service personnel attended, supported by 11 aircraft. The IMT established on-site medical procedures (which continued to evolve over the duration of the event, particularly regarding concerns over CO levels) as well as resourcing and staging area procedures. These procedures were updated over the coming days as information and advice were made available to the IMT. Messaging regarding health and smoke relating specifically to this event was also being developed at all tiers. At meetings of the SCT and SEMT it was acknowledged that extinguishing this fire would be a lengthy process given the known difficulties in suppressing fires.

8.25 The IMT established a HazMat unit with specialised fire services personnel, which performed specific monitoring of firefighters and the mine site and provided advice to the IMT. This function was initiated due to concerns over CO monitoring for firefighters and other personnel within the mine early on 11 February. The IMT also identified the need for broader air monitoring and sought the assistance of the EPA early on 11 February.

8.26 On 11 February 2014, both CFA and MFB Chief Officers attended the Hazelwood Coal Mine to gain a strategic understanding of issues and challenges posed by the fire in order to brief the FSC.

8.27 At 16:00 on 11 February 2014, the Latrobe Valley Coal Mine Fires Strategic Plan indicated that 40 per cent of the Hazelwood Coal Mine batter and 20 per cent of the mine floor were on fire. All of the fire within the disused part of the Hazelwood Coal Mine, which was not being worked. One conveyor belt was destroyed and one power line remained out of service. Contingency plans were developed for the supply of coal to Energy Brix due to the loss of the conveyor belt. Engineers from GDF Suez developed detailed plans and strategies to manage the event. The objective at this point was to prevent the loss of power to Victoria due to the loss of critical

infrastructure at Hazelwood and Yallourn. The projected timeframe to contain the fire at this stage was 48 hours, with extinguishment within two weeks.

8.28 Overnight on the 11- to 12 February, 15 firefighters self-presented to hospitals upon falling ill after completing their shift in the mine and returning to their homes. Their illnesses were symptomatic of the effects of CO. In response, the Deputy Regional Controller suspended firefighting operations within the mine until further advice was received from CFA Medical Officer. In addition, health monitoring and safety procedures were strengthened and required stringent management and compliance, to prevent any reoccurrence. This resulted in crews being regularly briefed and reminded of the importance to adhere to health protocols and procedures. Fire ground leaders were tasked with adopting a zero tolerance approach. These new controls were put in place on 12 February and firefighting resumed.

8.29 These controls were reflected in a *Health Management and Decontamination Plan*, which was established and endorsed by relevant SCT members and CFA's Medical Officer on the 14 February 2014.[60] A number of measures were introduced to assure that protocols and procedures contained in this plan were appropriate including independent third-party reviews. This plan continued to evolve and was regularly reviewed to ensure the highest level based on the independent advice and findings which focused on establishing safe work practices.

8.30 By the morning of 12 February, the former Morwell East ambient air quality monitoring station was recommissioned. The EPA Principal Air Quality Expert operating in Morwell was able to commence assessing data manually from this station. Once stable connectivity back to EPA servers was established, the EPA was able to provide DH with information relating to air quality.[61] The EPA also commenced water quality monitoring on 15 February, which continued throughout the incident.

13 February 2014

8.31 On 13 February 2014, DSDBI was concerned that the volume of water being applied to the fire on the northern batter of the mine could have the potential to:

- undermine the stability of the northern batter
- flood the mine.

8.32 DSDBI alerted the fire services at the ICC that:

- the firefighting techniques would need take mine stability and operational issues into consideration at the Hazelwood Coal Mine
- there was a potential need for additional pumping capacity at the mine to remove water.

Governance structure for emergency response

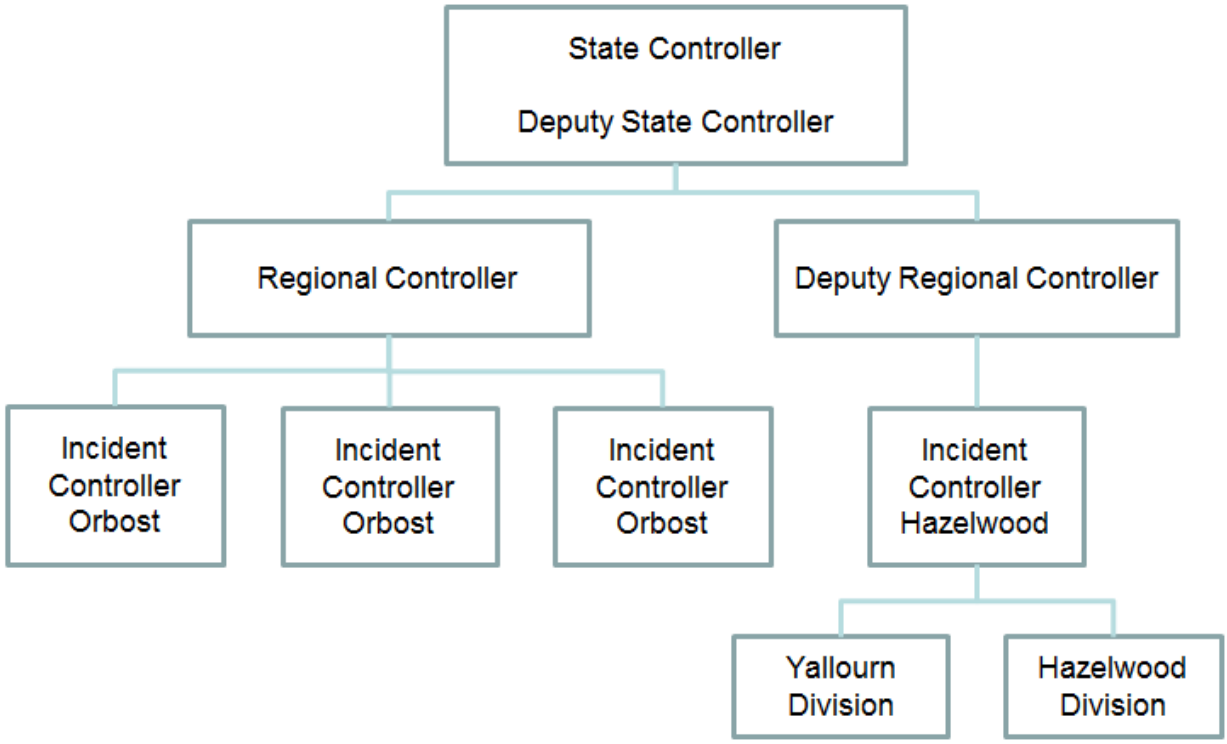
8.33 On 10 February 2014, the FSC adjusted the regional control structure and appointed a Deputy Regional Controller for Gippsland, with a specific focus on the mine fires. The

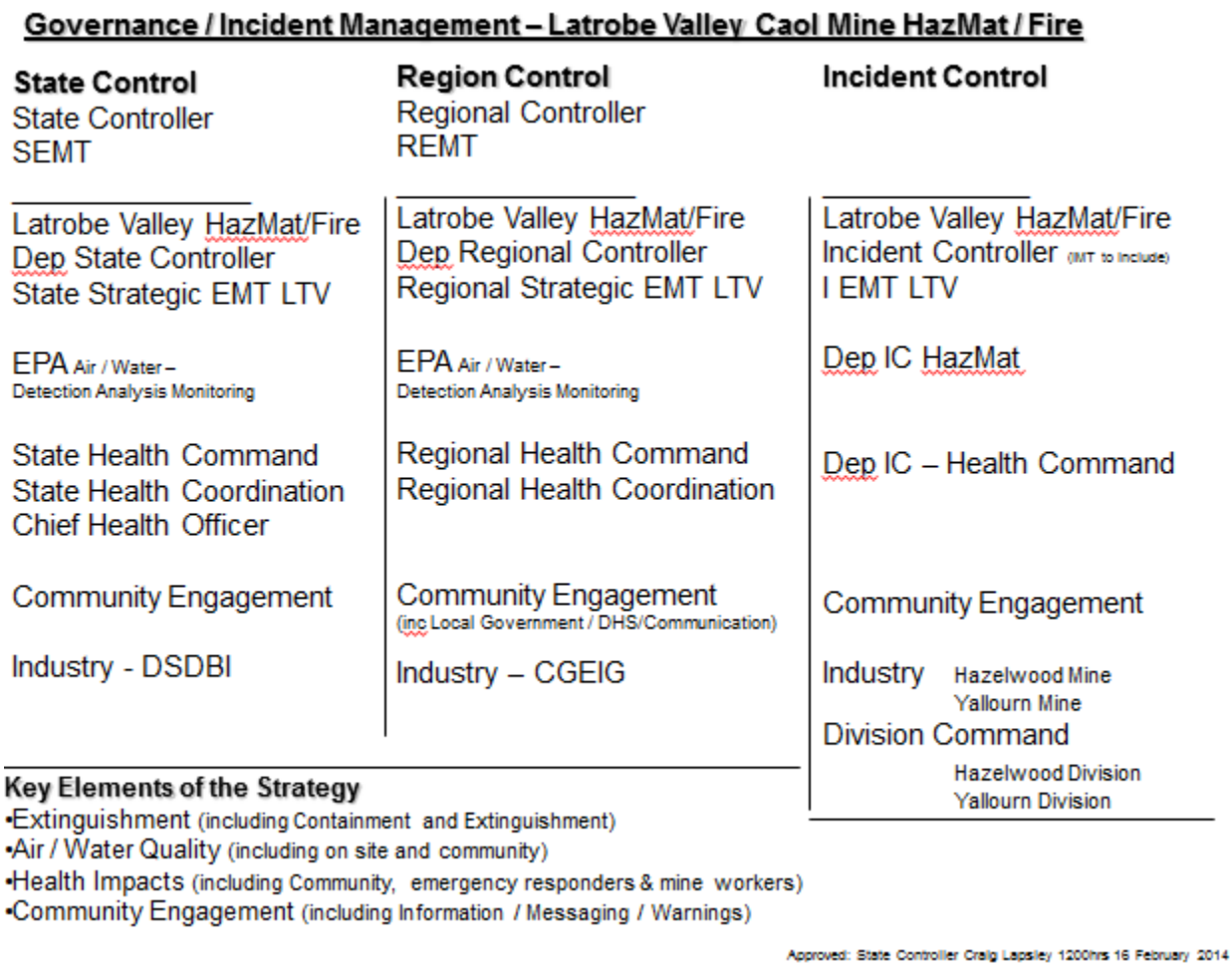
[60] The Plan was cited by VWA Inspectors on 21 February 2014.
[61] See 'Environment' subchapter below for more details.

aim was to enable effective management of the Hazelwood Coal Mine Fire, and to ensure that the Gippsland Regional Controller was supported.

8.34 On 16 February 2014, the FSC adjusted the regional control structure and appointed a Deputy State Controller for the mine fires. The aim was to support the State Controller and enable direct line of control from the region to state.

8.35 The governance structure for the emergency services response to the Hazelwood Coal Mine Fire is summarised in the following tables:





Governance / Incident Management – Latrobe Valley Caol Mine HazMat / Fire

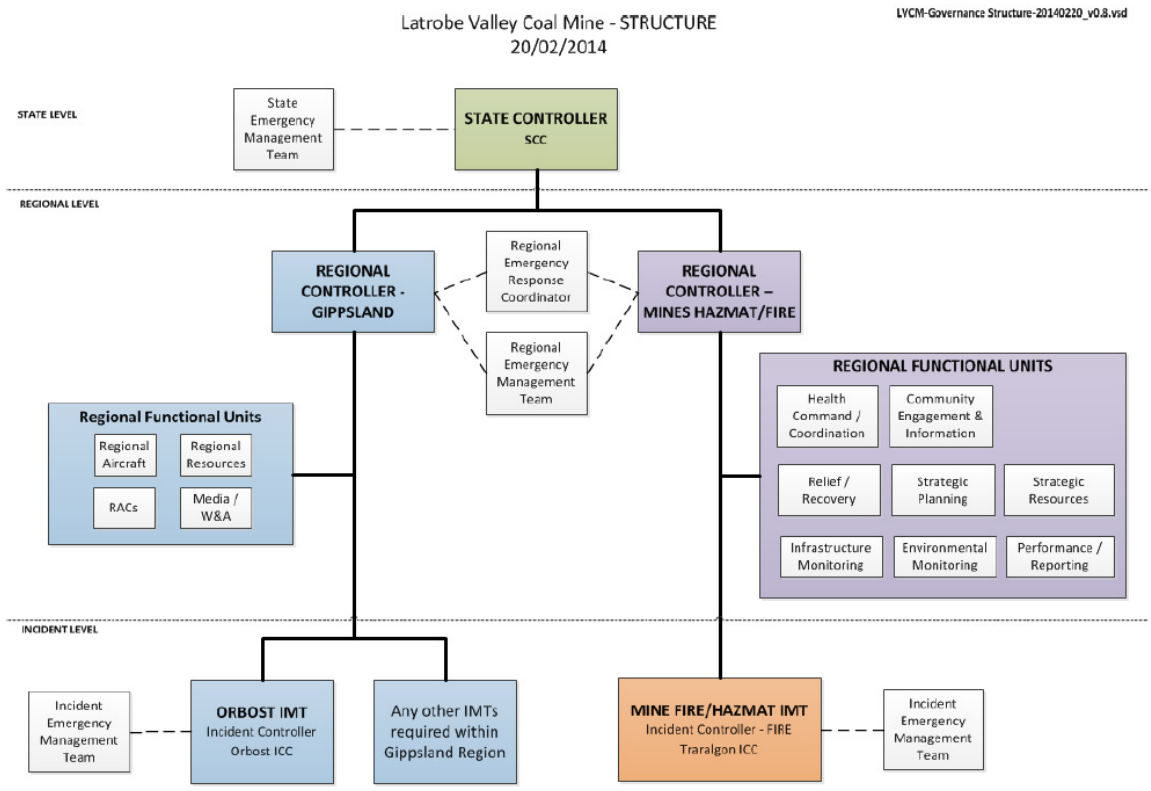
State Control	Region Control	Incident Control
State Controller SEMT	Regional Controller REMT	
Latrobe Valley HazMat/Fire Dep State Controller State Strategic EMT LTV	Latrobe Valley HazMat/Fire Dep Regional Controller Regional Strategic EMT LTV	Latrobe Valley HazMat/Fire Incident Controller (IMT to Include) I EMT LTV
EPA Air / Water – Detection Analysis Monitoring	EPA Air / Water – Detection Analysis Monitoring	Dep IC HazMat
State Health Command State Health Coordination Chief Health Officer	Regional Health Command Regional Health Coordination	Dep IC – Health Command
Community Engagement	Community Engagement (inc Local Government / DHS/Communication)	Community Engagement
Industry - DSDBI	Industry – CGEIG	Industry Hazelwood Mine Yallourn Mine Division Command Hazelwood Division Yallourn Division

Key Elements of the Strategy

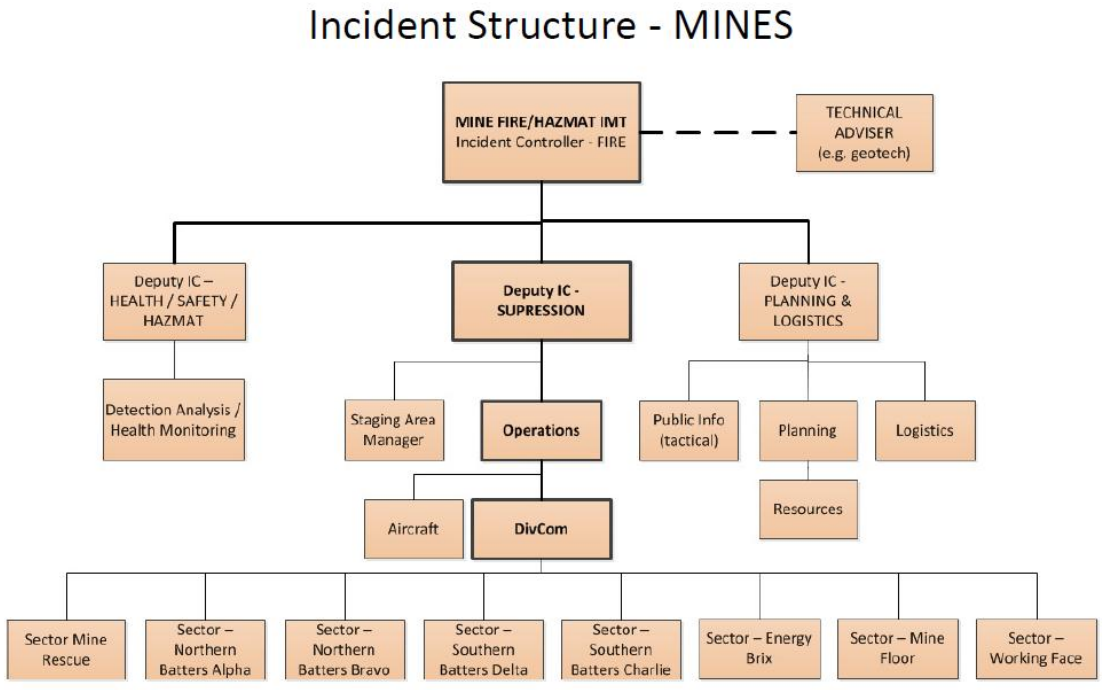
- Extinguishment (including Containment and Extinguishment)
- Air / Water Quality (including on site and community)
- Health Impacts (including Community, emergency responders & mine workers)
- Community Engagement (including Information / Messaging / Warnings)

Approved: State Controller Craig Lapsley 1200hrs 16 February 2014

8.36 On 22 February 2014, a distinct regional structure for the Hazelwood Coal Mine Fire was implemented. This was designed to enable separation of the management of the Hazelwood Coal Mine Fire from the management of the broader Gippsland region going fires (and any potential additional fire ignitions within the Gippsland region). As part of this structure, the FSC appointed a Regional Controller specifically for the Hazelwood Coal Mine Fire. To ensure ongoing situational awareness, experience and consistency three teams of senior fire service personnel (Deputy Chief Officer level) performed the Regional Controller role, operating on a four-day deployments. This is represented in the following table:



8.37 The separate mine fires incident structure included Deputy Incident Controllers responsible for key incident management functions related to the mines fires. To ensure ongoing situational awareness, experience and consistency the same Incident Controllers and, in the main, incident management personnel operated on four day rotations throughout the duration of the Hazelwood Coal Mine Fire. This is demonstrated in the following table:



Development of fire suppression planning

8.38 Planning for an incident of this nature occurs at a local, regional and state level. From late 9 February 2014 until 10 February 2014, the initial planning for suppression of the Hazelwood Coal Mine Fire was developed at ICC and RCC level. In order to better coordinate the suppression of the fire in the Hazelwood Coal Mine and facilitate planning, a separate ICC was established for the Hazelwood Coal Mine Fire on 11 February 2014 at the mine site.

8.39 The initial planning for suppression is contained in the Incident Action Plan developed at divisional level overnight on 9-10 February 2014. Subsequently, Incident Shift Plans were, from 10 February 2014, developed twice daily for the duration of the Hazelwood Coal Mine Fire, as is the normal procedure during a significant fire event. Incident Shift Plans are the base planning document for field operations.

8.40 As the Hazelwood Coal Mine Fire developed, the Incident Shift Plans also reflected the strategic planning that developed at a state and regional level. This planning incorporated simultaneous planning priorities in relation to other fires in and around the Hazelwood Coal Mine and elsewhere in the Latrobe Valley with the potential to threaten life and property.

8.41 On 11 February 2014, the State Strategic Support Team was established and consisted of relevant SEMT agency representatives. Accordingly, multi-agency state level planning in relation to the Hazelwood Coal Mine Fire commenced on that day. The first iteration of the Latrobe Valley Coal Mines Fire Strategic Plan was issued at 18:00 on 11 February. This was developed with input from the fire agencies, the Hazelwood Coal Mine operators and the Central Gippsland Essential Industries Group.

8.42 In view of this situation, the FSC directed the State Strategic Support Team (comprising key SEMT agency representatives) to develop the *State Strategic Support Team Brief – Latrobe Valley Coal Mine*. This document, developed on 12 February 2014, outlined the major requirements for the strategic management of the fire and contained:

- incident strategic overview
- the state priorities (including the principle covering the separate management of the fire and incident control strategies)
- management arrangements (including the control structure and resourcing requirements)
- actions required by departments and agencies to give effect to the planning and requirements
- community messaging.

8.43 On 14 February 2014, the FSC determined that the Hazelwood Coal Mine Fire should have a HazMat overlay applied to operations. This influenced the way in which the event was dealt with by the emergency services from this point forward. It also reflected the complexity of the event. On 15 February, the FSC engaged an external consultant to provide an independent report on the OHS issues in relation to deployment of firefighting resources in the Hazelwood Coal Mine.

8.44 A peer reference group was formed to develop the operational planning and suppression strategies. The group consisted of representatives from the FSC, CFA, MFB,

DSDBI, and a number of other relevant agencies. This group developed the strategic suppression options strategy for review by an expert panel.

8.45 On 17 February 2014, the FSC engaged an expert panel. The role of the panel was to review operational planning, extinguishment operations and tactics, methods and systems of work that had been put in place. The panel consisted of the following representatives:

- Engineering Specialist, Pells Sullivan Meynink Engineering
- Commissioner of the New South Wales Fire and Rescue
- Chief Executive Officer, QLD Mines Rescue
- Business Manager Operations, QLD Mines Rescue
- Chief Superintendent NSW Fire and Rescue.

8.46 On 18 February 2014, the expert panel identified three key principles to guide successful operational suppression planning. These were reconfirmed by an additional review on 3 March 2014 by the expert panel, which considered:

- safety of personnel and community
- efficient resourcing
- effective management structures.

8.47 In addition to the three overarching principles, the expert panel identified the following operational actions to be considered as part of the decision-making process about suppression and extinguishment activities:

- continue to reduce smoke and products of combustion through:
  - possible use of foam to suppress smoke
  - use of sprinklers versus streams for water
- continue to protect critical assets within the mine by:
  - focusing on the areas that must be maintained and protected
  - planning for redundancy if these assets are compromised
- Continue to extinguish the fire through:
  - the use of water, which was believed to be the most effective and safest medium for extinguishing the fire.
  - trialling of other mediums, including foams and gels, and the use of thermal imaging
- use a balanced water strategy to:
  - monitor how much water is being put in and taken out of the mine
  - understand the impact of water in the mine
  - manage the approximate limit of water into the mine
  - continue establishment of the reticulation system to minimise the human element needed to suppress the fire
- employ an aggressive focused weight of attack to:

  - increase the weight of attack in focused areas using multiple approaches, including various mediums (for example, wetting agents and foams) and various approaches
  - take an incremental approach (for example, 30 metre sections of batter)
  - understand the locations that suppression should focus on, including possibly focusing on the northern batters near the road as a priority
- continue to monitor and analyse critical aspects of the incident (for example, geotech), including:
  - movement of the batters
  - depth of fire, particularly due to bore holes in northern batter
  - water use and impact
  - air quality and particulates
- Safety considerations.

8.48 During this period, a strategic team was put in place to develop the *Latrobe Valley Coal Mine HazMat Fire Plan* to replace the *Strategic Plan* and to focus on the multi-facet elements and coordinate into one document, known as the *Latrobe Valley HazMat/Fire Plan*.

8.49 The *Latrobe Valley Hazmat/Fire Plan* was issued on 20 February 2014. This plan was revised on a weekly basis and updated as the management of the incident progressed, until 21 March 2014. It was distributed to the SCT, SEMT, the Regional Controller Latrobe Valley, Regional Controller Gippsland and the REMT. The plan included a number of written sub-plans, including:

- *Latrobe Valley Coal Mine HazMat/Fire Suppression strategy Options*
- *Latrobe Valley Coal Mine HazMat/Fire Operational strategic plan*
- *Air Monitoring and Analysis Strategy*
- *Health Impact*
- *Strategic Health Management Plan –Community Smoke Impacts from the Latrobe Valley Coal Mine Fire*
- *Health Management and Decontamination Plan – Latrobe Valley Coal Mine HazMat/Fire*
- *Infrastructure Protection Strategy*
- *VicPol Operational Evacuation Plan*
- *Communications and Stakeholder Engagement Strategy*
- *Business Engagement Strategy.*

8.50 There were also two attachments to the plan that included the State Risk and Consequence Plan and line scans to depict the extent of the fire.

8.51 The plan and subplans were revised and reissued weekly. Later versions of the plans included transition arrangements back to mine management on the basis that this could occur once the Incident Controller identified the sectors of the mine that were safe.

8.52 In addition, a *Performance Reporting Plan* was developed by the State Strategic Support Team to provide the State Controller with the achievements made against the objectives set for each of the functional unit plans operating within the Regional control structure for the Hazelwood Coal Mine Fire. The intent of the performance monitoring process is to ensure all functional units were effectively communicating and had an understanding of the importance of their interdependence to achieve strategic outcome. Performance monitoring became part of the 7 day action plan. The objectives of the performance monitoring were to:

- ensure effective information sharing between functional teams and agencies within the RCC
- ensure establishing clear linkages between agencies and functions to focus on interdependent actions
- implement regular performance management processes to support the Regional Controller by assuring that agreed performance was measured and adjustments were made.

8.53 Concurrently with the development of the Performance Reporting Plan a planning session was held on a range of worst case scenarios, reviewing impact, consequences and mitigation plans. The session was facilitated by the SCC State Risk and Consequence unit and involved CFA, MFB, AV, DSDBI, SP AusNet, EPA, DEECD, VicPol, DH, DHS, Latrobe Valley Council, GDF Suez. This enabled agencies to use this information in the review of their response and recovery plans.

Suppression and extinguishment of the Hazelwood Coal Mine Fire

8.54 Fires in open cut mines are difficult to combat and extinguish. A number of firefighting strategies were considered. At all times, all levels of command and control structure considered the consequences of smoke on the community and the need to protect critical assets and infrastructure in developing extinguishment strategies.

8.55 The first iteration of a strategy for extinguishing the fire in the Hazelwood Coal Mine evolved over the period 9 February until 14 February 2014. During that period containment to the 'disused batters' and part of the mine floor was successful. The strategy was centred on not permitting the fire to spread into the active production areas of the mine. This was successful and allowed power generation to continue.

8.56 The extinguishment strategy involved applying both fire and HazMat procedures and approaches in order to deal with the higher levels of CO that were generated due to the incomplete combustion that occurs in subsurface brown coal fires.

8.57 The system of work required for a successful extinguishment strategy involved fire fighters, fire trucks with aerial firefighting capability (for example, ladder platforms) aircraft fire bombers with large buckets, the application of water and foam, the use of thermal imaging cameras and heat detection devices from the ground and air, the use of air and water monitoring equipment.

8.58 A number of suppression strategies were considered and reviewed by expert panels on 18 February and 3 March 2014, with various options implemented in turn. Some of these options were more successful than others, however they did not achieve complete suppression. The following difficulties were encountered in suppressing the fire:

- size of fire: the extent of the batters involved posed significant firefighting challenges
    - water supply: the working face and conveyor area of the mine had a fully charged and operating water reticulation system in place at the time of the fire. The non-working areas of the mine had some degree of water reticulation infrastructure in place, however, not all of this infrastructure was fully operational when the fire first started. The use of recycled water also posed particular problems in terms of OHS and the movement of volumes of water around the mine
- movement of vehicles: as vehicles moved this had the potential to stir up dust and actually spread the fire
- localised weather: this includes wind, smoke inversion and impacts within the mine
- specialised equipment: needed to supply compressed air foam
- industrial issues: these affected the availability of personnel for specialised appliances
- health and safety of firefighters: issues included potential exposure to CO levels, potential for injury from working in a hazardous environment
- fatigue: the Hazelwood Coal Mine Fire came at the end of a season that had in effect begun in October, with commitments to New South Wales, then to South Australia and extensively across the Victoria.
- geotechnical aspects:
    - stability issues: there was significant potential for collapse of batters and coal within the Hazelwood Coal Mine
    - water balance: it was critical to balance the water that was being injected into the mine as part of the fire-fight with the water being removed from the mine to ensure stability

8.59 In mid February 2014 a strategy was adopted that involved the use of aerial heat detection (through the use of and hand-held thermal imaging cameras), cooling and suppression using water, compressed air foam units and wetting agents, and long-reach excavators and crane-mounted monitors. This was more successful in reducing smoke and suppressing the fire.

8.60 Initially, suppression activities were progressed in small increments. There was focused attention on small areas of the batters. This approach required active monitoring and management of areas that had been extinguished (including areas outside the mine, the working mine face and critical infrastructure within the mine) to ensure previous work was held and breakouts were managed. It also required the active management of smoke, ash and CO to protect emergency responders and the community.

8.61 The main suppression and extinguishment strategy detailed in the documents above initially involved four parts:

- manage protection of critical mine infrastructure that supports the active and disused part of the mine
- maintain suppression of areas already extinguished and manage breakouts

- reduce the emission of smoke, ash and CO from areas not yet extinguished
- intensive weight of attack on small incremental sections of the northern batter from both ends.

8.62 A balanced water use strategy was considered critical to the ongoing operation of the firefighting operation. This strategy required that the input and output of the pumping and drainage system of the mine were measured. This was necessary to ensure that the mine was not flooded, and that there were no issues with instability. The fire services considered the impact of this on nearby areas, including the possibility of a landslide impinging on a nearby arterial road.

8.63 Fire services personnel worked with site management staff to develop the balanced water strategy. This involved planning on a regular basis the site water requirements to take into account fire behaviour, weather conditions and the need to deliver an appropriate amount of water for the successful suppression. This was required and gained through independent engineering advice.

8.64 Monitoring, analysis and management of site geology was critical. As the focused weight of attack progressed in increments, geotechnical experts assisted to analyse and understand two key issues: site stability and movement, and depth of subsurface fire. This analysis continued to inform ongoing longer term strategies for management of deep-seated subsurface fire.

State Crisis and Resilience Council

8.65 The SCRC convened routinely in 2013 and 2014 as well as during the Hazelwood Coal Mine Fire.

8.66 The SCRC met eight times during February and March 2014, seven of which were special meetings, to ensure WoVG oversight and coordination of the response to and recovery from fire and heat wave emergencies, including the Hazelwood Coal Mine Fire.

8.67 SCRC meetings assisted members to:

- receive briefings from senior officials involved in the operational response and recovery
- consider the broader longer-term consequences of the Hazelwood Coal Mine Fire
- identify and respond to issues that cut across portfolios
- provide consistent advice to Ministers and direction to departments and agencies
- ensure consistent communication was taking place between portfolios
- ensure that government resources were being well utilised.

Occupational Health and Safety

8.68 The first of the FSC's Strategic Control Priorities is the protection and preservation of life, including emergency services personnel. This priority was paramount and informed all aspects of operational decision making. The first key consideration in the

Latrobe Valley Coal Mine HazMat/Fire Performance Monitoring and Reporting Checklist was noted as health and safety of responders and the community is the top priority.

8.69 The health and safety matters involving fire crews were identified and addressed in a number of ways during the Hazelwood Coal Mine Fire. CFA and MFB Safety Officers and Health and Safety Representatives raised relevant matters at the incident control level. Some of these matters, for example CO monitoring, was escalated to involve the FSC and the SCT. In addition, site induction, briefings, reporting of incidents and near misses, dynamic risk assessments occurred.

8.70 In addition the United Firefighters Union raised some matters directly with the Chief Officers of CFA and MFB. Both Chief Officers ensured that action was taken. All health and safety matters reported to the SCC were logged and the actions taken to resolve them were recorded. The fire services involved VWA in discussions about what representeda safe system of work for fire crews.

8.71 A written Health Management and Decontamination Plan was established and agreed upon by the FSC, CFA, MFB and CFA's Medical Officer on the 14th February 2014. This plan was focused on establishing safe work practices in line with Safe Work Australia guidelines for all personnel working in the mine and was regularly reviewed.

8.72 This plan incorporated the following health and safety initiatives:

- pre-deployment health restrictions for personnel who were heavy smokers, had a history of cardiovascular or respiratory conditions, females who were or might be pregnant
- mandatory testing of individual's carboxyhaemoglobin levels prior to being deployed to the mine and for each shift rotation then prior to being released (INCLUDING establishment of actions for identified carboxyhaemoglobin levels)
- less than five per cent commence duties in the mine
- equal or greater than five per cent not able to enter the mine and equal to or greater than eight per cent referred to AV personnel for assessment
- protective clothing management (for example, cleaning/decontamination)
- wrist tagging of all personnel who entered the Hazelwood Coal Mine
- establishment of shift rotation to allow for four by two hour work shifts, including break times and travel in and out of the mine with monitoring to occur
- crews issued with a CO detection unit and the requirement for results to be logged every 15 minutes with specific safety precautions to be taken based on the CO levels detected (for example, don breathing apparatus/withdraw from the area)
- CFA Medical Officer ongoing oversight of health-related issues and the management plan.

8.73 Additional initiatives included:

- environmental sampling across the site (for example, fire, water, air particulates)
- independent hygienist's and Fire Service Scientific Officers on site

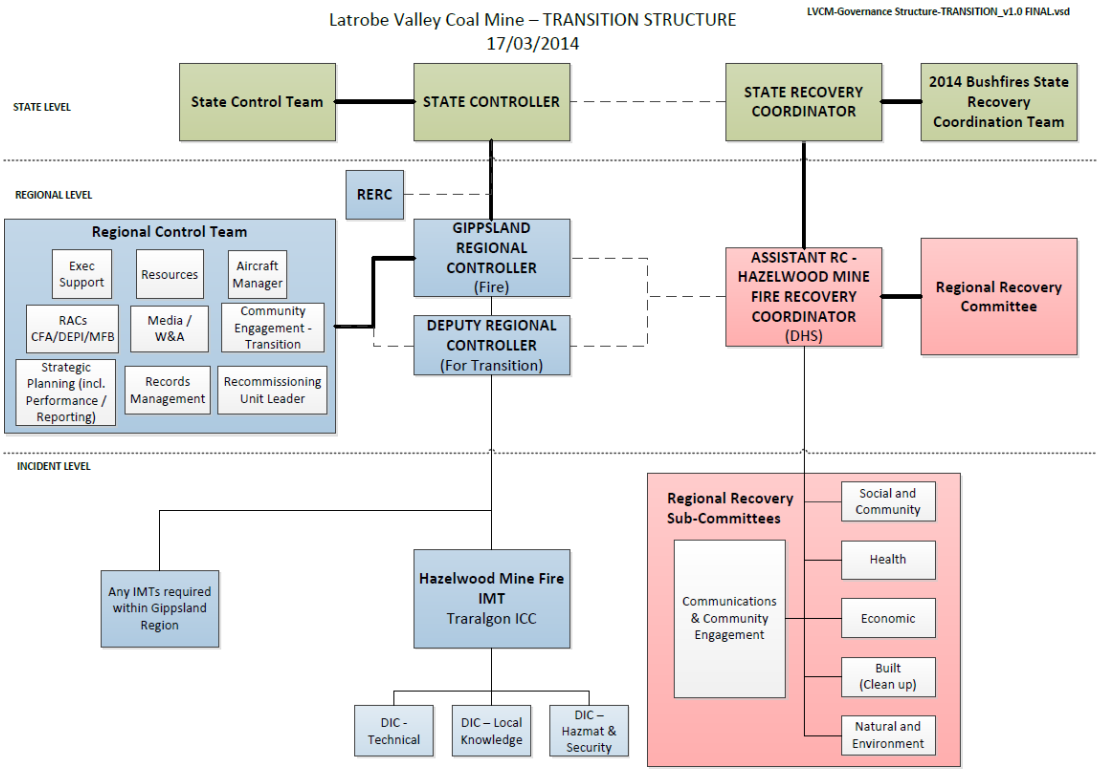
- an Incident Safety Officers on site
- FSC appointed independent party reviewing health and safety management across this incident
- combined inspections by OHS personnel from each agency.

8.74 During the period of this incident 60,368 carboxyhaemoglobin tests were completed.

8.75 Since the conclusion of this incident CFA and MFB Medical Officers have been reviewing the CO monitoring results and all relevant environmental monitoring reports to determine if post-incident medical monitoring should be implemented and the agencies are waiting on the finalisation of this matter.

Transition to management of fire by GDF Suez

8.76 By 17 March 2014, planning was underway for the transitioning of the response from the Hazelwood Coal Mine Fire to recovery. To ensure direct integration of the required recovery processes and actions the FSC, with the agreement of the State Recovery Coordinator, appointed a Deputy Regional Controller Recovery on 18 March. The transition structure is set out in the following table:



8.77 The State Controller intended that management of the fire be fully transitioned back to GDF Suez when all transition considerations had been satisfied. These consisted of:

- community health risks (for example, air quality/level of advice from the CHO).
- likelihood of the risks identified being realised
- capacity and capability of GDF Suez to effectively manage the residual heat (additional resources were put in place at CFA Morwell to support GDF Suez if required)

- ensuring appropriate measures were in place to prevent fire from reoccurring.
- capacity and capability of local emergency services to support incident management and provide an appropriate operational capability to support GDF Suez as part of business as usual arrangements.

8.78 In anticipation of the transition occurring, the fire agencies began planning for the scaling down of resources while maintaining control of the management of the event.

8.79 The Hazelwood Coal Mine Fire was declared controlled on 10 March 2014. This meant that the fire was no longer spreading and that sufficient resources were on hand. From that date, it was progressively handed back to the Hazelwood Coal Mine operators.

8.80 The Hazelwood Coal Mine was declared safe on 25 March 2014. This meant that the fire was out and there was no fire that would create a create smoke, ash or flames that would impact upon the community. Very small pockets of heat in the floor of the mine were covered and from time to time would create small puffs of smoke. However, these did not change the status of the fire.

8.81 Full transition to the operators of the Hazelwood Coal Mine occurred following agreement, on 25 March 2014, between the Incident Controller, Regional Controller and State Controller that any residual heat remaining within the mine was within the normal day-to-day management capabilities of GDF Suez.

8.82 The Hazelwood Coal Mine was fully handed back to the operators on 25 March 2014.

8.83 In respect to the full transition, the fire agencies:

- formally transferred responsibility for the management of the site back to GDF Suez
- maintained some increased level of resources within the region and supplemented local resources commensurate with the situation and expected weather conditions that can be called upon to support business as usual operations if required
- increased normal fire agency capability.

8.84 In line with normal agency arrangements, fire agencies would respond with an escalated commitment to the Hazelwood Coal Mine site if:

- there was a significant increase in smoke impacting the community
- there was a reoccurrence of fire activity beyond the capability of GDF Suez, particularly impacting on critical infrastructure (for example, impact on power supply, spreading to working batters).

8.85 Following full transition, GDF Suez was now required to:

- maintain fire prevention/suppression capability including relevant infrastructure fire suppression according to risk in consultation with CFA through normal networks
- ensure that 24/7 patrols/monitoring remained in place until the risk of fire reoccurring had been reduced to a level as low as reasonably practicable considering the characteristics of brown coal
- provide daily/regular updates to CFA through normal networks.

MFB response

8.86 MFB's initial involvement arose because it had crews that were deployed in the area to assist the state given the conditions of the day. MFB provided additional crews and appliances to the incident for the duration of the incident with an average of 60 firefighters per day. MFB provided daily operational preparedness plans to the FSC indicating its ability to provide resources to this fire and assist the state.

8.87 MFB also provided senior operational personnel at the regional and state level. MFB has expertise in command and control and providing specialist expertise to address high consequence events. MFB was able to assist the FSC and CFA with technical advice, HazMat capability, specialist personnel, health and safety plans, assistance on the peer reference group, assistance with community consultation and liaising with the EPA to supply MFB air monitoring equipment. MFB also provided specialist appliances including telebooms, unmanned aerial vehicles (remote drone), operations tents, mobile radio repeaters and breathing apparatus pods.

SES response

8.88 The SES assisted in the response to the Hazelwood Coal Mine Fire and provided support to the community. Over 100 people from the SES were on the ground and were involved in:

- supporting the fire agencies (staging area management, logistics support, IMT)
- supporting DHS relief functions (doorknocking and community engagement)
- regional and state planning at the ICC.

DSDBI response

8.89 The Chief Inspector of Mines was notified by the licensee of the outbreak of fire in Hazelwood Coal Mine on 9 February 2014. He then notified the Executive Director of the Earth Resources Regulation Branch of DSDBI.

8.90 The Earth Resources Regulation Branch forms part of DSDBI. It is one of eight branches that together comprise the Corporate, Planning and Compliance Services division of DSDBI. The division is headed by a Deputy Secretary. The Deputy Secretary reports directly to the Secretary of DSDBI. The Earth Resources Regulation Branch is located in five offices: Melbourne, Traralgon, Ballarat, Bendigo, and Benalla.

8.91 Separately, DSDBI had already been engaged through the SEMT in the State response to the broader bushfire emergency.

8.92 DSDBI's response to the Hazelwood Coal Mine Fire was carried out in accordance with DSDBI's role under the MR (SD) Act and the EMMV. DSDBI attended the SCC over the following six weeks under the state level emergency response arrangements.

8.93 DSDBI attended the ICC for the Hazelwood Coal Mine Fire in order to advise, where needed, on the fire suppression effort in regard to potential impacts on the mine. DSDBI attended the REMT and ICC variously over the period.

8.94 On 13 February 2014, DSDBI alerted the fire services to concerns about the volume of water being applied to the Hazelwood Coal Mine Fire. In response, the fire services

altered their firefighting techniques, reducing the volume of water and increasing the use of foams. The licensee installed additional pumping capability at the mine. This is discussed further above.[62]

8.95 DSDBI engaged an external expert, and engineering specialist from Pells Sullivan Meynink Engineering, to provide geotechnical advice in regard to the potential impact on mine stability of the application of the quantities of firefighting water being used and related de-watering of the mine subsurface.

VWA response

8.96 During the Hazelwood Coal Mine Fire, the fire services worked with and sought advice from VWA to monitor the adequacy of systems of work associated with exposure to CO. VWA also made inquiries about exposure of mine employees to CO and adequacy of systems of work associated with slope stability. These activities are discussed further below.

8.97 VWA's initial visit to the mine included attending the Emergency Response Control Room on 11 February 2014. Discussions with the mine operator and emergency response personnel included:

- management of the impact of the fire and water on the stability of the batters, and potential impact of the safety of personnel working around the fires in the event of a batter failure
- site Emergency Commander informed VWA of the system used to assess the geotechnical integrity of the mine and how the safety status was communicated to CFA. This was done at two levels, through formal briefing meetings (attended by VWA and included a CFA representative) and through directions from a site person who was embedded in each firefighting team
- site Incident Controller – CFA, showed VWA around the control room, described the incident response plan and provided a copy of the current Site Incident Action Plan. He stated that the firefighting team members were aware of possible hazards related to batter instability and what signs to look for when working around batters. For example, loose material, the opening of tension cracks and poor drainage
- the establishment of fixed CO monitors around the perimeter of the mine
- provision of a site geotechnical expert (contractor) within the Emergency Response Control Room to provide ongoing advice.

Slope stability

8.98 A VWA Senior Mining Engineer attended the Hazelwood Coal Mine on 21 February 2014 to assess if the fires had impacted batter slope stability and how this was being managed by the mine operator. The Engineer determined that the mine operator, at the time of the site visit, was providing an adequate level of safety in relation to the possible adverse effects of the Hazelwood Coal Mine Fire on batter slope stability for

[62] See subchapter entitled 10 February 2014 above.

personnel. Other matters discussed included provision of site personnel as escorts for emergency services vehicles.

8.99 VWA inspectors and a Senior Mining Engineer attended the Hazelwood Coal Mine on 28 February 2014 and 6 March 2014 to follow up on the ongoing impact of the Hazelwood Coal Mine Fire on batter slope stability and water management and determined that the mine operator was continuing to provide a safe system of work for personnel. VWA did not identify any issues requiring compliance action.

8.100 VWA enquiries and discussions during the inspection on 6 March 2014 related to the mine operator's geotechnical controls:

- monitoring/ hazard identification of batter movement – use of batter inspection reports, crack monitoring and other monitoring instrumentation
- the provision of geotechnical expert advice during night shift
- batter stability assessment – methodology including modelling
- dewatering – impact of excess water, power failure and coal movements on aquifer dewatering efforts. Also, impact of excess water on batter stability including floor heave as well as surface dewatering efforts
- risk assessment for batters – a hazard plan overlaid onto the Hazelwood Coal Mine Plan had been developed showing colour coded risk areas. High risk areas were deemed as 'No Go Zones'
- emergency management.

8.101 Additional enquiries by VWA into how the duty holders were ensuring the health and safety of all employees including firefighters identified on 25 March 2014:

- re-entry risk assessment, titled 'Feb 2014 Hazelwood Mine Fire – CFA Hand-over'
- clearing of drains, road repair, replacing of bund walls and other 'general' earth works
- geotechnical inspections of fire affected areas including geotechnical assessment.

8.102 VWA observed a Batter Assessment Map dated 24 March 2014 and discussed the documented 'extreme/ high risk areas'.

8.103 On 25 March 2015, a VWA inspector, Group Leader, Senior Mining Engineer and Manager, ERU attended Hazelwood Coal Mine and met senior mine management. The purpose of this visit was to discuss and gain an understanding of what actions or reviews the mine operator plans to or had already commenced to ensure the ongoing health and safety of persons entering fire affected areas, recovery tasks, geotechnical inspections, ongoing group CO monitoring and the review and, if necessary, revision of the SMS.

CO exposure

8.104 On 12 February 2014, VWA personnel planned a site visit to the Yallourn and Hazelwood coal mines, which were both experiencing mine fires, in order to check the safety of their systems for dealing with CO exposure. Then on 13 February 2014, VWA was notified of an incident occurring at the Hazelwood Coal Mine relating to the

exposure of a firefighter to CO. On 14 February 2014, a VWA Inspector and Senior Occupational Hygienist visited the mine in order to monitor the steps that the relevant duty-holders were taking to protect the health and safety of the mine employees and firefighters at the Hazelwood Coal Mine, particularly from the risk of exposure to CO. VWA reviewed the system of work for dealing with the risk of CO exposure and was informed that it included the following:

- the use of personal CO monitors with set pre-determined levels
- employee health assessments and CO screening pre, during and post activities within the affected area of the mine
- modified work rosters and scheduled work breaks
- standards of exposure percentage in blood)
- modified instructions for treatment including the use of oxygen and medical treatment at hospital
- modified site medical treatment facilities.

8.105 VWA made some observations of the CO monitoring system, including test results, testing processes and employee monitoring. VWA also observed random samples indicating that employees were recording data every 15 minutes in the field. On the basis of this information, VWA personnel formed the belief that the system of work reduced, so far as was reasonably practicable, the risk to firefighters of CO exposure.

8.106 VWA inspectors attended Hazelwood Coal Mine on 18 February 2014 to discuss with mine operators what provisions were in place to maintain power station operations in the event that there was a regional/area evacuation and what CO exposure protections and monitoring would be provided to the mine workers. During this visit, the inspectors were also informed of dehydration concerns raised by firefighters at the coal face that had been addressed by the mine operators, who had purchased cool boxes and containers for CFA vehicles.

8.107 VWA inspectors attended the Hazelwood Coal Mine on 21 February 2014 in response to incident notifications received by VWA on 18 February 2014 that involved CFA personnel being exposed to CO on 10 and 12 February 2014. VWA inspectors discussed the status of employee health, observed random sample testing and monitoring records. The inspector observed that the monitoring process was governed by a Health Management and Decontamination Plan dated 14 February 2014 and appeared more robust than at the time of the visit of 14 February 2014. This plan had not been sighted by VWA personnel during the earlier site visit on 14 February 2014.

8.108 On 26 February 2014, VWA received a complaint from an MFB firefighter regarding the adequacy of P2 face masks for the purposes of fire fighting in the mine. Direct contact with the Incident Controller by VWA on 5 March 2014 identified that monitoring for air contamination, including CO, was subject to a systematic process of testing and reporting and that key messaging communicated at the commencement of each shift addressed instructions for CO management, including risk controls for high levels of CO.

Firefighting water

8.109 On 27 February 2014, VWA received a complaint from an MFB firefighter regarding possible exposure to firefighting water the complainant believed to be contaminated by unknown substances. The complainant believed that the result of tests had not

been provided in a timely manner by MFB. Direct contact was made with the complainant by a VWA inspector on 3 March 2014 and it was confirmed that test results had subsequently been provided and that the complainant did not seek to continue the matter.

Fire breaks

8.110 On 20 March 2014, VWA inspectors and a Senior Mining Engineer attended the Hazelwood Coal Mine to enquire into the Hazelwood Coal Mine Fire. On this occasion, inspectors observed that the provision of 'Fire breaks' within the mine tenement boundary had not been maintained in accordance with the mine SMS. 'Fire breaks' were identified by the mine operator as a system control against the major mining hazard of mine fire. An Improvement Notice was issued to the mine operator requiring the contravention to be remedied by 23 July 2014.

Victoria Police response

Patrols – Operational Response Unit

8.111 There were 130 Operational Response Unit members deployed over the duration of the emergency conducting over 460 rostered shifts over a 25-day period.

8.112 Police patrolled the residential areas from which people had relocated, and established a mobile command post in or near those areas

Latrobe Police Service Area

8.113 The Strzelecki Highway fire (Driffield–Strzelecki Highway fire) commenced on 9 February 2014. At the time this fire commenced, CFA was already combating the Hernes Oak fire.

8.114 Police responded to both fires, providing Traffic Management Points where necessary and assisting several residents who were under threat from the fire to leave their residences.

8.115 Police provided two members for the relief centre, which was set up for the evening and overnight on 9 February 2014.

8.116 At the height of the fires there were approximately 15 Traffic Management Points in place, each with two police officers manning them. These Traffic Management Points remained in place until various times when VicRoads replaced them with signageorbarricades.

8.117 On 9 February 2014 the Morwell Incident Police Operations Centre was staffed with approximately eight police members on a day shift and eight members on a night shift. Police also had a member working out of the ICC on the afternoon shift and night shift. An evacuation manager worked out of the ICC.

8.118 As the threat of the fire reduced overnight, Traffic Management Points were either opened or replaced with signage. Staffing of the Incident Police Operations was reduced over the following days.

VicRoads response

8.119 VicRoads undertook the following activities during the response phase:

- continuous monitoring of the freeway on a daily basis
- daily inspections of the freeway checking for any cracks during the peak fire period for two weeks.

8.120 VicRoads is continuing to monitor the integrity of the Princes Freeway near Morwell using permanent monitoring equipment, which has been in place on the freeway since the flooding and landslip event in 2012.

Impact of the Hazelwood Coal Mine Fire on transport

Roads

8.121 Freeways, local and main roads were closed by CFA following the fires on 8-and9 February 2014 and reopened once visibility was restored and the roads were made safe. A number of roads, including the Princes Highway at Morwell, were subject to temporary speed or access restrictions. Increased road traffic on local roads due to diversions caused some subsequent damage. Road inspections and repairs continued as access became progressively available. VicRoads assessed any damage that may have resulted from the fires. Road closure information was updated regularly on the VicRoads website.

Rail

8.122 At the peak of the fires across Victoria on 8 and 9 February 2014, V/Line services were suspended on the Gippsland line (near Morwell) along with the Bendigo line (near Riddells Creek). The Tocumwal freight corridor (north of Shepparton) and the Mildura freight line were suspended, with over 8,000 sleepers requiring replacement and fire damaged vegetation requiring removal. Full services had resumed by 27 February 2014 on all lines, including the Gippsland line.

8.123 There were no protracted disruptions to passenger rail services, and the usual contingency measure of replacing cancelled rail services with buses operated.

Communications

8.124 In the days following 9 February 2014, key agency representatives involved in the response and recovery effort realised that the Hazelwood Coal Mine Fire presented complex and unique public information challenges in comparison to other fires burning across the state. A range of communication channels and activities would need to be carefully used to provide timely and relevant information to meet the needs of the Latrobe Valley and Morwell communities.

8.125 This subchapter outlines the WoVG communication engagement initiatives and principles just prior to, during and soon after the Hazelwood Coal Mine ire. It is noted that information on the framework of emergency communications is provided in Chapter 6 above. Additional information on specific communications activities undertaken by individual agencies is provided elsewhere in this Submission, as follows:

- EPA is provided in Chapter 9 below
- DH is provided in Chapter 10 below
- DHS is provided in Chapter 11 below.

Communications context for the Hazelwood Coal Mine Fire

8.126 In the days prior to the Hazelwood Coal Mine Fire a comprehensive range of emergency communication had been undertaken across Victoria, including paid advertisements, media releases, press conferences and supporting interviews at state, regional and local level, videos produced for You Tube, messaging disseminated through websites, social media and the FireReady app.

8.127 The key messages included:

- health advice concerning heat-waves
- warnings about the extreme fire weather conditions
- advice to have emergency plans in place.

8.128 Chapters 7 and 8 of this submission provides detailed information on the circumstances for this significant event. From a communications perspective, this context is critical for understanding the approach that was taken to deliver timely and relevant communications to those impacted by this disruption.

8.129 The Hazelwood Coal Mine Fire, and the community of Morwell that it affected, presented a range of challenges for Victorian Government communicators.

8.130 Knowledge of Morwell's demographic status was critical for targeted communications. Data was used from the ABS's Basic Community Statistics and the 'Towns in Time' profile. For example, this data indicates that, in comparison to the Victorian averages, the Morwell community notably had lower internet consumption/connection at home (65 per cent compared with the Victorian average of 79 per cent). This information fed in to communications planning.

8.131 The nature of the Hazelwood Coal Mine ire presented an additional challenge of communicating technical scientific and health information and advice in ways that the community could readily understand. This task was largely undertaken by:

- the EPA, in explaining air quality readings
- the CHO, in explaining potential health implications
- the FSC, in explaining the fire-control strategy and the length of time it could take to bring the fire to a 'safe' status.

8.132 Morwell did not have a local daily newspaper, with the *Latrobe Valley Express* published only on Mondays and Thursdays. This meant all paid and non-paid information (including WoVG print ads) had to be planned well in advance, making information currency an issue in a rapidly changing event.

8.133 Social media became a notable medium for those sending, seeking and commenting on information on the Hazelwood Coal Mine Fire, with the number of conversations peaking between 21 February and 9 March. Government agencies engaged with the community across a range of social media channels; primarily Twitter, Facebook and YouTube.

8.134 Strong coordination across all departments and agencies and across a range of communications channels needed to be employed in order to achieve consistency of information, delivered in a timely and accessible manner.

Communication and community engagement activities

8.135 The Hazelwood Coal Mine fire incident provides an example of all levels of communications operating cooperatively across government and extending through collaborative partnerships with media, local business, community organisations and individual citizens.

8.136 The various components of this activity included:

Jurisdiction	Lead agency	Other agencies involved	Detail
Local communications, warnings and advice, and media liaison	Control Agency (CFA) from Traralgon ICC	DH also issued health alert and advisory messages, and the EPA issued smoke advisories	A total of 151 advice and warning messages were issued to local communities in the Morwell area between 7 February and 25 March 2014. Coordinated proactive and reactive media requests.
Regional community engagement	Control Agency (CFA) from Traralgon RCC	Involving regionally-based representatives of all other supporting departments/agencies including DH, DHS, EPA, VicPol, Latrobe City Council, the FSC, CFA, MFB, DEPI and DPC	Coordinated community engagement plans and activities. Community engagement officers, media and communications officers from involved agencies were deployed to Traralgon to provide additional local communications/media and community engagement support at incident and regional level. They met daily under a regional EMJPIC structure.
State-level operational communications	EMJPIC	Control and support agencies, undertaken collaboratively	Provided state- level strategic support and advice. Use of traditional media, agency websites and social media. WoVG print and radio advertising (in Morwell's *Latrobe Valley Express*, and on two local commercial radio stations) coordinated by DPC. Regular media interviews and events were held at Traralgon and Morwell, generally involving the FSC, the CHO, and senior representatives from the EPA, CFA, AV, Latrobe City Council and Victoria Police

8.137 This three-tier structure was important in ensuring:

- local knowledge guided the communications strategies
- support was provided to the local effort as required
- effective coordination across all departments and agencies at each level.

8.138 There was a broad mix of communication during and after the Hazelwood Coal Mine Fire, including traditional paid advertising, grass roots community engagement, media conferences, community meetings and social media. WoVG co-ordination was undertaken based on previous experience and local knowledge.

8.139 Around the time of the Hazelwood Coal Mine Fire, WIN-TV News claimed a good audience reach of 30per cent of all residents on week nights, as did the local ABC Radio and two commercial radio broadcasters. Accordingly, electronic media was a useful outlet for daily messaging for all agencies.

8.140 Many of the communication activities that took place involved a high level of cross-agency coordination, including:

Activity	**Duration**	**Details**
Paid print advertising	20 February until 17 April 2014	DPC coordinated and despatched full page advertisements with information covering health, fire, EPA messages (air quality) and support were published twice a week in the *Latrobe Valley Express*
Live radio reads	19 February to 21 March 2014. Additional reads 12 to 13 April 2014	DPC coordinated live radio feeds providing Information about health, fire, EPA monitoring and support were read out twice daily on 3TR and Gold 1242. Clean up information provided 12 to 13 April 2014
Community engagement	February and March 2014	Latrobe City Council conducted a door knock of every Morwell residence over four weeks. This involved many local and external local government employees, working with volunteers from CFA, Red Cross and other organisations and agencies A newsletter was produced that was regularly updated and delivered to homes.
Media conferences	February and March 2014	Daily media conferences in the local area were conducted to provide current information updates and to respond to questions. These included representatives from DH, DHS, CFA, FSC, EPA, local council and the State.

8.141 Under the Regional Control structure, CFA supplied two Senior Community Engagement Managers and community engagement teams on rotation to plan and oversee the delivery of whole-of- government community engagement throughout the incident. In addition, from 17 February to 13 March 2014, MFB provided 14 community

resilience personnel. Community engagement activities undertaken by these and representatives from the various agencies and local government included:

- presence of information personnel at shopping centres, including two CFA mobile information buses located at key community locations seven days a week
- information personnel deployed to nearby towns impacted by smoke including Moe, Traralgon and Churchill
- community door-knocking and letterbox drops across Morwell (6,441 homes)
- community meetings, including broadcasting virtual community meetings on community radio
- personnel riding the trains between Morwell and Pakenham most days
- HACC clients directly contacted
- parents of children attending affected pre-schools directly contacted
- business door knocking in the CBD of Morwell (300 businesses)
- businesses in the industrial area of Morwell were visited
- a business breakfast facilitated for Morwell and surrounding business and community leaders
- engagement of Morwell school children by introducing them to firefighting equipment such as trucks and aircraft
- Community Information and Recovery Centre
- call centres at the state and local level
- support provided by council service centres
- supporting Neighbourhood House information sessions
- the Community Heath Assessment Centre provided health checks and health information to over 2,000 people
- Community Advisory Group established, which held meetings from 5 March 2014.

8.142 The FSC estimates that there were approximately 22,000 individual engagements with members of the community during and after the Hazelwood Coal Mine Fire.

8.143 A key initiative was DHS-sponsored workshops run by clinical disaster-trauma psychologists on 'Communicating with people in emergencies', in Morwell on 13 March 2014. Both sessions were well attended and well regarded by council call centre and media staff and local health professionals.

8.144 The following activities were undertaken with respect to providing information to employers and employees during the Hazelwood Coal Mine Fire:

- VWA External Affairs representatives participated in the state's EMJPIC and the regional (Gippsland) EMJPIC. Participation in the EMJPIC enabled VWA to identify relevant community engagement activities, including:
  - providing material for community newsletters and public information advertising

  - providing an advisory service staff member at the community information centre
  - determining the need for guidance/information for workplaces in the region affected by the Hazelwood Coal Mine Fire

- on 18 February 2014, VWA issued a media release in relation to air quality and workplace safety in the Latrobe Valley.[63] Also on this day, the Executive Director of Health & Safety participated in a local radio interview where air quality and workplace safety are discussed
- VWA Advisory team member was located in the Morwell Community Information Centre from 5 March 2014 offering advice to employers and employees with regard to the impact on health and safety in workplaces as a direct result of the Hazelwood Coal Mine Fire.

8.145 An information sheet offering practical advice on the cleaning of workplaces affected by the ash from the fire was launched on VWA's website on 14 March 2014.64 This website address and information concerning VWA's advisory service was also publicised in local media.

8.146 HHSEM also pursued a range of public communication activities to reach Morwell residents, through:

- updates of the Emergency Relief and Recovery Victoria website, as required
- updates of VERIL scripts, as required
- media interviews with DHS spokespeople (TV, radio and newspapers), especially on the provision of emergency financial assistance for respite, and later relocation
- briefings and media lines for DHS regional staff attending public meetings at Morwell (14 and 18 February)
- 'media lines' drafted daily for DHS spokespeople at Morwell/Traralgon
- contributions to a WoVG print and radio advertising campaign (initiated by DPC) to inform locals of current activities, and offering phone numbers and websites for more information
- contributions to a twice-weekly newsletter that was letter-box-dropped to houses in Morwell, with hard copies distributed at community venues such as Morwell Neighbourhood House, Morwell rail station, on V/Line trains, at CFA info bus stops, etc
- contributions to the fortnightly recovery newsletter coordinated by council
- Twitter and Facebook messaging, and online monitoring of relevant social media outlets.

[63] The media release can be accessed at http://www.worksafenews.com.au/component/k2/item/362-poor-air-quality-signals-a-call-for -workplace-safety.html

[64] TheVWA's information sheet can be accessed at http://www.worksafe.vic.gov.au/abour-worksafe-victoria/hazelwood.

8.147 For seven weeks during the incident, the SEMC deployed media/communications officers from DHS to Traralgon to provide local communications/media support in DHS Regional Emergency Operations Centre.

8.148 The SEMC also organised for a clinical disaster-trauma psychologist, Dr Rob Gordon to run two workshops on 'Communicating with people in emergencies' in Morwell, for those assisting and supporting the local community. These were held on 13 March 2014. Both sessions were well-attended by council call centre and media staff, and local health professionals.

Monitoring and evaluation

8.149 During the incident a number of activities were undertaken to check that the messages were being received and understood by the community. They included:

- the door-knock conducted over February and March to provide information to every Morwell residence, which also collected community feedback
- CFA's Community Engagement team conducted regular surveys through its face-to-face activities at information centres, CFA bus in Morwell streets, the Morwell's rail station, and aboard local V/Line trains. The feedback from this activity eventually indicated most residents wanted simple, tailored information delivered to their letterbox, or via a door-knock. These communication tactics certainly had merit – though the time, resources required and currency of information issues made them less than ideal for distributing 'breaking' news, compared to electronic media
- daily media conferences in Traralgon: daily media conferences in the local area were conducted to provide current information updates and to respond to questions. These included representatives from DH, DHS, CFA, the FSC, EPA, local council and the state. This meant the representatives could respond each day to any highlighted concerns or information gaps
- regular media monitoring, including monitoring of social media, was undertaken to understand and track and community sentiment and issues. This information was used to inform communication responses and to assess the effectiveness of government messaging
- on 21 February the EMJPIC Chair and communications representatives from VicPol, DPC and HHSEM visited the Latrobe Valley to meet with Latrobe City Council, attend REMJPIC and meet with the editor of the *Latrobe Valley Express* to discuss the communication needs of the local community.

8.150 The EMJPIC and REMJPIC considered the available information during regular daily meetings held throughout the event.

8.151 Over time, and as more local intelligence was gathered and fed back, it became apparent that there was no simple or single solution for delivering effective WoVG messaging to all sections of the Morwell community, and that a sustained approach that recognised and responded to issues was required.

Control agency communications

8.152 Initial messaging relating to the Hazelwood Coal Mine Fire related to fire activity and the threat this posed to local communities. As the complexity of this incident evolved over the following days and weeks, the messages issued by the fire agencies

incorporated a suite of information including smoke impacts, health, relief and recovery information provided by a number of agencies and departments. The advice messages became a vehicle to distribute this information. As the incident progressed, the system was used to provide information from other departments and agencies as well, such as advice relating to smoke impacts provided by DH.

8.153 As is required under emergency arrangements, a Public Information Unit was activated at the ICC, including the information and warnings and media liaison functions.

8.154 While advice and warnings were issued locally, the SCC media team initially supported the incident media communications staff. Once the media liaison was established at incident level, the SCC continued to create and distribute information (based on information from the ICC) to major stakeholders, metropolitan media and social media for the duration of the incident as required. In the days that followed, across Victoria hundreds of fires were active, including several in the Gippsland region. As a result, there was significant smoke haze across many parts of Victoria and warnings regarding smoke haze were released from the SCC on Tuesday 11 February 2014.

8.155 When it became apparent that the raised CO levels and the smoke and ash emanating from the mine were issues of concern for the community, a necessary shift would be required in the agency responses to direct community engagement, support and information.

8.156 In order to support the development of strategic approach to communications, a Media Officer tasked with providing support and writing a communications strategy for the Hazelwood Coal Mine Fire was deployed from the SCC to the Hazelwood ICC on 12 February 2014 in support of the Public Information Officer at the Hazelwood ICC. The Media Officer was relocated to Traralgon RCC on 13 February to work on organising a public meeting in Morwell for the following afternoon.

8.157 On 13 February 2014, a senior Media Officer arrived at Traralgon RCC at the request of the state tasked with clarifying communication roles and creating a regional/state level communications strategy. On Friday 14 February 2014, a senior CFA community engagement adviser arrived with an experienced Public Information Officer at the Traralgon RCC.

8.158 A community meeting was held at Kernot Hall in Morwell on the evening of Friday 14 February 2014. Representatives from CFA, MFB, DH, EPA and Latrobe City Council addressed the meeting. Representatives from VicRoads and Victoria Police were also in attendance and questions were taken from the floor. Topics included:

- the firefighting situation (which included advice to the community that this would be a protracted incident)
- air quality and testing and quality
- the impact of smoke on public health and how to limit potential risk.

8.159 On 15 February 2014, the fire services issued a Watch and Act warning to the Morwell community in relation to elevated levels of CO. The warning advised residents in the southern area of Morwell to 'shelter in place'. The national Emergency Alert telephone alerting system developed after the 2009 bushfires was used to alert more than 26,000 fixed and mobile telephone subscribers within or passing through the area. The warning was later downgraded to an 'Advice' message.

8.160 On Sunday 16 February 2014, a copy of the draft Communications and Stakeholder Engagement Strategy was provided to the FSC and key ICC and RCC leadership teams for review.

8.161 On 18 February 2014, the second community meeting for the Hazelwood Coal Mine Fire was held at 18:00 at Kernot Hall in Morwell. The meeting was a further opportunity for Morwell residents to hear from CFA about the ongoing fire emergencies and included representatives from Latrobe City, the EPA and DH to answer questions about smoke and health impacts.

8.162 The development of a strategic approach to community engagement in relation to the Hazelwood Coal Mine Fire was developed at a regional level and fed into the state level planning process. From 20 February onwards, this approach is reflected in the Communications and Stakeholder Engagement Strategy documents incorporated into the State Strategic Support Team briefs. These working documents were intended to be flexible and adaptable based on community feedback and identified need.

8.163 In the Communications and Stakeholder Engagement Strategy, the communications principles outlined included:

> 'To ensure that community messaging remains consistent and keeping with the "Timely, Tailored and Relevant" approach, the following strategies will apply to all Public Information Gippsland:
>
> - "If you know it, tell the community" should be the approach for communication at all times.
> - Ensure internal as well as external communication is maintained at all times.
> - Target communication to individual communities needs and structures.
> - The Incident Control Centres will utilise the systems available to them to ensure that appropriate warnings will be issued including text messages, social media and prerecorded phone calls.
> - Ask the community how best to engage with them.
> - Where possible utilise local people to engage with local people.
> - Incident Management Teams will utilise all available technology and local contacts to alert relevant communities in the event that the risk increases.
> - Consult with relief and recovery agencies when developing messages to support relief and recovery efforts.'

9. Environment

9.1 This chapter sets out the EPA's functions that were engaged in responding to the Hazelwood Coal Mine Fire, and the activities undertaken during the fire.

Environment Protection Act 1970

9.2 The EPA is statutory body governed by the EP Act.

9.3 The statutory functions of the EPA include:

- to be responsible for and to coordinate activities relating to protecting and improving the quality of the environment
- to undertake surveys and investigations as to the causes, nature, extent and prevention of pollution and to assist and cooperate with other persons or bodies carrying out similar surveys or investigations
- to specify standards and criteria for the protection of beneficial uses and the maintenance of the quality of the environment having regard to the ability of the environment to absorb waste without detriment to its quality and other characteristics and having regard to the social and economic development of Victoria
- to publish reports and information with respect to any aspects of environment protection
- to provide information and education to the public regarding the protection and improvement of the environment.[65]

9.4 SEPPs are subordinate instruments made under the provisions of the EP Act to provide more detailed requirements and guidance for the application of the EP Act to Victoria. Two SEPPs have been declared under the EP Act in relation to air quality:

- State Environment Protection Policy (Ambient Air Quality) (December 2001)
- State Environment Protection Policy (Air Quality Management) (made in 1999, amended in December 2001).

9.5 The SEPP for Air Quality Management provides that:

- the EPA will monitor air quality in accordance with the Ambient Air Quality Policy
- the EPA will establish and operate a forecasting system for air quality, and issue regular bulletins containing forecasts of air quality and advice to the community on ways to reduce emissions when poor air quality is predicted.

9.6 The SEPP for Ambient Air Quality provides that human health and wellbeing is a beneficial use of the environment to be protected throughout Victoria. The policy adopts the requirements of the NEPM established by the National Environment

[65] EP Act, section 13.

Protection Council. The Policy establishes the framework and methodology for the EPA's monitoring of ambient air quality, including the standards, goals, monitoring and reporting protocols for six common pollutants: CO, nitrogen dioxide (NO2), photochemical oxidants (as ozone), sulfur dioxide (SO2), lead, and particles as PM10. The SEPP also includes a separate objective for visibility reducing particles often described as fine particles, which is not included in the NEPM.

9.7 The EPA undertakes and publicly reports ambient air quality in line with NEPM standards, goals, SEPP objectives for visibility and the *Bushfire, Air Quality and Health – Air Quality Assessment and Community Health Protection Messaging: An Integrated Approach Protocol* (Air Quality Protocol). The Air Quality Protocol defines the issuing of advisory warnings for potential health effects of bushfire smoke on the general population. These are health warnings endorsed by DH. EPA Victoria determines the timing of the warnings, based on its monitoring and predictive functions. The warnings are in a prescribed format, preapproved by the CHO, which are contained in the Air Quality Protocol. They are issued as pro forma press releases by the EPA Communications Unit.

9.8 To support its responsibilities under the air SEPP, the EPA maintains a network of ambient air monitoring stations and undertakes modelling, forecasting and the interpretation of air quality data. This program substantially operates from EPA's Centre for Applied Sciences and is led by a number of scientific subject matter experts.

Environmental monitoring

9.9 The EPA, through its Centre for Environmental Sciences, provides the capacity, including systems and expertise, to conduct high quality, sophisticated monitoring of the Victorian environment fundamental to supporting its functions under the EP Act.

9.10 The EPA has long-standing and ongoing monitoring programs in the Latrobe Valley reflecting the need to understand and regulate the impacts of the major industries in this region of Victoria. The EPA has focused on programs to understand and manage air pollution arising from power generation as well as the quality of water catchments. As a result of these programs, the EPA understands the background environmental conditions in which the Hazelwood Coal Mine Fire occurred. The programs also ensured that the EPA had local staff and equipment available in the Latrobe Valley at the time of the Hazelwood Coal Mine Fire.

9.11 EPA has a long-standing and ongoing monitoring program in urban centres across the state, including the Latrobe Valley. The NEPM requires assessment of air quality at all urban centres with populations of 25,000 or more. Although most of the urban centres for the state are concentrated to the Port Phillip region, the Latrobe Valley is a significant industrial centre from which the bulk of the state's electricity is generated. Extensive monitoring and studies of the regional air quality have been carried out over the years in this area. The EPA had an ambient station in Morwell East that had recently been decommissioned after a 12-month air study and was quickly recommissioned during the incident (see 9.66 below).

9.12 A key air quality issue for Victoria is the impacts of smoke generated from bush and grass fires, including fuel reduction burning to reduce fire risk. Such fire activity is increasing in extent and frequency. The Latrobe Valley is significantly affected by bushfire smoke that arises, for example, from extensive forested lands in the Gippsland and surrounding regions. The EPA plays a role in monitoring, reporting on

and forecasting bushfire smoke with associated public health advice from DH. Morwell was significantly affected by bushfire smoke in the period leading up to the Hazelwood Coal Mine Fire.

9.13 The EPA conducts monitoring, forecasting and data modelling of air quality. Monitoring provides information on emission source(s), the concentration of pollutants in the air and the likely impacts on air quality. This:

- enables assessment of air quality relative to objectives set out in SEPPs
- informs the development of air quality management strategies
- allows evaluation of the effectiveness of air quality management activities.

9.14 In general, the SEPP for Ambient Air Quality aims to understand and address ambient or surrounding overall air quality that general populations in Victoria are exposed to over time – chronic, long-term exposure. It operates at a state-wide and regional level, for example Latrobe Valley Air Quality Control region. The EPA regulates air quality emissions from point source, such as at power stations, and diffuses sources such as motor vehicles, to seek to improve ambient air quality.

9.15 The EPA undertakes and publicly reports ambient air quality in line with the standards set out in the SEPP for Ambient Air Quality and the Air Quality Protocol with DH. In addition, the EPA publicly reports in line with the Air Quality Protocol with DH. The EPA may also undertake more detailed studies of particular areas, pollutants or issues to complement its general ambient air quality monitoring program. This program substantially operates from the EPA's Centre for Environmental Sciences and is led by a number of scientific subject matter experts.

9.16 There are 11 permanent ambient air quality monitoring stations throughout Victoria, including one in Traralgon. These continuously measure a suite of standard air quality indicators. Hourly air quality monitoring data derived from these stations is published on the EPA website.[66] Air quality forecasts (next 24 hours) are also provided for Melbourne[67] with a summary (last 24 hours) provided for Melbourne, Geelong and the Latrobe Valley. The EPA publishes an annual report on air quality monitoring in Victoria, which is provided to the National Environment Protection Council.

9.17 SEPPs are in place for other segments of the environment including surface and groundwater and contaminated land. SEPPs set out beneficial uses of the environment to be protected and include environmental quality indicators and objectives. The EPA also has significant expertise in monitoring and modelling water quality. The EPA has conducted periodic studies of other environmental quality parameters in the Latrobe Valley including associated water catchments.

9.18 To fulfil its role, the EPA also considers how the different parts of the environment operate as a system, to identify and address environmental risks. For example, the EPA considers how air pollutants may be deposited and accumulate in land, water and biological systems. This expertise enabled the EPA to consider and evolve the environmental monitoring regime during the Hazelwood Coal Mine Fire.

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[66] See http://www.epa.vic.gov.au/air/bulletins/aqbhour.asp and http://www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins/hourly-air-quality-interactive-map.
[67] During the Hazelwood Coal Mine Fire this was updated to also include the Latrobe Valley.

9.19 Emergency response agencies also monitor air quality to enable them to safely and effectively combat emergencies. This type of monitoring is focused on assessing short-term immediate risk to personnel to inform operational decision making. For example, CO levels are often monitored during firefighting. The EPA does not have a role in this type of monitoring.

9.20 In contrast, ambient air quality monitoring requires establishing complex instruments including associated infrastructure such as power. These need to be calibrated and quality control measures put in place to ensure meaningful measurements over time. Complex associated data needs to be collected and analysed against standards and used in models to assess and forecast ambient air quality. Typically, ambient air quality monitoring stations take weeks to establish.

9.21 The Hazelwood Coal Mine Fire represented a unique, unprecedented environmental monitoring and assessment challenge. It was neither a typical short-term fire event where even the most serious risks to firefighters and affected community, for example, HazMat events, are likely to be finite in time and impact. Nor were the Ambient Air Quality Policy objectives and indicators designed to address a significant but localised air quality incident of this nature. Ambient air indicators seek to address longer-term, chronic exposures.

9.22 Smoke from bushfires may be generated over some weeks, but the associated fire front and smoke plume quantity and quality tends to move and vary. Large bushfires ultimately have broad-scale ambient effects, as seen by smoke in Melbourne, which The EPA monitors and reports against. Further, health advice on responding to bushfire smoke risks is well established, communicated and understood. During the Hazelwood Coal Mine Fire, the EPA's state-wide role in monitoring, modelling, forecasting and reporting air quality continued at 11 ambient air quality monitoring stations, including the Traralgon monitoring station. As a support agency for emergencies, the EPA also undertook additional monitoring of air quality around Morwell as well as investigation of water, soil and ash samples. Further information is provided under the 'EPA activities' sub-chapters below.

EPA's role as a control agency in emergencies

9.23 Under Part 7 of the EMMV, the EPA is the control agency for incidents involving pollution of inland waters.[68]

9.24 While the EPA assessed potential risks to water quality, for example, from ash deposited and washed into waterways, and monitored potential impacts on water quality as outlined below, no significant impacts on waterways were identified. Any ash would have been highly diluted and monitoring was assessed against the context of existing water quality, which had been impacted by long-standing industrial activities in the catchment.

EPA's role as a support agency in emergencies

9.25 Under Part 7 of the EMMV Victoria,[69] the EPA:

[68] EMMV, Part 7.

- is not listed as a key support agency for fire
- is a key support agency for incidents involving HazMat, marine pollution oil spills and pollution into inland waters
- is a primary support agency for environmental impact assessment.

9.26 The majority of the EPA emergency response work is in relation to spills, particularly where there is impact on storm water or waterways.

9.27 Throughout previous bushfire seasons, including 2013-14, the EPA's predominant role had been to provide:

- ambient air quality reports and smoke forecasting on a state-wide basis
- bushfire smoke advisories on behalf of DH (governed through the Air Quality Protocol)
- advice to public regarding disposal of dead stock
- providing waste levy exemptions for disposal of bushfire generated wastes.

9.28 The EPA may also be requested to provide expert advice to emergency response agencies and local communities on the potential local environmental impacts of major industrial fires where there may be significant localised, but generally short duration, air quality impacts. DH's role, as reflected in the Air Quality Protocol, remains to assess environmental air quality information and provide advice on any significant public health risks. However, the EPA is not routinely involved in responses to fires to the level experienced in the Hazelwood Coal Mine Fire.

9.29 The EPA both responded to requests from agencies and community concerns and proactively used its expertise and experience to evolve its environmental monitoring approach. The EPA worked closely and cooperatively with other agencies through Victoria's emergency management system, developing its environmental monitoring and providing other relevant support.

9.30 As an example of interagency cooperation and mutual support, the EPA worked with CFA and MFB at the outset of the fire to adapt and use some of CFA's portable CO monitoring capability to provide indicative data while the EPA worked to urgently establish full, local and continuous air quality monitoring capability. Meanwhile, the EPA assisted CFA by using the EPA's existing water quality testing expertise to ensure firefighting water quality was monitored, even though the EPA does not have a formal role in relation to firefighting water safety.

9.31 The EPA worked with DH to seek to identify and provide relevant, timely and quality environmental data in a form that would enable DH to assess and advise on human health risks. This is demonstrated by the EPA's input into the development of a new protocol for CO monitoring, assessment and reporting, and ultimately input into a new protocol for PM2.5.

9.32 The EPA's activities as a support agency during the Hazelwood Coal Mine Fire evolved and adapted in response to the changing nature of the Hazelwood Coal Mine Fire, the

[69] EMMV, Part 7.

changing structure for incident management, and the changing expectations of the community for provision of information.

EPA's activities during the Hazelwood Coal Mine Fire

Summary of the EPA's activities

9.33 The EPA supported lead agencies by providing monitoring data, modelling, forecasting and expert advice to support emergency operation decision making. The EPA's activities during this event included:

- monitoring of air
- air quality and smoke impact forecasting
- sampling and testing of air, water, soil and ash
- the provision of highly technical and accurate scientific information and data in a useful format to other agencies and the public
- communication to the public, including to support the provision of health information in line with protocols agreed with DH and messages and information (more information provided in Chapter 10)
- additional resources provided to other agencies to support community engagement activities.

9.34 EPA staff involved for the purposes of the Hazelwood Coal Mine Fire included:

- approximately 136 staff rostered throughout the fire period on roles including SCC and RCC operations, communications, community engagement, sampling, monitoring and data collection, modelling, forecasting and analysis
- approximately 30 further staff were engaged in support roles including technical support, the customer contact centre and administration.

9.35 This equates to approximately 50 per cent of the EPA's total staff being involved in the response to the Hazelwood Coal Mine Fire, providing approximately 100,000 person hours over the duration of the incident.

9.36 The EPA undertook an evolving and flexible program of systemic monitoring of air, soil, water and ash surrounding the Hazelwood Coal Mine Fire based on its own expertise, and in response to the needs of the emergency response operations and community concerns.

9.37 The EPA completed extensive sampling, monitoring and analysis during and after the Hazelwood Coal Mine Fire. Initial monitoring was shaped by concerns about risks to firefighters, principally CO, and the subsequent concerns about the potential impact on the community. As the intensity and unique nature of the coal fire emerged, the EPA initiated rapid interim assessments of CO levels beyond the perimeter of the fire. At the same time, the EPA initiated the urgent establishment of a more robust, continuous CO monitoring regime. Both at the peak of fire activity and later when the fire was essentially 'smouldering' for a long period, CO concentrations were not recorded at levels that posed immediate acute risk. The EPA will continue to monitor CO with a suite of other environmental measures for a 12-month period to provide the community with reassurance about chronic risk exposure and to support DH's long-term health study.

9.38 The EPA also prioritised the development of interim estimates using DustTrak [70] and a robust, ongoing PM2.5 monitoring, modelling and forecasting regime.

9.39 During the Hazelwood Coal Mine Fire, the EPA was aware of the unavoidable lag time between sampling, testing, analysis by EPA experts and DH, and final publishing. Accordingly, the EPA also commenced testing on a broad range of air quality parameters (such as volatile organic compounds [71] and polycyclic aromatic hydrocarbons[72]). While the EPA's air experts again expected risk levels would be low, EPA believed that comprehensive, transparent and definitive monitoring would be expected by the community.

9.40 The immediate concerns about the potential impacts of the Hazelwood Coal Mine Fire on the surrounding environment, including residents, were air quality and secondarily the deposition of ash on soil and water.

9.41 As standard practice the EPA works with CFA and MFB to consider the safe disposal of firefighting water. There is the potential for water, foam and other substances used in firefighting and carrying contaminants including sediments to wash into surface and groundwater. For this fire, firefighting water was held in the Hazelwood Pondage and presented no immediate impact to the environment.

9.42 Water, ash and soil were sampled and analysed broadly to understand and measure possible risks to the environment, provide assurance to the community and to provide data to inform future consideration of the impact of such events. For example, the EPA tested 94 different parameters for water samples including heavy metals, complex organic compounds and surfactants used in firefighting.

9.43 Based on its risk assessment, including its understanding of background levels in the Morwell environment and the impact of decades of power generation, the EPA did not anticipate, nor did results indicate, acute impacts on the environment, including people, from direct contact with ash. Nor were levels of concern identified in water or soil samples.

9.44 As for air quality, standards for the kinds of exposures that may be associated with such ash – for example, ash that accumulates within homes, either do not exist or must be extrapolated from limited studies.

9.45 The EPA provided all sampling results to DH as well as publishing them on its website. The EPA continues to work with DH to provide data and expertise to inform selection of relevant health exposure standards.

9.46 Collecting 'pure' ash samples that were not contaminated with soil, bushfire ash, emission from cars or other substances was often a challenge. Ash was not deposited uniformly and was readily affected by wind and rain.

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[70] A DustTrak is a portable visibility reduction monitor that can be used to provide indicative particulate monitoring. The DustTraks were used by the EPA to provide indicative readings of PM2.5 and PM10.

[71] Volatile organic compounds are organic chemicals that have a high vapour pressure at ordinary room temperature. Some volatile organic compounds are dangerous to human health or cause harm to the environment, while others are benign.

[72] Polycyclic aromatic hydrocarbons, occur in oil, coal, and tar deposits, and are produced as by-products of fuel burning. They are atmospheric pollutants. Polycyclic aromatic hydrocarbons are also found in cooked foods.

9.47 Thirty-seven ash samples were collected throughout the incident, with the last samples being found and collected on 18 March 2014. In line with its Data Analysis and Monitoring Strategy, when the fire ceased producing ash and rains occurred, ash and soil sampling ceased. An additional sampling approach the EPA took was to analyse the residue left in the filters on air monitoring stations.

9.48 The EPA sampled ash for a broad suite of measures, and is continuing to publish this analysis. For example, the EPA initiated in-depth analysis of particulate sizes in ash and is seeking to confirm if there are contaminants that may leach from ash, which is ongoing and will inform longer-term studies. The technical nature of this analysis, including quality assurance, means that it can take some weeks.

9.49 Where possible, the EPA used its expertise to provide information to address or pre-empt emerging community concerns. For example, when some concerns about potential exposure to dioxins related to the fire arose, the EPA had already considered this question and was able to explain that there was an absence of precursors for dioxins and to demonstrate that given the temperature of the fire, dioxins were not produced in the ash. This was also subsequently supported by the results of the testing that had occurred.

9.50 The EPA sampled and analysed surface and sub-surface soils both within the fire-affected zone and outside of the affected zone during the initial incident, as well as a number of weeks following the declaration of the incident completion. Approximately 193 soil samples were taken (including surface and sub-surface) up to and including the sampling completed on 7 April 2014.

9.51 Results to date for soil and sub-surface soil have been consistent and within the normal variation that would be expected for soil samples.

9.52 The EPA is considering longer-term studies to confirm any impact the ash has had on water and soils, such as monitoring at three-month intervals for 12 months.

9.53 The EPA developed its monitoring strategy iteratively in response to the needs of emergency response and support agencies, community concern and its understanding of environmental systems and risks. The EPA balanced requirements for best available information to inform timely operations decisions, and the need to ensure, where possible, high standards of quality control and assurance for complex scientific measurements, analysis and modelling.

9.54 Monitoring and modelling of the Hazelwood Coal Mine Fire impacts represented a complex, adaptive program. The EPA initiated rapid reviews of internal and national precedent, standards and practice to inform its monitoring approach.

9.55 The EPA's monitoring program throughout the response period was conducted under its monitoring quality assurance services to ensure it delivered the program consistent with EPA quality assurance protocols. This included peer review of the scientific program, the outputs of the program, accreditation processes and data management.

9.56 EPA field staff collected approximately 529 individual air, water, soil and ash samples. Seventy-five air quality forecasts and 60 air quality data summaries were provided to the SCC and RCC. Summary information taken from these forecasts was also provided to the community via CFA and EMJPIC communication processes including regional ABC emergency information.

9.57 The following table summarises monitoring and testing undertaken by the EPA in relation to air.

Monitoring – air			
Parameter	**Types**	**Locations**	**Date commenced**
PM2.5	Fixed location	Morwell South	19 February
		Morwell East	12 February
Visibility reduction (indicative PM)	Fixed location (air network)	Morwell East	13 February
		Morwell South	13 February
		Traralgon	Ongoing
	Mobile (DustTrak)	Morwell South	13 February
		Morwell East	18 February
		Morwell East to Morwell Central (Kernot Hall)	21 February
		Morwell Central (Kernot Hall to St Luke's)	5 March
		Morwell Central to Morwell South	15 March
	Mobile (Travel Blanket)	Various around the Morwell township & later in Churchill, Traralgon	20 February
	Mobile (ADR)	Morwell East	20 February
		Morwell Central (Morwell bowling club)	20 February
		Morwell East to Churchill	28 February
		Morwell Central to Moe	28 February

Monitoring – air			
Parameter	**Types**	**Locations**	**Date commenced**
PM10	Fixed location	Morwell South	27 February
		Traralgon	Ongoing – before the fire
CO	Fixed location	Morwell South	19 February
		Morwell East	19 February
		Traralgon	28 February
	Mobile (spot)	Various around the Morwell township	13 February
	Area RAE	Mine perimeter and Morwell Township	13 February
SO2	Fixed location	Morwell South	19 February
		Morwell East	19 February
		Traralgon	Ongoing – before the fire
NOx	Fixed location	Morwell South	6 March
		Traralgon	Ongoing – before the fire
O3	Fixed location	Morwell South	6 March
		Traralgon	Ongoing – before the fire
Wind and temperature	Fixed location	Morwell South	19 February
		Morwell East	13 February
		Traralgon	Ongoing – before the fire

9.58 The EPA provided information to partner agencies and communicated to the public during and after the Hazelwood Coal Mine Fire through existing means such as smoke advisories (issued according to the Air Quality Protocol) and providing air quality data on the EPA website, and through new measures such as direct community engagement and the establishment of a dedicated microsite within the website.

9.59 Further detail on the activities undertaken by the EPA in response to the Hazelwood Coal Mine Fire, arranged chronologically, is provided below.

8 February until 15 February 2014

9.60 As a support agency, the EPA's role was to provide independent, credible, high-quality scientific information and expertise on the potential environmental impact of the Hazelwood Coal Mine Fire to agencies within the Victorian emergency management system, including using its expertise to evaluate the situation and take proactive steps to assist. The focus in the first week of the incident was to provide the best possible data and information on key air quality parameters in a timely manner, to:

- the RCC to support operational decision making
- DH for its assessment of health risks and community messaging.

9.61 From 16 January 2014, the EPA regularly participated in the SEMT meetings by phone, primarily due to the EPA's role in providing advice on bushfire smoke through a peak in bushfire season.

9.62 On 9 February 2014, during the SEMT meeting, the EPA was alerted to spot fires having started in the Hazelwood Coal Mine.

9.63 On 10 February 2014, during the SEMT meeting, a request was made for data on air quality to be made available. As a result, the EPA requested that the SCC Duty Manager make available the daily air quality forecasts to all SEMT members.

9.64 On 11 February 2014, as the extent and nature of the fire became clearer, the EPA deployed specific air quality expert support for the Traralgon RCC to develop more detailed air quality data. In particular, the EPA's Principal Air Quality Expert was dispatched in the role of Science Officer, to provide immediate and direct support to the Deputy Regional Controller to evaluate the needs for monitoring, analysis and forecasting and to establish the appropriate equipment, systems, capability and analysis. Over the next 24 hours decisions were made by the EPA Command within the RCC on rapid deployment of equipment, including the recommissioning of the former Morwell East ambient monitoring station; the sourcing of DustTraks (for PM2.5 monitoring), deployment of Beta Attenuation Monitors (BAMs), and evaluation of the best available and appropriate sites for the equipment to be located.

9.65 On 11 February 2014, the EPA liaison officer was advised via the SCC that a SSG comprising key agencies was to be formed and asked to join. The purpose of this group was to provide strategic advice and mobilise relevant resources in support of the RCC. The EPA participated in the SSG from its commencement on 12 February 2014.

9.66 On 11 February 2014, the former Morwell East ambient monitoring station was repowered and recalibrated. As much of the necessary infrastructure was in place for this station, it was able to be operating relatively quickly and commenced logging air quality data on 12 February 2014 (initially PM2.5). This data was initially accessed manually by the EPA for assessment, and once stable connectivity back to the EPA's servers was in place, was provided to DH commencing on 16 February 2014. This station had originally been part of former ambient air shed studies and was previously decommissioned as it was no longer required. A photograph of the Morwell East station is provided below.

9.67 On 12 February 2014, the EPA commenced monitoring Morwell and surrounds for CO. CO was monitored initially with a combination of instruments, but primarily the portable MFB 'AreaRAE monitors', firstly to the mine perimeter and subsequently (commencing 15 February 2014) at four sites around Morwell.

9.68 As these portable monitors are configured for collecting short-term measures of occupational exposure, the EPA worked with MFB's support to establish constant monitoring of the data readings from four fixed sites. The equipment was supplemented by regular systematic rounds through Morwell township using handheld CO monitors, which commenced on 13 February 2014. This provided indicative, best available data.

9.69 Commencing 16 February, the EPA initiated the urgent establishment of more robust, continuous CO monitoring capacity. This was first established at the Morwell East and then the Morwell South stations. The EPA also worked within the ICC to establish trigger levels and interim protocols that would provide time to confirm and, if necessary, act on indicative high CO levels.

9.70 The EPA also sought to rapidly establish monitoring of particulate pollution in smoke. This began on 13 February 2014 with a portable PM2.5 unit (called DustTrak), which was established at the Morwell Bowls Club. This site was chosen due to its proximity to the mine as a representative of expected peak smoke impact zone, as well as its suitability for further equipment due to its security and power supply. Ultimately, the EPA used a range of tools to monitor and model particulates including fixed stations, its mobile MOLAB (which also had to be configured and commissioned prior to use) and a mobile `Travel Blanket monitoring system sourced from the Tasmanian EPA.

9.71 Monitoring sites were chosen over time based on factors such as:

- proximity to the fire and evident impacts, for example, ash deposition

- the practicalities of access and sampling at that site including the need to ensure samples were not contaminated by other factors
- the need to be representative of sensitive locations such as schools.

9.72 The Morwell South air monitoring station was deliberately sited proximate to the fire to capture peak air quality readings, with the assumption that other sites would have lesser readings.

9.73 On 13 February 2014, the EPA recognised that the field activities of the Science Officer required significant time away from the RCC. On 13 February 2014, the EPA rostered an Environment Management Liaison Officer and two designated field officers to support the RCC and Science Officer.

9.74 On 14 February 2014, CFA asked the EPA whether it could assist in addressing questions raised by the United Firefighters Union on potential contaminants in fire water supply points, for example, metals like mercury or arsenic, which were known to occur naturally in the region. The EPA arranged for firefighting water samples to be taken and tested for three times per week.

9.75 On 14 February 2014, the EPA attended a local community meeting where no particular issues or concerns were raised relating to environmental monitoring.

9.76 On 15 February 2014, CO levels at and near the fire were an increasing concern for the RCC and Hazelwood ICC, informed by indicative data from MFB monitors and the high level of fire activity. As outlined above, CO presents known, acute risks to human health and was a concern for firefighting activity. Following the issuing of a Watch and Act alert by the Hazelwood ICC, and subsequent lifting later in the day, it was evident that further clarification and advice on CO exposure levels and durations for the community was required by operational personnel. On the evening of 15 February 2014, the EPA worked with DH at the SCC to provide input into the development of an interim approach to capturing and reporting CO levels to support and guide health risk assessment and subsequent actions by the RCC.

9.77 Throughout this first week, the EPA had been actively involved with the EMJPIC and collaborated with DH on the development of key messages, and `questions and answers' on air quality. From 15 February 2014, air quality forecasts were issued twice daily and included a specific commentary for Morwell. The EPA provided this information to the EMJPIC and CFA for use in their communications to public as well as summary information being published on the EPA's website.

16 February until 22 February 2014

9.78 On 16 February 2014, the EPA was informed through discussions of the SEMT that there had been a significant deterioration in the fire situation the previous night and that the SSG was required to move to Traralgon and assist in a restructuring of incident management. The EPA's SCC representative attended the Traralgon RCC as a member of the SSG and commenced the development of a documented Data Analysis and Monitoring Strategy.

9.79 The Data Analysis and Monitoring Strategy was provided to the RCC on 17 February 2014. It established an initial 10 rostered EPA roles across the RCC and SCC. It noted that eight monitoring points were operational or being commissioned, including commissioning the EPA MOLAB. A photograph of the MOLAB is provided below.

9.80 The Data Analysis and Monitoring strategy confirmed that the EPA's key priorities were to:

- maximise the information value of available monitoring assets
- maximise the automation and real-time availability of the data and information
- match product with the needs of stakeholders
- support a streamlined and clearly understood decision making process with other agencies
- continuously re-evaluate against stakeholder needs and upgrade and amend if necessary.

9.81 During the fire period the Data Analysis and Monitoring Strategy, including resourcing levels and monitoring program, was reviewed and updated on eight occasions.

9.82 The EPA continued to work with DH to refine and develop an effective CO Response Protocol (CO Protocol). The first draft was developed by 16 February 2014. The CO Protocol included a set of triggers for certain actions in response to indicative levels and duration of exposure to CO.

9.83 DH CO Protocol initially relied on data from the portable MFB CO monitors being utilised by the EPA to provide indicative data. As these units were not configured to stream data for automatic analysis by EPA IT systems, collection of data, and subsequent analysis and calculation of averages for DH was an intensive manual process. Indicative and interim data was reported and considered suitable by DH technical personnel on 16 February 2014. Due to these manual requirements, in the interim until the process could be automated, the EPA agreed with DH technical personnel that while the data logging would continue, the calculations and averaging would only be undertaken if the CO Protocol was triggered, and that EPA's Principal Air

Quality Expert would be on standby for any additional data analysis required should this occur. The calculation and averaging process was subsequently automated, and the EPA was first able to fully provide an Air Quality Data Summary including CO information in the form sought by the CHO on 19 February 2014. This was produced twice daily for the remainder of the fire period and circulated to the SCC and EMJPIC for use in communications.

9.84 On 18 February 2014, the EPA initiated ash sampling and analysis for metals and organic compounds. Samples were taken from across Morwell and surrounding areas, although sufficient, uncontaminated individual deposits proved difficult to locate. This continued throughout the fire period and into recovery. At the same time, the EPA initiated sampling of exposed water bodies and soils where ash was deposited. Test results showed no contaminants at levels of environmental concern. Similarly, DH determined that there was no human health risk. The EPA published ongoing test results and commentary on its website.

9.85 On 18 February, the EPA also sampled water in a swimming pool and soil in Willis Street, Morwell South, which was clearly affected by ash deposition from the fire as well as ash samples. The EPA continued to collect samples of soil and ash from this address through the incident and into April.

9.86 On 18 February, samples were also taken from local streams, wetlands and one water tank.

9.87 By 18 February, the EPA had initiated a review of available research to help consider what might be constituents of the smoke and ash arising from combustion of brown coal in this fire. Available research focused primarily on the constituents of bushfire smoke and ash and fly ash from coal-fired power stations. There was little directly relevant research for agencies like the EPA and DH to draw on.

9.88 The EPA testing and monitoring rounds, including twice daily sweeps through Morwell with mobile CO monitors, were conducted in EPA branded vehicles. The presence of the EPA cars caused negative reactions from some community members, but most feedback from the community was that the high visibility of the EPA monitoring activity was appreciated. Accordingly, the EPA maintained a high level of visible presence throughout the incident.

9.89 On 18 February 2014, the EPA attended a community meeting in Morwell. Community members at that meeting expressed concern and anxiety regarding the impact of the fires. In particular, the community expressed a strong desire for more information on the air quality and smoke.

9.90 In establishing monitoring activities, the EPA's focus had been on provision of scientific information as an emergency support agency for operational purposes. In addition, the EPA endeavoured to remain accountable to the community by publishing environmental monitoring information. While significant EPA data information was provided through existing government communication channels, it became clear that more needed to be done to provide information directly to the affected Morwell residents and to provide information in a form they could understand that focused on health risks and how to mitigate them. The EPA worked with partner agencies, particularly DH, to adopt increased and targeted information to the community.

9.91 On 19 February 2014, a discussion between the SEMT, EPA and DH agreed that a PM2.5 protocol be established by DH. The EPA requested to commence providing

input into this work on the evening of 24 February 2014, and continued to support with expertise through operational drafts to the final document on 6 March 2014.

9.92 On 21 February 2014, the EPA launched a dedicated Latrobe Valley mine fire microsite.[73] The site contained specific air quality data and questions and answers, as well as becoming the repository for test results as they became available. From 21 February until 11 March 2014, the site attracted 126,000 hits. The EPA experienced criticism of its information following the launch and promotion of the website, as increased expectations were created and the community sought more interpretation and advice relating to this information.

23 February until 1 March 2014

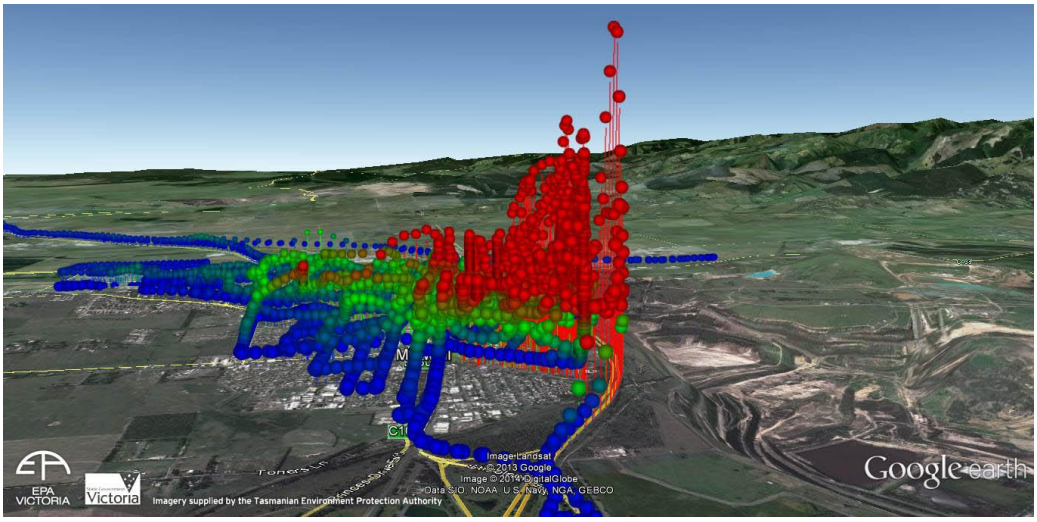
9.93 Through discussions on 23 February 2014 at Traralgon RCC with lead and support agency personnel, it was evident to the EPA that the environmental monitoring information being provided to the RCC was sufficient to support its requirements. The EPA made the strategic decision to begin wider monitoring of the environmental impact of the Hazelwood Coal Mine Fire to ensure that robust data was available to address any future concerns about the environmental impact of the event. This monitoring was not required for immediate operational or identified risk reasons, but was commissioned to contribute to recovery and review activities.

9.94 This led to a significant increase in sampling including 'event' sampling of high smoke periods for high quality assessment of smoke content. This involved canisters being deployed to take finite air samples over a 24-hour period in high impact areas. A number of these sampling and analysis approaches, including analysis of resultant data and quality assurance, have inherent technical lag time of days or weeks before data can be published. The EPA commenced testing to minimise time lag between testing and communicating to the public and other agencies.

9.95 As of 24 February 2014, the EPA had 20 fixed and portable monitoring devices actively logging air quality information. The EPA initiated further analysis of the data collected to date in order to inform operational decision making. For example, the EPA worked with the RCC to see if any correlations could be made between firefighting methodologies and air quality impacts. The EPA also continued to explore new approaches, including the use of equipment such as the EPA Tasmania Travel Blanket, to provide new insights and information for operational purposes.

9.96 The information generated through the use of this equipment was of great value in helping the operational understanding and decision making in relation to the smoke plume behaviour and impact on Morwell. See, for example, the diagram below:[74]

[73] See www.epa.vic.gov.au/air-quality-latrobe-valley-mine-fire.
[74] Note: height of peak indicates concentration of PM2.5.



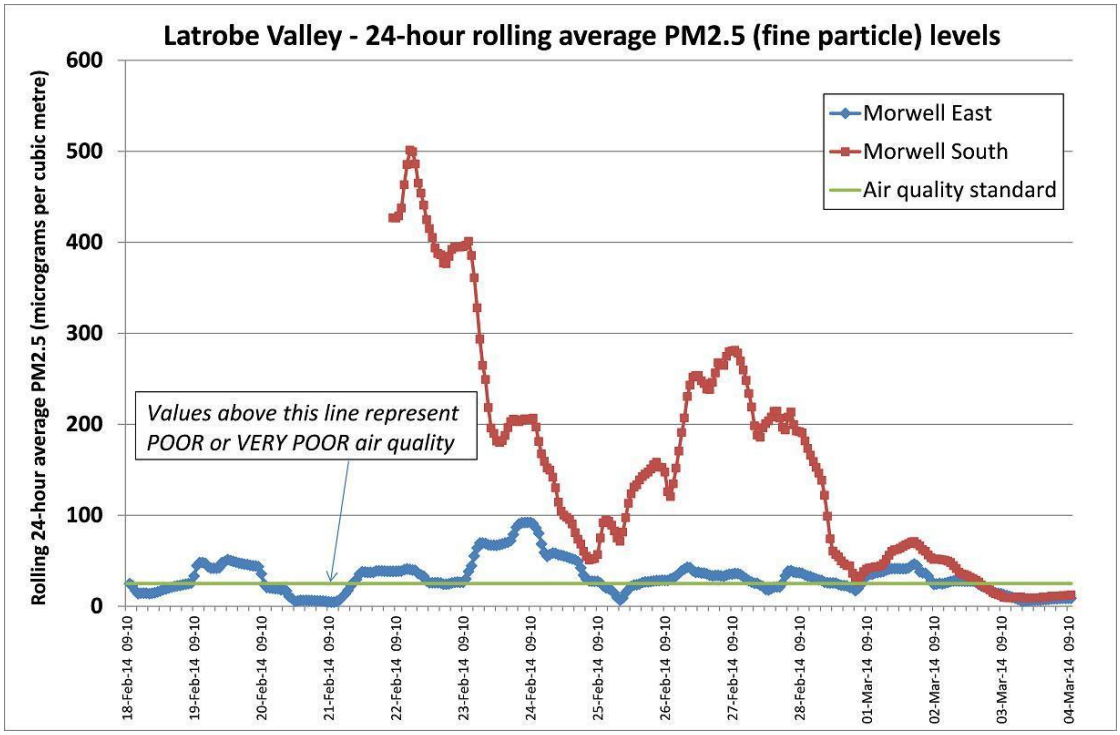
9.97 Although the nature of the equipment meant that it could not be directly correlated with EPA ambient data, repeated testing validated expert opinion and operational observations that the peak smoke impacts were substantially experienced in the southern Morwell area, after which it quickly dispersed.

9.98 By 23 February 2014, the EPA had established monitoring of 'unaffected' zones for benchmarking as well as 'affected zones' for water, sub-surface soil and surface soil.

9.99 Throughout this period, the EPA continued to provide data and analysis to agencies including DH, and issued numerous smoke advisories. In addition, the EPA commenced external peer review of its monitoring program and forecasting methodologies to provide further independent reviews of its methods and approach to monitoring and provision of data. The peer reviews supported the approach taken.

9.100 Where possible, the EPA made all data, results and other information available to the public. This information was shared with DH to allow a corresponding health commentary to be developed and shared.

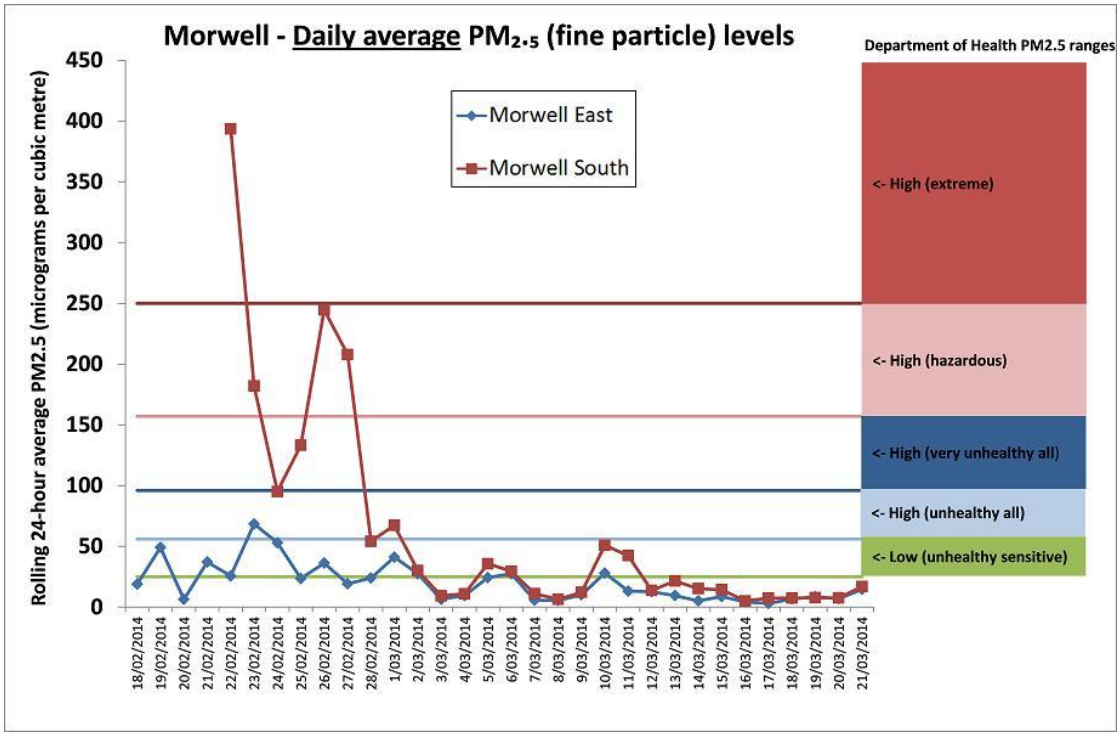
9.101 From 25 February 2014, air monitoring data from the three ambient stations (Traralgon, Morwell East and Morwell South) was streamed live to the EPA's website. While DH and EPA were clear on the use of air quality standards, the EPA subsequently received feedback from other agencies and the community that there was confusion in the community around interpretation of this air quality information, particularly the use of environmental standards and what these meant for human health risk. As outlined above, existing standard ambient air quality indicators and objectives embedded in state environmental protection policy are designed to assess and protect long-term chronic exposure across populations. The EPA's data showed these ambient air quality standards (for example, eight-hour rolling average of 9ppm for CO; 24-hour average of 25ppm for PM2.5) were regularly being exceeded in the short term, in some cases significantly, by the Hazelwood Coal Mine Fire. This also commonly occurs during planned burn activities. The following graph demonstrates the issue.



9.102 The EPA will continue to monitor and report on whether these ambient air quality standards are exceeded at Morwell over a 12-month period.

9.103 The EPA understands that there are no directly relevant health risks standards for the intensity and duration of exposures to PM2.5, which characterised the Morwell event. With no other available standard, the EPA continued to report against the 25ppm reporting level. The work and expert advice provided in supporting the development of the PM2.5 protocol by DH was critical in adapting available knowledge to address this issue. Further, human and related environmental risk assessment is complex and challenging to communicate. Further details regarding health assessments and response are contained in Chapter 10.

9.104 The EPA supported DH in developing the PM2.5 protocol. The EPA provided feedback and advice on the operability of the draft Protocol. DH provided the Protocol to the RCC on 1 March 2014. Specific daily updates on how monitoring measured up against the protocols were supplied to DH from 8 March, as demonstrated in the following graph.



9.105 The EPA also sought to simplify and clarify its air quality information in response to public feedback. For example, there was reported confusion between the Air Quality Index, which provides readings as a percentage of the annual standard, and the actual readings in ppm. This was addressed by having all tables default to ppm.

9.106 The EPA sought to support DH in ensuring that messaging had information that contained, or was consistent with DH information on, practical steps people could take to minimise health risks posed by smoke and ash from the fire regardless of variations in pollutant levels.

9.107 In addition to the RCC support activities, the EPA was involved in community engagement and media, with the EPA CEO attending regular press activities in Morwell, and EPA staff were deployed to all agency engagement centres. This activity continued throughout the fire period.

2 March until 8 March 2014

9.108 The EPA maintained monitoring, sampling and testing activities at peak levels during the period from 2 March until 8 March 2014. The RCC operation was now being supported by up to 10 EPA officers and approximately six science staff at the EPA Centre for Applied Science per shift. The EPA also maintained its community engagement and media staffing levels throughout the incident.

9.109 The EPA's water and soil monitoring plan continued to evolve, including in response to practical constraints. The EPA sampled seven sites weekly for a broad range of parameters from the first week of March to 14 April.

9.110 The EPA's strategic focus was now on consulting other government departments to understand any additional environmental monitoring requirements, and helping to plan for clean-up and recovery activities.

9.111 A series of revisions were made to the Latrobe Valley Mine Fire EPA microsite to update questions and answers and add additional results and information as these

became available. The EPA CEO continued to attend regular press activities in Morwell, and EPA staff were deployed to all agency engagement centres.

9 March until 15 March 2014

9.112 Environmental monitoring, sampling and testing continued during the period from 9 March until 15 March 2014. Evaluation of results suggested that some tests were beginning to produce little new information as the fire stabilised. The EPA continued testing and developed a set of criteria to provide the evidence base by which individual monitoring and testing could be progressively decommissioned. This formed the basis of a transition plan that would define the monitoring plan for the recovery and beyond.

9.113 On 10 March 2014, the FSC declared that the Hazelwood Coal Mine Fire was controlled. On that day, the EPA committed publicly to continue its ambient monitoring for a year, including testing for volatile organic compounds.[75] This decision was taken both to provide a full year's data for EPA and DH purposes, and to give confidence to the community that the EPA would continue to monitor the potential longer-term environmental impact of the fire.

9.114 The EPA worked with DH to provide information and data to inform the CHO's decision to lift the temporary relocation advice for Morwell residents early in the next week. In addition, DH provided, and the EPA confirmed it could provide data to support, the PM2.5 protocol in final form.

16 March until 25 March

9.115 The EPA continued its monitoring program, with a gradual decommissioning of broader operational monitoring in line with de-escalation of the RCC. The EPA has continued its commitment to ambient monitoring with its three stations at Traralgon, Morwell East and Morwell South, as well as a range of testing and data analysis that has continued through the recovery phase. Further stations were added to log PM2.5 data in Moe and Churchill, which will also continue for a year.

9.116 The EPA made significant efforts through the latter stages of the incident to publish the monitoring and analysis, including subsequent calibration and analysis of early indicative air quality data. By the end of the incident, in addition to expanded questions and answers and comprehensive information on the science of coal combustion and air quality, the EPA had published test results. The EPA's website underwent a number of transformations during this time, including a complete redesign nearing the end of the incident to accommodate the quantity of information now available.

9.117 After April 2014, a reduced water sampling program was put in place testing only for those heavy metals that had been found in the water from the previous sampling.

[75] Volatile organic compounds are organic chemicals that have a high vapour pressure at ordinary room temperature. Some Volatile organic compounds are dangerous to human health or cause harm to the environment, while others are benign.

EPA communications

9.118 As part of its response to the Hazelwood Coal Mine Fire, the EPA implemented a comprehensive, integrated Communication and Community Engagement Program to:

- communicate the results of its environmental monitoring activities in a timely, transparent and meaningful way for to the agency responsible for providing health-related advice (DH)
- communicate the results of its environmental monitoring activities in a timely, transparent and clearly understood way for the impacted communities, media outlets and the wider Victorian public
- support the lead agency and collaborate with other support agencies to ensure a whole-of-government approach, where appropriate, to communications and engagement.

9.119 The following table summarises the information and communication provided by the EPA, including as part of planned whole-of-government efforts to communicate with and hear the Morwell community.

Information	Date commenced	Frequency	Total
EPA's Air Quality Forecast Report – supplied to lead agencies	Throughout bushfire season	Daily, then twice daily during the peak of the incident	76 reports
EPA's Data Summary Report – supplied to lead agencies	19 February	Twice daily during the peak of the incident then daily	60 reports
Smoke advisories	11 February to 18 March	Frequency changed throughout Hazelwood incident from once daily to twice daily	66 advisories issued
General media releases about other matters related to Hazelwood Mine Fire	20 February	As required for community engagement events/activities	5 media releases
CEO media activities	19 February to 24 March	As required	18 activities
Pollution hotline	10 February	Recorded daily	3,272 calls taken
EPA website	7 February	Recorded daily	1,483,036 hits
EPA Hazelwood Coal Mine Fire microsite	21 February	Always online	142,519 hits
Dedicated fact sheets and community flyers	17 February	Distributed during community engagement	5 sheets/ flyers

Information	Date commenced	Frequency	Total
		activities	
Social media updates	12 February	Several Twitter updates each day	82 updates
Presence at: • CFA information bus • Respite centres • Community events • Neighbourhood houses • Shopping centre information stop • Train station	22 February to 26 March	Daily (except for 12 March)	31 staff involved

10. Health

10.1 This chapter sets out DH's functions that were engaged in responding to the Hazelwood Coal Mine Fire, and the activities undertaken during the fire.

10.2 DH is the lead portfolio agency overseeing all health services, mental health, ageing and aged care, and preventive health. DH is responsible for planning, policy development, funding and regulation of health service providers and activities that promote and protect Victorians' health. These include public health services, public hospitals and external organisations that deliver health, mental health and aged care services in metropolitan, rural and regional Victoria.

Health system preparedness, capacity, demand and response

10.3 Under the EMMV, DH takes an incident control role only in specified incidents, namely: incidents relating to human disease, epidemics, food and drinking water contamination and incidents involving radiological and biological materials.

10.4 In other incidents, DH has a support role, including:

- through the SHERP, DH has a health system coordination role, whereby DH, through the State Health and Medical Commander, the State Health Commander (AV) and the State Health Coordinator (DH), monitors the impact of an emergency incident on health resources on a system-wide basis, and authorises and directs the deployment of resources as required. The SHERP framework also facilitates effective coordination between health command (pre-hospital care), health coordination and the incident control structure
- accessing additional health professionals for the provision of care during an emergency with major health consequences, to ensure hospitals can continue to provide emergency care
- directing the strategic health response during an emergency with major health consequences, including coordinating surge capacity in hospitals and health services
- coordinating the deployment of suitably qualified health professionals in response to an interstate or Commonwealth request
- in relation to recovery:
    - supporting DHS in the coordination of relief and recovery planning and management at state and regional levels, including State/Commonwealth departments, local government, non-government organisations and funded agencies
    - providing health-related recovery advice, information and assistance to affected individuals, communities, funded agencies and municipal councils.

10.5 On Saturday 8 February 2014 and Sunday 9 February 2014, to prepare for and respond to predicted heatwave conditions and a severe fire danger rating, DH and AV staffed DH and DHS's SEMC at 50 Lonsdale Street consistent with the Health and Human Services SOP.

10.6 On Sunday 9 February 2014 the State Health Commander and the State Health Coordinator were both present in the SEMC and SCC monitoring the impact of the heatwave conditions and fires. Both SHIMT and RHIMT structures were was established and continued to operate throughout the bushfires and the Hazelwood Coal Mine Fire incident, consistent with SHERP.

SHERP roles and arrangements

10.7 The State Health and Medical Commander is a nominated role of DH. In emergencies, the role of the State Health and Medical Commander is to direct health and medical resources. This includes the authority and responsibility for using departmental and associated resources to prepare for and respond to the health impacts of emergencies.

10.8 The State Health and Medical Commander may form a SHIMT to coordinate a whole-of-health response.

10.9 Resources deployed can include Field Primary Care Clinics[76] and short-term clinics, but these are only established when existing infrastructure is lost as a result of the incident or to meet the demand created by the incident.

10.10 A SHIMT was established on 10 February 2014, in relation to bushfires in various locations. On 19 February 2014, a SHIMT was established specifically in relation to the response to the Hazelwood Coal Mine Fire. Key members of the SHIMT are the State Health and Medical Commander, the CHO, the State Health Commander and the State Health Coordinator.

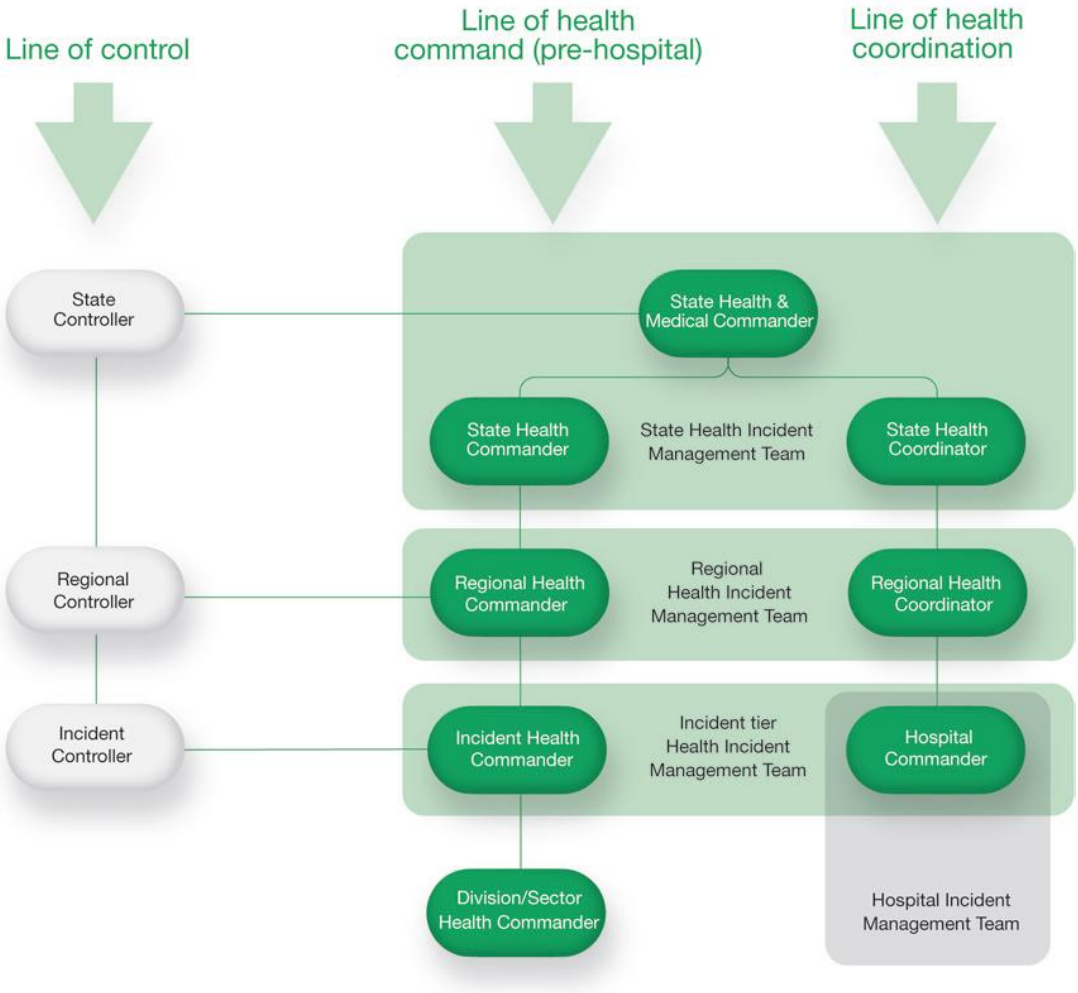
10.11 The State Health and Medical Commander and the CHO represent DH on the SEMT.

10.12 A SHERP also provides for a Regional Health Coordinator who reports to the State Health Coordinator and is responsible for coordinating the activities of DH in response to an emergency at a regional level. The Regional Health Coordinator may form a RHIMT, as in the case of the February bushfires and the Hazelwood Coal Mine Fire. The Regional Health Coordinator represents DH on the REMT, which is headed by the Regional Controller. This facilitates close coordination between the health response and incident control activities. Being situated at the RCC in the region affected by an incident, the Regional Health Coordinator is also able to engage closely with local health services and other relevant service providers to ensure that accurate information is given to the SHIMT about health system demand and capacity. Regional engagement with local services and the community is also vital for DH's contribution to recovery activities.

10.13 These coordination roles are distinct from the health command roles outlined in a SHERP. The State Health Commander, almost always the appointed ambulance emergency manager, is responsible for directing the pre-hospital response to an emergency at the state tier, and reports to the State Health and Medical Commander. A Health Commander is responsible for directing the pre-hospital health emergency operations at the regional and incident level. That role is performed by an appropriate ambulance manager.

[76] Staffed by general practitioners organised by the department or by community nurses.

10.14 A diagram of the relevant reporting structure, taken from a SHERP, is included below. (Note: the State Controller for the February 2014 bushfires and the Hazelwood Coal Mine Fire was the FSC).



Health system demand during the Hazelwood Coal Mine Fire

10.15 During the incident, the State Health and Medical Commander and the CHO were informed about the impact of the incident on local health resources by a range of information being reported from across the health sector. This information indicated that demand for health services was within health system's capacity. Details of the information received by DH are set out in the *Hazelwood Coal Mine Pit Fire February-March 2014 – Assessment of Short-Term Health Impacts in Morwell and the Latrobe Valley – Preliminary Report April 2014*.

10.16 A SHERP sets out escalation arrangements for health services where there is a major incident that is different to normal business. The arrangements are called 'Code Brown' plans, and are activated when a health service is notified of an external incident. The plans include systems and processes on how to scale down non-critical services so there is the ability to manage an unexpected influx of patients. The intention of the plan is to achieve a well coordinated, entire hospital response that adequately

manages resources for the surge in patients. At no time during the incident did any health service active its Code Brown plan.

10.17 From 15 February 2014, the RHIMT sought information from Latrobe Regional Hospital about any increase in emergency department presentations. From 19 February 2014, daily reports were provided to the RHIMT by the hospital regarding these presentations.

10.18 From 16 February 2014, daily activity reports were received from AV regarding calls attended by AV in the geographic area of Gippsland. This information included the total number of cases in that area and how many of those cases (if any) related to shortness of breath or chest pain.

10.19 From 17 February 2014, a daily report was also received from Nurse-On-Call[77], regarding the number of calls to that service that had originated from Latrobe City local government area that required triage guidelines for breathing problems.

10.20 On 19 February 2014, direct contact was made by DH medical officers with 18 general practitioners. Qualitative information was received about the level of demand and types of conditions seen. No practices reported increased waiting times or that patients were unable to be seen in a timely way. From that date, twice weekly reports were received from the Gippsland Medicare Local[78] about the impacts on general practices in the Latrobe Valley arising from the fires.

10.21 Information obtained from these sources was provided by the RHIMT to the SHIMT and thereby to the State Health Coordinator, the State Health and Medical Commander and the CHO. Each of the outputs obtained were assessed as being within the existing capacity of each service to manage.

Community centres

Community Respite Centre

10.22 On 19 February 2014 a Community Respite Centre was established in Moe (with free transportation from Morwell to Moe provided). These arrangements were made by DHS and complemented the advice being issued by the CHO, which recommended that Morwell residents should limit their exposure to the smoke where possible.

Community Health Assessment Centre

10.23 While demand for health services was within system capacity throughout the Hazelwood Coal Mine Fire, there was a perceived need for additional community health support because of heightened community concern and anxiety. DH decided to establish a Community Health Assessment Centre (the Centre). The purpose of the Centre was to provide health information, basic health checks, support and reassurance to community members. The Centre was managed by AV and staffed by AV paramedics and nursing staff from the local hospital and community health service. The Centre operated seven days a week from 8:00 to 20:00 from 21 February 2014 to 30 March 2014.

[77] Nurse-On-Call is a 24-hour telephone advice line staffed by nurses.
[78] The area covered by this Medicare Local is Moe/Morwell/Traralgon/Churchill.

10.24 A photograph from the Centre is set out below.

10.25 DH prepared health information to be provided to community members who visited the Centre, and supporting information for the health professionals staffing the Centre. There was capacity at the Centre for measuring carboxyhaemoglobin[79] for persons who were symptomatic or requested testing. Anyone identified as requiring medical care or review, for any reason, was referred to Latrobe Regional Hospital Emergency Department or their general practitioner as appropriate. Further information is set out in the *Morwell Community Health Assessment Centre Report*.

10.26 Reports were provided to the SHIMT by AV twice daily (at 12:00 and 20:00) about the total number of clients that presented to the Centre, the total number of clients that were referred to either hospital or a general practitioner, and the total number of clients that were transported by AV. The SHIMT was thereby able to further monitor the impact of the incident on the health system locally.

10.27 DH was awarded the 2014 Association of Public Safety Communications Officials Australasia Public Safety Award for the successful establishment and operation of the Centre.

Residential aged care services and HACC services

10.28 From the time the fire started, actions were in place between DH's central office and Gippsland regional offices and the Commonwealth Department of Social Services, which is responsible for the funding and regulation of residential aged care facilities and community care packages, to monitor actions being taken locally to provide support to older people receiving services.

[79] A stable complex of CO and haemoglobin that forms in red blood cells upon contact with CO. Large quantities of CO hinders the ability of haemoglobin to deliver oxygen to the body.

10.29 On 21 February 2014, following concern (based on information received from the FSC) that the fire was threatening critical infrastructure and may cause power to be lost to some or all of the town, a message was sent to all health services and residential aged care services by DH regarding the fire situation and its monitoring. The message included a reminder for services to review emergency management plans including back-up power supplies.

10.30 Personnel from DH's regional office met a number of times with organisations that are funded through DH to provide HACC services, to discuss and facilitate actions they were taking to monitor their clients.

10.31 There are four HACC service providers with clients in and around Morwell. The largest is Latrobe City Council, which has 1,937 HACC clients. All HACC service providers were maintaining contact with clients and assisting some clients to relocate to stay with family.

10.32 Latrobe City Council continued providing home care and meals and monitoring clients regularly so that if they relocated, services could be arranged at their new location. The council also:

- participated in doorknocking of the community in the southern area of Morwell
- distributed information sheets to staff for distribution to clients and also distributed masks via the Meals on Wheels program
- utilised HACC assessment staff at community information points and on the 'walk and talk' sessions being held in the southern area of Morwell in partnership with CFA/AV
- altered planned activity groups by taking clients out of the area for activities and day respite actions
- arranged a taxi voucher system to be extended to HACC clients for transport to the Community Respite Centre.

10.33 HACC service providers were requested to provide information to DH about any additional costs associated with planned activity groups, domestic assistance or property maintenance as a result of the fires, such as any costs arising from having to conduct a planned activity group in an alternative location further away from the fire. This allowed DH to ascertain whether service delivery was being impacted by the fires and/or whether service providers were incurring extraordinary expenses in order to ensure that service delivery was not impacted.

10.34 On 26 February 2014, at the request of DH, the Commonwealth Department of Social Services sent an email to all Commonwealth funded Community Care providers asking them to do the same as was being done for HACC clients: to monitor their clients' wellbeing, provide information and refer them to DHS to seek advice and make arrangements for temporary relocation.

10.35 On 28 February 2014, the Commonwealth Department of Social Services provided advice to DH's regional office about how to access emergency residential respite care in residential aged care facilities.

10.36 The Commonwealth Department of Social Services and the regional office of DH maintained contact with the residential aged care facility in the affected area, St Hilary's, which is run by Baptcare. Baptcare made the decision to relocate on 28 February 2014 after the CHO advice was issued. Up until then it had been

comfortable remaining in place, but were well prepared for a relocation, and made that decision on the CHO's advice. The facility subsequently advised that the relocation went very well. Forty-six residents were successfully relocated.

Health communications

10.37 From 9 February 2014, DH issued information to the public through a variety of means about the health risks arising from heatwave conditions and bushfires generally.

10.38 A fact sheet entitled *Bushfire smoke and your Health* was already available at all times in English and a range of other languages for download from DH's website.[80] A vodcast was made available online. Public statements by the CHO throughout the incident referred to this fact sheet and hard copies were made available to the community through various channels during the incident (for example at the Community Health Assessment Centre, CFA Community Engagement Program and other local services and outlets). This fact sheet was updated on 16 February 2014 to be specific to the Hazelwood Coal Mine Fire.

10.39 An EPA low level smoke advisory was issued on 11 February 2014, and smoke advisories (both low and high level) were issued virtually daily thereafter. All these advisories included health protection advice about the potential public health risks from smoke exposure and the recommended protective measures to be taken by members of the community. In accordance with the Air Quality Protocol agreed between DH and the EPA (see 'EPA/DH protocol for public health messaging regarding air quality' section below), this public health protection advice reflected the potential risks to health in proportion to the level of air quality impacts reported by the EPA, determined by reference to measurements of particulate matter (fine particles) that were derived from monitoring conducted by the EPA. Fine particles are the main smoke component of public health concern whether the smoke is from a bushfire, household open fire or a coal mine fire. Potential public health risks were identified and protective measures suggested if measured levels of particulate matter exceeded the levels specified in the Bushfire Smoke, Air Quality and Health Protocol.

10.40 From 11 February 2014 the CHO engaged in extensive media activity, participating in 21 press conferences and numerous individual radio and press interviews. Other communication mediums utilised were social media monitoring and response,[81] and whole-of-government paid advertising (radio and print). These were all in addition to the information being provided on DH's website.

10.41 From 13 February 2014 the CHO issued Health Alerts[82] and Health Advisories[83]. The first Health Alert on 13 February 2014 focused on informing general practitioners about the health effects of bushfire smoke. This Health Alert was updated on

[80] http://www.health.vic.gov.au/environment/bushfires-smoke.htm.
[81] The #minefire team (which included DH) published 115 posts to the Health Facebook site (likes grew from 533 to 2,494 during the incident). The #minefire team also published 107 tweets, with 86 favourites, 420 retweets and 42 replies.
[82] Health Alerts are issued for an issue that is urgent, poses an immediate threat to public health and requires an immediate response.
[83] Health advisories contain advice that is of importance to the Victorian public and may require action.

17 February 2014 and 21 February 2014. A Health Advisory was issued on 4 March, and updated on 17 and 20 March 2014.

10.42 From 25 February 2014, information about the Hazelwood Coal Mine Fire was moved to a dedicated page on DH's website.

10.43 In accordance with the advice being provided that vulnerable groups should limit their exposure to the smoke, when consulted by DEECD, the CHO agreed that the best way for young children to minimise exposure to the smoke was to temporarily relocate schools located close to the Hazelwood Coal Mine Fire. The child care centre located in the relevant area had already relocated on its own initiative.

10.44 The health protection advice given by the CHO throughout the incident was based on public health risk assessments conducted by DH by reference to:

- information about air quality that was provided by the EPA from the monitoring conducted by the EPA, CFA and MFB in and around Morwell
- the existing protocols and standards for air quality[84]
- additional decision-making tools relating to CO and particulate matter, which were developed by DH in consultation with fire agencies and the EPA in light of the emerging expectation that the community may be exposed to smoke for a more extended period than was contemplated in some of the existing protocols and standards (see 'Additional action taken in response to the Hazelwood Coal Mine Fire' section below).

10.45 The opening of the Community Respite Centre (19 February 2014) and Community Health Assessment Centre (21 February 2014) provided another avenue for information to be provided to the community about potential health risks.

10.46 The recommendations made by the CHO for protective measures were escalated as the incident unfolded in response to the ongoing exposure of the community to smoke, which exceeded the usual period of exposure arising from bushfires. The advice issued by the CHO over the course of the incident recommended a range of protective actions (for avoiding or reducing potential health risk), which were commensurate with the public health risk assessment that was made on the basis of the information available.

10.47 The first Health Alert was issued on 13 February 2014 and the health protection message was that everyone, particularly those in specified vulnerable groups, should avoid prolonged or heavy physical activity outdoors. At a community information session in Morwell on 14 February 2014, the health protection message was that specified vulnerable groups should consider a break away from the smoky conditions (people over 65, pre-school aged children and those with pre-existing heart or lung conditions). This message was reflected in the Health Alert that was issued on 17 February 2014, with the addition of pregnant women to the list of vulnerable groups. On 25 February 2014 an updated fact sheet issued by DH advised that during extended, very smoky conditions vulnerable individuals should consider temporarily staying outside the smoke-affected area and others should consider a break away from the smoke. It was recommended that outdoor physical activity be avoided.

[84] In particular: the NEPM; the relevant SEPP declared under the EP Act; and the *Protective Action Decision Guide for Emergency Services During Outdoor Hazardous Atmospheres* and related documents.

10.48 On 28 February 2014, the FSC advised the CHO that it was unlikely that the Hazelwood Coal Mine Fire would be extinguished within two weeks from that date. As a precaution, given the predicted cumulative period of exposure of the community to the smoke from the fire, the CHO issued a Temporary Relocation Advice. The advice was that people aged over 65, pre-school aged children, pregnant women and anyone with a pre-existing heart or lung condition living or working in the southern part of Morwell should consider temporary relocation because of the Hazelwood Coal Mine Fire. The recommendation was made as a precaution, notwithstanding that there had been no evidence of serious health effects from the smoke, such as an increase in ambulance call-outs or hospital attendances. However, it was clear from the assessments being released by the EPA that the level of air quality affecting the southern part of Morwell was very poor.

10.49 There had not been a recent precedent of an open cut brown coal mine fire of this size, producing a large volume of smoke for an extended period of time. Existing decision-making tools relevant to potential public health risk arising from CO and particulate matter produced by the Hazelwood Coal Mine Fire did not contemplate an incident of extended duration.

10.50 Until the Hazelwood Coal Mine Fire, there had been no directly applicable standards or guidelines to assist assessment of potential public health risk or decision making about if, and when, health protection advice should be issued or measures that should be taken to address the potential public health risk.

10.51 Extensive opinion on possible long-term health effects from this type of exposure was sought by DH through:

- a literature review
- the opinion of a respected respiratory physician
- the National Health and Medical Research Council funded Centre for Air Quality Health Research and Evaluation
- supplementary expert toxicology advice and peer review by an air quality specialist from an external consultancy.

10.52 There was also national consultation through the Environmental Health Standing Committee, Australian Health Protection Principal Committee and international consultation, including the California Department of Public Health and California EPA's Office of Environmental Health Hazard Assessment. The collective expert opinion was generally supportive of the PM2.5 protocol (discussed below) and its consequence that it was then appropriate to recommend that 'at risk' people, those with at risk health status, should temporarily relocate in order to prevent increased risk of serious health effects from repeated short-term exposure to smoke.

10.53 DH developed the basis for lifting the temporary relocation advice, which was agreed with the emergency services and depended on sustained and demonstrable improvement in air quality despite weather conditions and advice from the FSC about the status of the Hazelwood Coal Mine Fire.

10.54 The CHO lifted that temporary relocation advice on the 17 March 2014 following the declaration of the Hazelwood Coal Mine Fire as 'contained' on 10 March 2014 and a sustained improvement of air quality.

10.55 The Hazelwood Coal Mine Fire was declared 'safe' on the 25 March 2014.

Air quality and public health

DH and CHO

10.56 The role of DH includes health promotion and health protection, through emergency management, public health and related preventative services, information, education and regulation. The work of DH in these areas is concerned with risks to public health (that is, the health of populations rather than the health of individuals), including risks arising from food, water, radiation, communicable disease, hazards in the environment (air, land or water) or other environmental factors (for example heat, bushfires, air quality or floods). DH's role is governed by a range of statutes – including the *Food Act 1985*, the *Safe Drinking Water Act 2005*, the *Radiation Act 2005* and the *Public Health and Wellbeing Act 2008*.

10.57 The CHO is a statutory position created under section 20 of the *Public Health and Wellbeing Act 2008*. The CHO acts as the government's media spokesperson on matters relating to the control of disease and promotion of health as required, eg communicable diseases and public health risks associated with environmental hazards – air, land or water contamination, radiation, food safety, ethics and public health emergencies. In addition to exercising the specific functions and powers given to the CHO under the *Public Health and Wellbeing Act 2008*, the CHO performs a range of actions consistent with the statement of general functions of the CHO in section 21. For example, in furtherance of the function of developing and implementing strategies to protect and promote public health, from time to time the CHO issues public advisories and alerts about issues affecting public health, including:

- Health Alerts which advise the Victorian community of an issue that is urgent, poses an immediate threat to public health and requires an immediate response.
- Health Advisory which are less urgent than a Health Alert and provide advice that is of importance to the Victorian public and may require action
- information updates, which may also be provided on any of the issues raised in an alert or advisory where the risk to public health may have subsided but additional information is available.

10.58 Alerts, advisories and information updates may be issued as required from time to time in relation to public health issues that arise from environmental factors – such as heat, bushfires or floods. For example, as at 23 April 2014, Health Advisories are in place dealing with the following public health risks: shigellosis, mosquitoes, hepatitis B vaccine, syphilis, measles, egg safety and unregulated complementary medicines, as well as the Hazelwood Open Cut Mine Fire Health Advisory issued on 17 March 2014 and updated on 20 March 2014.

10.59 In preparing advisories or alerts on those matters, the CHO may need to rely on technical information provided by other agencies. That information is considered by DH personnel with relevant expertise to determine if and to what extent it has implications for public health.

10.60 The agency that provides information to DH in relation to environmental hazards that may affect air quality is the EPA.

Health-based air quality standards and guidelines

Particulate matter (or fine particles)

10.61 Particulate matter, or fine particles, can be breathed deeply into the lungs and are therefore a key component of concern for public health protection.

10.62 Australia's air quality standards and guidelines are informed by the strength and weight of evidence from key overseas agencies such as the World Health Organization and US Environment Protection Agency, as well as Australian studies on air quality and health and Australian literature reviews.

10.63 The National Environment Protection Council issues the NEPM. In 1998 the first NEPM established standards and goals, to be met by 2008, for six air quality indicators. These are the objectives and goals against which the EPA evaluates the annual performance in air quality management for the State of Victoria. For particulate matter such as PM10, the air quality monitoring goal was 50 micrograms/m3 averaged over one day. An advisory reporting standard and goal for PM2.5 was added to this NEPM in 2003, of 25 micrograms/m3 averaged over one day and 8 micrograms/m3 averaged over one year.

10.64 The SEPP (Ambient Air Quality) declared under the EP Act directly reflects the NEPM, and sets an overall air monitoring objective for PM10 particulate matter of 50 micrograms/m3 at PM10, averaged over one day.

Carbon monoxide

10.65 The NEPM sets as a standard and goal for a maximum CO ambient air concentration of 9.0 parts per million, averaged over a period of eight hours. The SEPP (Ambient Air Quality) declared under the EP Act reflects the NEPM and sets the same level as the monitoring objective and goal.

EPA/DH Protocol for public health messaging regarding air quality

10.66 DH/EPA Protocol titled Bushfire Smoke, Air Quality and Health (the Air Quality Protocol) informs and coordinates public messaging activity in order to ensure consistency and to fulfil their respective statutory functions.

10.67 The Air Quality Protocol, which has been developed between the EPA and DH, establishes an integrated approach for community health protection messaging regarding the air quality impacts from bushfires.

10.68 The Air Quality Protocol was first developed during the 2006-07 summer fire season when extended, large area bushfires in the north east and Gippsland/Bairnsdale affected local regional air quality, as well as the metropolitan areas of Melbourne. The Air Quality Protocol was established as a process to ensure the efficient and consistent coordination between the agencies. It is also aimed to ensure that the health protection message included in EPA public advisories appropriately and proportionally reflects the public health risks potentially associated with the level of air quality impacts that the EPA has identified (though monitoring) and forecast (by reference to Bureau of Meteorology predictions).

10.69 The Air Quality Protocol outlines 'triggers' for the release of public smoke advisories by the EPA. When, based on either monitoring data or forecasting, the EPA considers that the air quality indicators for particulate matter have reached or are likely to reach the

specified levels, the EPA issues either a 'low level' or 'high level' smoke advisory, in the form of a media release. The form and content of these two levels of media release were approved by the CHO and the FSC. The media release templates include quotes attributed to the CHO, which reflect the public health risk that arises from the relevant level of air quality. The protocol provides for DH, through the CHO, to be notified of advisories issued by the EPA in advance of the advisory being issued. A DH contact number for health-related media enquiries is listed in each media release. The Air Quality Protocol has been reviewed annually by DH and the EPA since being established.

10.70 A low level smoke advisory is issued where the air quality indicator is predictive of an increased health risk to vulnerable groups in the community (principally those with existing heart or respiratory conditions, young children and older adults). The 'trigger' for a low level advisory is where particulate matter is measured at 51–65 micrograms/m3 (at PM10) averaged over 24 hours or 81–175 averaged over one hour, and visibility is at less than 20km and more than 10km, determined by observers. The health protection message to be conveyed in those circumstances is that people with heart or lung conditions, children and older adults should reduce prolonged or heavy physical activity.

10.71 It also advises asthmatics to follow their asthma management plan, and people with other lung conditions or heart conditions to continue taking their medication as prescribed by their doctor. The relevant media release template states that anyone with concerns about their health should seek medical advice or call Nurse-On-Call. At this level of impact to air quality it is recognised that smoke can be irritating to eyes, nose or throat, however specific public health protection messages are not targeted to the broader community. This is because the effects are transient and resolve quickly.

10.72 A high level smoke advisory outlines an increased level of potential public health risk compared to a low level smoke advisory. A high level smoke advisory applies to all members of the community.

10.73 The 'trigger' for a high level advisory is when particulate matter as PM10 is measured at or predicted to be above 66 micrograms/m3 averaged over 24 hours (one day) or at or above 176 micrograms/m3 averaged over one hour. This level of impact on air quality from smoke is generally equivalent to a distance of visibility that is less than 10km, as determined by observers.

10.74 When particulate matter as PM10 is measured at levels of between 66 and 155 micrograms/m3 averaged over 24 hours (one day), this is generally equivalent to a distance of visibility of more than 5km but less than 10km. The public health protection messages to be conveyed in these circumstances are that:

- people with heart or lung conditions, children and older adults should avoid prolonged or heavy physical activity
- everyone else should reduce prolonged or heavy physical activity.

10.75 When particulate matter as PM10 is measured at levels in between 156 and 310 micrograms/m3 averaged over 24 hours (one day) this is generally equivalent to a distance of visibility of more than 1km but less than 5km. The public health protection messages to be conveyed in these circumstances are that:

- people with heart or lung conditions, children and older adults should avoid all physical activity outdoors, and

- everyone else should avoid prolonged or heavy physical activity.

10.76 The EPA's action in issuing either a low level or high level smoke advisory as a result of smoky conditions during bushfires is separate from any decision by the CHO to issue a Health Alert, Health Advisory or information update, but the two approaches work in parallel. The CHO may, in reliance on the air quality monitoring and forecasting information that is provided by the EPA, decide to issue an alert or advisory regarding the public health risks of smoke exposure or any other potential public health hazards associated with an air quality issue or incident.

10.77 CHO Health Alerts and Health Advisories were issued in the course of the Hazelwood Coal Mine Fire, based on the information received from the EPA, which was derived from the EPA's monitoring activities in and around Morwell. Since the CHO's assessment of potential public health risk(s) is based on air quality information provided by the EPA, the content of advisories and alerts is likely to reflect the health protection messages that are, by agreement between DH and the EPA, included in smoke advisories issued by the EPA.

Additional actions taken in response to the Hazelwood Coal Mine Fire

10.78 Initially, DH's response to the smoke from the February 2014 bushfires and subsequent Hazelwood Coal Mine Fire was consistent with usual practices and protocols for bushfires and associated public health issues from smoke exposure. The main smoke component of public health concern is fine particles. This is the case whether the smoke is from a large bushfire or an open cut brown coal mine fire. In comparison to other types of coal, when brown coal from the mines around Morwell burns, it produces relatively low levels of ash and relatively low levels of oxides of sulphur and oxides of nitrogen.

10.79 As the surrounding bushfires de-escalated and the Hazelwood Coal Mine Fire escalated, the focus of DH's response evolved accordingly.

10.80 In particular, when it became clear that it was likely that the community's exposure to the smoke from this brown coal fire could extend for a longer period than is usual during an intense, extended bushfire event, DH identified a need for additional analysis of the potential risk(s) to public health and developed evidence-based tools to allow that analysis to occur. The analysis could then inform further potential health protection messages or actions as required.

Carbon monoxide

10.81 From 13 February 2014 the EPA (and scientific officers from CFA and MFB) conducted specific air monitoring for CO in Morwell. This was in addition to the OHS CO monitoring program for firefighters and other personnel working inside the mine near the active fire.

10.82 The EPA analysed the monitoring data and made assessments and forecasts about air quality. DH used the information provided by the EPA to make an assessment about potential risk(s) to public health.

10.83 Time was required to establish the best possible monitoring and the forms and means by which the EPA's assessment of the data could best be presented to DH in a form that would allow the necessary public health risk analysis to be completed. DH began receiving information from the EPA about the results of this CO monitoring in the form

requested by the CHO on 19 February 2014. None of the information that was received by DH indicated levels of CO that in the assessment by DH created a potential risk to public health.[85]

10.84 Existing protocols relating to the public health risk from hazardous atmospheres[86] deal with relatively short-term exposure of the community to the relevant hazard. The existing protocols were not a comprehensive guide for the circumstances of a large-scale brown coal fire involving exposure to smoke and its components for a longer duration.

10.85 Due to the unique nature of the Hazelwood Coal Mine Fire, fire agencies, the FSC, DH and EPA determined that new decision-making tools were required. Accordingly, on 15 February 2014, DH began developing a *Carbon Monoxide Response Protocol* to:

- facilitate the best possible evidence-based decisions about the risks posed by CO in smoke to the Morwell community
- identify appropriate responses to these risks
- deal with emerging risk management.

10.86 This protocol established the minimum data set[87] required for a public health risk assessment to be made. It also established an 'advice matrix' (below) designed to assist DH's assessment in considering advice to the Incident Controller. It should be noted that readings are strictly hourly averages not spot readings and indicate when particular levels of health protection advice should be given to the community if CO readings reach particular levels.[88] The levels of response range from recommendations to shelter in place through to evacuation.

[85] It should be noted that any risk to the community from CO is an issue distinct from any occupational risk to firefighting personnel who were engaged with fighting the fire at the mine site.
[86] For example, the Protective Action Decision Guide for Emergency Services During Outdoor Hazardous Atmospheres (May 2011).
[87] The minimum data set required under the Carbon Monoxide Response Protocol is rolling average one hour environmental CO levels; precise location of the measured levels; and Bureau of Meteorology weather forecast for the next 24 hours, including wind direction, speed and predictions. Refer to the Carbon Monoxide Response Protocol.
[88] Averaged over a minimum of one hour and depending on the predicted direction and duration of the fire's smoke plume.

CO Readings Matrix

CO Readings ppm	Predicted Duration of Plume (How long the plume is in the area) >12	10-12	8-10	6-8	4-6	2-4	1-2	<1
150	EWEVAC	EWEVAC	EWEVAC	EWEVAC	EWEVAC	EWSIP	EWSIP	EWSIP
83	EWEVAC	EWEVAC	EWEVAC	EWEVAC	EWSIP	EWSIP	EWSIP	EWSIP
33	EWEVAC	EWEVAC	WSIP	WSIP	WSIP	A	A	A
27	WSIP	WSIP	WSIP	A	A	A	A	A

Assumptions

- Shelter in place provides 6 hours protection before the equalisation with the external atmosphere
- CO based on average reading over a 30 to 60 minute period
- BoM to provide meteorological forecast of wind speed, direction and duration
- BoM prediction to inform the estimated time of exposure

No.	KEY MESSAGING
	Recommendation to Evacuate
	Recommendation to Evacuate
	Emergency Warnings
	EWSIP - (Emergency Warning Shelter In Place)
	EWEVAC - (Emergency Warning Evacuate)
	Upgrade / Update
	Watch & Act
	WSIP - (Watch & Act Shelter In Place)
	Upgrade / Update
	Downgrade
	Advice
	A - (Advice)
	Downgrade
	All Clear
	Campaign

10.87 The protocol also established a 'short-term trigger level'. This meant that if CO levels, averaged over one hour, reach a prescribed level of 70ppm averaged, then a specified process would occur for further data to be gathered and analysed to allow further assessment of the public health risk and other actions.

10.88 This short-term trigger level was determined by reference to the *Protective Action Decision Guide for Emergency Services During Outdoor Hazardous Atmospheres – May 2011*. This document sets out a hierarchy for the selection of short-term community exposure guidelines. According to that hierarchy, the Acute Exposure Guide Levels are to be used, if available. The applicable (AEGL-2[89]) level for CO sets out levels of CO concentration that are of concern for public health. These AEGL-2 levels are the airborne concentration above which it is predicted that the general population including susceptible individuals could experience irreversible or other serious long-lasting effects. The levels are expressed as average values, being an average of concentration levels taken over various time periods, as follows:

- if measurements of the concentration of CO are taken over a period of 10 minutes and averaged, the value indicating potential public health risk is 420ppm
- where concentration is measured over a period of one hour and averaged, the value of concern specified in the AEGL-2 is 83ppm
- if measurements of the concentration of CO are taken over a period of eight hours and averaged, the value indicating potential public health risk is 27ppm.

10.89 These values are conservative. When the short-term trigger was established in the *Carbon Monoxide Response Protocol*, a further level of conservatism (and therefore a further emphasis on public health protection) was applied, by reducing the one hour value of 83ppm to a one hour value of 70ppm.

10.90 The detail is contained in the *Latrobe Valley Coal Fires Carbon Monoxide Response Protocol* dated 27 February 2014.

[89] Under the guidelines, if AEGL-1 levels exist for the relevant air pollutant then they are to be used. For CO, AEGL-1 values are not available, therefore the next suitable level, AEGL-2, is to be applied.

10.91 Analysis of the information provided to DH during the Hazelwood Coal Mine Fire shows that the CO levels monitored in the community did not reach the trigger levels set in the *Latrobe Valley Coal Fires Carbon Monoxide Response Protocol*.

10.92 The *Latrobe Valley Coal Fires Carbon Monoxide Response Protocol* was made available for use by relevant agencies from late on 21 February. At the same time, it was professionally peer reviewed. Although the protocol was not formally signed off until this date, a draft, which contained the advice matrix set out above, was in working use from the evening of 15 February 2014. On 16 February 2014, after further development work, that draft protocol was confirmed as the operational guide by fire response agencies for the next 48 hours.

Particulate matter (or fine particles)

10.93 Particulate matter is a key component of concern for air quality because fine particles can be absorbed most deeply into the lungs. The World Health Organization fact sheet *Ambient (outdoor) Air Quality and Public Health* notes that: 'the most health damaging particles are those with a diameter of 10 microns or less (PM10) which can penetrate and lodge deep inside the lungs. Chronic exposure to particles contributes to the risks of developing cardiovascular and respiratory diseases as well as lung cancer.'[90] As noted above, the standard measurement of particulate matter in Victoria is PM10. Measurement at PM2.5 provides the best possible information about risk to public health. As it was apparent from observation that visibility was very poor, it was considered prudent to measure particulate matter at the finer level in and around Morwell.

10.94 From 12 February 2014 the EPA began to establish capacity to take PM2.5 measurements in Morwell, and from 16 February 2014 DH began to receive information from the EPA about the PM2.5 readings taken in the eastern part of Morwell. Improvements were made progressively over the following days in relation to the level of monitoring conducted and the quality of information made available to DH.

10.95 To aid decision making about the potential risks to public health associated with particulate matter in the smoke from the Hazelwood Coal Mine Fire, DH produced a document entitled *Hazelwood Coal Mine fire – PM2.5 Health Protection Protocol*. This was necessary because previous tools and protocols did not take account of PM2.5 measurements, since those measurements are not generally available across Victoria. In addition, the Hazelwood Coal Mine Fire presented a novel situation where there was extended exposure to fine particles of this nature. The PM2.5 protocol sets out arrangements for monitoring and assessment of particulate matter levels at PM2.5, and a matrix for determining what readings should trigger particular cautionary advice to the community. The PM2.5 protocol provides for a 'low level' cautionary advice to be issued to the community if particulate matter was measured at PM2.5 of 26 micrograms/m3 or more, averaged over 24 hours (that is, if the particulate matter measurements indicate levels that exceed the state and national standard). That advice is for people with heart and lung conditions, children and older adults who should reduce prolonged of heavy physical activity. The PM2.5 protocol further sets out various health advice to be issued, reflecting the graduating seriousness of the risk to public health when PM2.5 measurements show levels of 56 micrograms/m3,

[90] http://www.who.int/mediacentre/factsheets/fs313/en/.

96 micrograms/m3, 157 micrograms/m3 and 250 micrograms/m3, averaged over 24 hours.

10.96 The PM2.5 protocol also documented at what PM2.5 levels advice would be issued to the community to take further action, such as temporary relocation for those most vulnerable.

10.97 DH received PM2.5 reports from the EPA from Morwell East from 15 February 2014 (for the preceding 24 hours) and for the southern part of Morwell from 22 February 2014.

10.98 PM2.5 monitoring commenced on 12 February 2014 with the recommissioning of the Morwell East ambient station. On 13 February 2014 a temporary portable PM2.5 monitor (DustTrak) commenced logging data at the Morwell South Bowls Club site, which required manual analysis and reporting. On 19 February 2014 the EPA's MOLAB commenced logging PM2.5 at the same site, and connectivity with EPA servers commenced on 21 February 2014, allowing automated analysis and simplified charting for reporting to commence on 22 February 2014.

10.99 The PM2.5 protocol was formally endorsed on 13 March 2014, but was in use prior to that, and was used by the CHO to make the decision to issue the advice to vulnerable groups that they should temporarily relocate from the southern part of Morwell (on 28 February 2014).

Temporary relocation advice

10.100 The community's exposure to smoke exceeded the usual period of exposure arising from bushfires or industrial fires. Accordingly, the advice issued by the CHO over the course of the incident recommended a range of protective actions (for avoiding or reducing potential health risk), which were commensurate with the public health risk assessment that was made on the basis of the information available.

10.101 On 28 February 2014, the FSC announced that the Hazelwood Coal Mine Fire was not likely to be extinguished for at least another two weeks. As conditions would not be relieved in the immediate future, this would result in protracted exposure to smoky conditions for the community. The level of air quality deterioration affecting the southern area of Morwell was exceptional, reaching values of at least up to 16 times the air quality objective. The CHO determined that on balance, and in accordance with the PM2.5 protocol, a temporary relocation advice was warranted. A temporary relocation advice was issued that day.

10.102 As noted above, there had been no standards, preceding protocols or public health advice for similar situations in Australia until that time.

Long-term health effects

10.103 The possible short-term effects of short-term exposure to smoke are well known. These are the symptoms and issues that were addressed in alerts and advisories issued by the CHO during the incident, and elsewhere in publications and media by DH and the CHO.

10.104 Established evidence does not indicate that long-term health effects will eventuate from short-term exposure to smoke. Long-term exposure to poor air quality is known to have a negative impact on health. In this context short-term exposure is considered to be from days to weeks, and long-term exposure is considered to be one year or

more and up to a lifetime. There is little evidence about the long-term health effects of exposure that is not long term by that accepted standard, but which is of some considerable duration.

10.105 This consideration was taken into account by the CHO in deciding to issue a relocation advice on 28 February 2014. Advice to limit activity and shelter indoors is protective of health for short-term exposure to smoke. However, indoor air quality will gradually change to match outdoor air quality over time. This is a less effective strategy for prolonged exposure to smoke. DH has commissioned a long-term study into the health effects of the Hazelwood Coal Mine Fire. Following community consultation in Morwell on 6 May 2014, a tender will be advertised and a procurement process completed to identify an appropriate contractor to undertake the study. This study should also provide reassurance to the community that their concern about ongoing health effects will be addressed, and that any future health needs will be identified and met.

Health communications

10.106 The CHO, Dr Rosemary Lester, acts as the government's media spokesperson on matters relating to the control of disease and promotion of health as required – for example, communicable diseases; land, air, water contamination; radiation; food safety; ethics; and public health emergencies. Dr Lester was extensively involved in communicating health messages to the public during the Hazelwood Coal Mine Fire.

10.107 The weekend of 8 and 9 February 2014 was identified as a period of both high heat conditions and high fire danger for the state with fire already present in some areas, including Gippsland.[91]

10.108 A CHO Health Alert relating to high heat conditions was issued on Tuesday 5 February 2014 by the CHO and health messaging was already available and being promoted to stakeholders and the community with specific communication materials relating to heatwave and bushfire smoke available.

10.109 When the fire occurred on 9 February 2014, it was initially a bushfire event. The department's website contains information relating to bushfire smoke so this was the initial focus of communications together with targeted media, to the local community.

10.110 From the outset, health warning messages were issued to vulnerable groups of the community about reducing or avoiding potential risks to health by staying out of the smoke, and recommendations were made about steps to take to protect health. The vulnerable groups identified included those 65 years and over, children and those with pre-existing heart or lung conditions, as these groups were considered most at risk of short-term health effects from smoke.

10.111 DH's pre-agreed Bushfire Smoke, Air Quality and Health Protocol with the EPA proved an invaluable asset as media releases, issued by the EPA but with health messages from the CHO, were issued from 11 February in accordance with agreed forecast threshold air quality conditions. These were issued virtually daily throughout the event. A comprehensive list is included in the chronology attached to this submission.

[91] See discussion in Chapter 7 above.

10.112 The first community meeting was held on Friday 14 February 2014, at which several DH staff attended to provide information.

10.113 In the first week of the event, bushfires in the landscape were the focus of communications and these fires came under control during that week. At the same time, the Hazelwood Coal Mine Fire grew in importance, and escalated on the weekend of 15 and 16 February.

10.114 Progressive escalation of DH's response occurred in line with this, and in light of the EPA's developing monitoring capability and advice. Documents that had previously been circulated related to smoke from bushfires and these were revised on 16 February 2014 to specifically identify the Hazelwood Coal Mine Fire as the predominant hazard.

10.115 A second community meeting was held on Tuesday 18 February and was attended by a Senior Medical Adviser from the Office of the CHO.

10.116 Multiple tools and tactics were used to ensure the health information and advice from the CHO were spread, including fact sheets (online and print), paid and unpaid media, social media, face-to-face meetings and vodcasts. The information produced by DH was also made available to CFA, which utilised it in its mobile community engagement bus.

10.117 As well as the many individual requests for media interviews, the CHO was involved in many press conferences throughout the event (see list below). She was readily available to all forms of media, particularly local media, and provided consistent, clear and appropriate messages.

10.118 The early utilisation of all mass media platforms was a deliberate and planned tactic as this provided the broadest and fastest means of the CHO's health messages getting into the Morwell community.

10.119 As the event developed, additional and more targeted measures were taken.

10.120 The first CHO Health Alert relating to the Hazelwood Coal Mine Fire was issued on 13 February 2014. CHO alerts are issued to health professionals to inform them of a serious public health issue; they are distributed to health professionals through local networks such as the Medicare Local. This alert was updated on 17 and 21 February to address specific and emerging issues. A lower level Health Advisory was also issued on 4 March 2014, and updated on 17 and 20 March 2014. On 25 February 2014, a specific Hazelwood Coal Mine Fire page was established on DH's public website, to provide more direct access and to accommodate the increasing amount of information previously located on the general CHO site.

10.121 Specific vulnerable groups considered at risk – such as children and those over 65 years of age – were always a primary consideration. DH ensured that aged care service providers were given appropriate protective health messages and advice. Schools and early childhood services were also provided with specific information through the EMJPIC and at meetings with the CHO.

10.122 On 19 February 2014, a Community Respite Centre was opened in Moe, as a clean air place for people to seek respite from the smoky conditions, in accordance with the advice of the CHO. Health information prepared by DH was available at the Community Respite Centre.

10.123 The Community Health Assessment Centre was established on 21 February 2014 in Morwell. In addition to health assessments, it provided information from DH, information from AV personnel on site, printed fact sheets that had been prepared by DH and a vodcast from the CHO broadcast on a television fitted into the Centre. Supporting information was also provided to other health professionals staffing the Centre. Nurse-On-Call, DH's telephone health advice line, was given the relevant health messages and this medium was actively promoted to the community as a place that they could contact for information and health advice.

10.124 The decision by the CHO to recommend temporary relocation of sensitive or 'at risk' individuals from the southern part of Morwell on 28 February was in part informed by the FSC's advice at the time that the event would continue for at least two further weeks. This decision attracted significant media coverage and was supported by online and print-based communications.

10.125 The advice was lifted on Monday 17 March 2014 after several days of good air quality; approximately one week after the FSC announced that the fire was controlled. The lifting of the advice was conveyed to the community through the same mechanisms used to announce the recommended relocation.

Message development

10.126 Experience of the impacts from large-scale fire associated with this type of coal is limited.

10.127 The CHO sought advice from internal and external experts, and reviewed available evidence. While the demand for assurance regarding health risks from the smoke and ash remained high, DH continued to apply the best available evidence to inform messaging and therefore ensured those messages were appropriate and consistent with the level of risk.

10.128 This included reviewing health surveillance data, AV and hospital data, national and international literature and expert opinion.

10.129 Translation of often complex medical and scientific data around issues such as CO or specific kinds of airborne particles into information understood by a lay audience required a highly collaborative approach between public health communications personnel and DH's scientific and medical experts.

10.130 The advent of social media creates a demand for fast and individually tailored responses, but in the health domain accuracy is critical and given the clinical nature and expertise required to provide accurate responses, another approach was required. Regular, common messages were provided through Facebook and Twitter, directing people to appropriate fact sheets, the Community Health Assessment Centre, Nurse-On-Call or other medical assistance as required. This approach ensured general queries could be answered quickly and more serious medical concerns also addressed by suitably qualified health professionals.

Working with stakeholders

10.131 DH was represented on the EMJPIC by the Public Health Communications Manager, DH Media Unit and DH/DHS HHSEM shared service. Local communications activities were also supported through DH regional office, the shared service and seconded health staff from Melbourne Health. These mechanisms allowed DH to share key messages with all other agencies and departments involved in the response in a timely manner.

10.132 In addition to the messaging disseminated directly by DH, every opportunity was utilised to support stakeholders with accurate and timely messaging. As well as contributing to government advertising in local print media and radio, council newsletters and CFA community updates and set messages relating to high and low smoke were provided to the EPA for inclusion in its almost daily media releases.

10.133 In this way, the community received regular, consistent and accurate messages about the best ways to protect their health and the health of those in their care from the impact of Hazelwood Coal Mine Fire.

Social and web publishing

10.134 DH undertook the following social and web publishing activity during the Hazelwood Coal Mine Fire:

- Facebook: published 115 posts to DH's Facebook site. This site grew from 533 to 2,494 likes. Minefire related posts was 269,989, peaking on 5 March.
- Twitter: the @vicgovhealth account grew from 8,300 followers to 8,500 during the period. There were 107 tweets, 86 favourites, 420 retweets and 42 replies
- web: 50 content objects were uploaded to the health.vic.gov.au/hazelwood site. There were 23,255 page views of Hazelwood-related content on DH's website between 22 February through to 20 March 2014
- geolocation: most users across web and social media were from Melbourne, with significant traffic recorded in Morwell, Traralgon, Moe, Warragul and other locations.

11. Relief and recovery

11.1 This chapter sets out the relief and recovery activities in support of the community by the Victorian Government departments and agencies during and after the Hazelwood Coal Mine Fire.

Background

11.2 The Government has a range of emergency relief and recovery plans and arrangements that are ready to be activated in the event of an emergency (see Chapter 6).

11.3 The Government activated existing relief and recovery plans immediately after the commencement of the Hazelwood Coal Mine Fire on 9 February. Due to the unique nature of emergencies, relief and recovery activities aim to be adaptable, flexible, responsive and supportive of local councils and the community's changing needs.

11.4 All Victorian Government agencies and departments assisted, and continue to assist, in responding to the needs of the communities of Morwell and surrounds.[92]

11.5 Other local, regional and state-based organisations have worked closely with government to assist with community recovery including the Red Cross, Victorian Council of Churches, Salvation Army and the Insurance Council of Australia.

11.6 The recovery activities associated with the Hazelwood Coal Mine Fire are still being coordinated by DHS at a state and regional level, and Latrobe City Council at the local level.

Relief and recovery coordination

11.7 HHSEM activated the Health and Human Services SEMC on 14 January 2014 in response to the Victorian bushfires. The SEMC coordinated DHS's response to the Hazelwood Coal Mine Fire and supported the SHIMT set up by DH to oversee the health response.

11.8 This involved logistical support in deploying DH staff, procuring health equipment, disseminating health information on the recovery website and in the production of joint situation reports up to 28 March 2014. The SEMC includes liaison officers from the Australian Government's DHS and from the Red Cross 2014.

[92] Agencies involved include DHS, DH, FSC, CFA, MFB, DEPI, Parks Victoria, DEECD, DTPLI, DEPI, DPC, DSDBI, SES, Victoria Police, EPA, AV, VicRoads, PTV, Tourism Victoria, Regional Development Victoria, LGV, WorkSafe.

Relief governance arrangements

Regional relief coordination

11.9 On 6 February 2014, DHS, Gippsland local government and relief agencies developed a Gippsland Regional Relief Plan that was ready to activate.

11.10 On 18 February 2014, in response to the Hazelwood Coal Mine Fire, DHS and emergency management partner agencies developed the first draft of the Gippsland Regional Relief Plan (Latrobe Valley Coal Mine Fire Incident) and provided it to agencies. DHS subsequently updated the draft relief plan and distributed it to agencies for comment on 19, 20, 23 and 26 February.

11.11 The Gippsland Regional Relief Plan (Latrobe Valley Coal Mine Fire Incident) was formally approved by the Regional Recovery Coordinator on 28 February (version 1.5) and a subsequent draft was approved on 6 March 2014 (version 1.6).

11.12 A DHS emergency management liaison officer was present at the RCC and attended REMT meetings throughout the Hazelwood Coal Mine Fire.

State relief coordination

11.13 On 7 February 2014, DHS updated the State Relief Plan: February 2014. This was updated and endorsed again on 12 February 2014.

11.14 The State Relief Readiness Plan: March 2014 was endorsed on 24 February 2014.

11.15 DHS produced three weekly State Relief Action Plans for the Hazelwood Coal Mine Fire, for the periods 12 to 18 February, 18 to 23 February and 24 February to 3 March. These documents were submitted to the SCC.

11.16 Throughout the Hazelwood Coal Mine Fire, a DHS Emergency Management Liaison Officer was present at the SCC, and DHS coordinated regional teleconferences.

Recovery Coordination

State recovery coordination

11.17 On 21 January 2014, the SCRC noted the State relief and recovery arrangements activated in response to the January fires, including that DHS would lead recovery meetings. The 2014 Bushfire Recovery Coordination Team first met on 24 January to coordinate state recovery for the 2014 bushfires. The State Recovery Coordinator at DHS chairs this team. In consultation with its emergency recovery partners, DHS developed Terms of Reference and the 2014 Bushfires State Recovery Plan. These documents supported a multi-agency approach to recovery management.

11.18 When the Hazelwood Coal Mine Fire commenced, DHS updated the State Recovery Plan to include all state recovery coordination activities associated with the Hazelwood Coal Mine Fire.

Regional recovery coordination

11.19 At the regional level, DHS also has responsibility for coordinating relief and recovery activities. Regional involvement in coordinating operations may be required if there are multiple incidents across a region or the incident exceeds the local council's capacity to respond and the local council seeks assistance. In the Hazelwood Coal Mine

Fire, while it was localised and Latrobe City Council retained responsibility for the coordination of relief and recovery operations, it was necessary for DHS to support Latrobe City Council due to the unusual nature of the event.

11.20 The HHSEM Regional Emergency Operations Centre in Traralgon had been operating since 14 January 2014. HHSEM regional centres were also in operation in other parts of the state in response to other ongoing events. Staff of these centres coordinated relief and recovery activities.

11.21 DHS developed the Hazelwood Coal Mine Fire Recovery Transition Plan, which was signed by the Regional Recovery Coordinator on 7 March 2014. DHS subsequently distributed copies of the plan to agencies.

11.22 On 7 March 2014, DHS, together with Latrobe City Council and lead recovery agencies, developed the draft Hazelwood Coal Mine Fire Recovery Plan and distributed it to relevant agencies. Since that date, DHS updated the draft plan and distributed it to agencies for comment on 9, 13, 17 and 24 March. The latest version of the draft plan was updated and distributed on 8 April.

11.23 In recognition of the need for full integration of regional and local recovery planning, and to provide substantial support to Latrobe City Council in the early recovery phase, DHS embedded a Recovery Management Team to work alongside Latrobe City Council recovery staff and management at the Morwell Council offices from 11 to 31 March. This team established and supported the recovery governance arrangements and developed the Hazelwood Coal Mine Fire Recovery Plan.

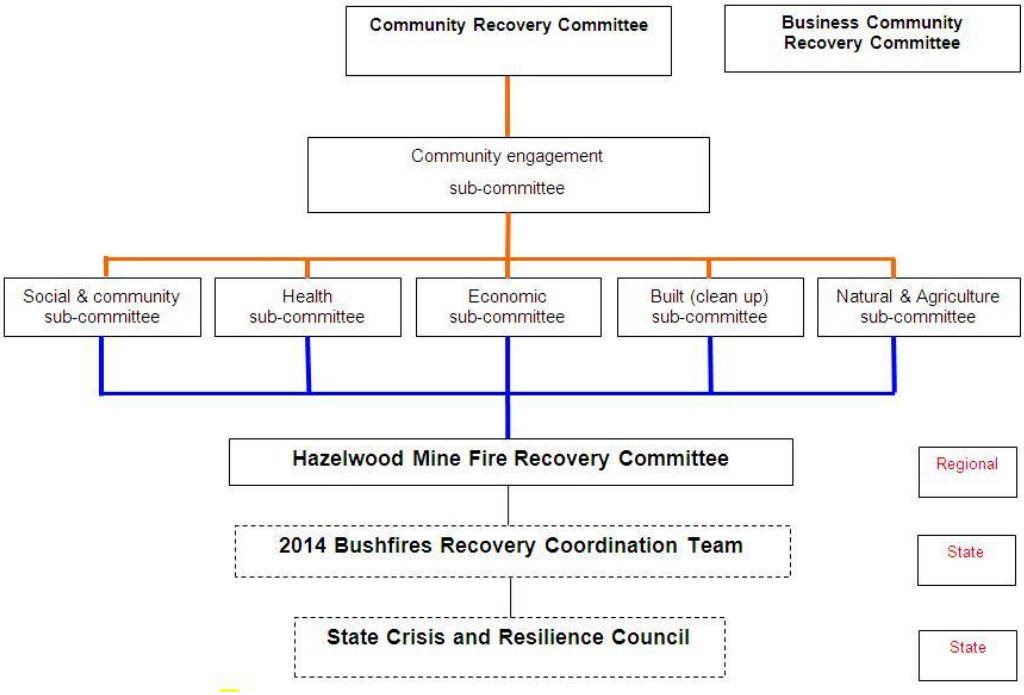
11.24 DHS chairs the Hazelwood Coal Mine Fire Recovery Committee, established on 11 March 2014. Membership of this committee includes representatives from DH, Latrobe City Council and other key agencies.

11.25 On 11 March 2014 the Hazelwood Coal Mine Fire Recovery Committee endorsed the following six recovery streams and lead agencies to support municipal recovery planning and implementation:

- social and community – DHS
- health – DH
- economic – DSDBI
- built environment (clean-up) – LGV
- natural and Agriculture environment – DEPI
- community engagement – DHS/Latrobe City Council.

11.26 The Hazelwood Coal Mine Fire Recovery Committee is coordinating all recovery activities and its members are also represented on each of the subcommittees. Links between the subcommittees and their recovery initiatives have also been established through representation on the community engagement subcommittee.

11.27 The following table shows the Hazelwood Coal Mine Fire recovery governance arrangements:



11.28 DHS chairs the social and community subcommittee and is also a member of the community engagement, health and clean-up sub-committees. DH chairs the health sub-committee and is a member of the social and community and the community engagement sub-committees. DHS has developed, or assisted with the development of, Terms of Reference and recovery plans for each of the Hazelwood Coal Mine Fire recovery subcommittees.

11.29 At the time of this Submission, the Hazelwood Coal Mine Fire Recovery Committee and all six sub-committees continue to meet regularly.

DHS relief activities

11.30 Relief activities undertaken by the Victorian Government for members of the community affected by the Hazelwood Coal Mine Fire included:

- relief and respite centres
- Respite and Relocation Assistance Centres
- Vulnerable People in Emergencies response
- outreach
- DHS hotline
- psycho-social recovery information sessions
- Register.Find.Reunite
- transport relief
- other relief.

11.31 Each of these is discussed below.

Relief and respite centres

11.32 On the evening of 9 February 2014, Latrobe City Council opened two emergency relief centres for residents and the travelling public. The emergency relief centres were located at the Moe Town Hall and Traralgon Town Hall. The centres were operated by Latrobe City Council with the Red Cross, Victorian Council of Churches and other relief agencies. Victoria Police also provided two members to the relief centres for the first evening and overnight.

11.33 Services offered at the emergency relief centres included personal support and information, meals, material needs, emergency shelter and temporary accommodation. A total of 660 people registered at the centres, with 259 staying overnight. Both centres closed by 11 February 2014 due to lack of demand by the affected community.

11.34 As people contacted DHS seeking information about options to deal with the air quality, on 19 February 2014 DHS established such a respite centre in Moe. The respite centre was staffed by DHS, AV, Victoria Police, EPA, the CFA, relief agencies (Red Cross and Victoria Council of Churches) and local council personnel. The respite centre provided a cool, air-conditioned space where any resident could take a break from the smoky conditions. The respite centre also provided information, personal support and referral for assistance for respite from the poor air in Morwell. Free transport to attend the centre was provided to those who were aged, disabled or required transport assistance.

Respite and Relocation Assistance Centres

11.35 DHS established three Respite and Relocation Assistance Centres in Morwell on 28 February 2014, at DHS office, Commercial Road Primary School, and Senior Citizens Centre. DHS officers assessed residents of Morwell for respite and/or relocation payment eligibility at these centres. It was decided that DHS office did not have sufficient capacity to cope with the high volume of applicants. Accordingly, on 4 March it was closed and on 5 March an alternate centre was opened at the Greek Hall in Morwell, which was better suited to coping with the high volume.

11.36 The following is an example of support provided at Respite and Relocation Assistance Centres:

11.37 A young family attended the Moe Respite Centre seeking a break from the smoke and respite for their sons, aged four weeks and two years. The newborn child had presented at Latrobe Regional Hospital earlier in the week with stomach complaints and breathing difficulties. The family was immediately provided with food and drinks. An appointment was made for the family to attend a Respite and Relocation Assistance Centre to apply for a relocation payment. As the family was low on fuel for their car, DHS transported the family back to their home to pick up supplies and then on to the Respite and Relocation Assistance Centre where a relocation payment was made available to the family. DHS then transported the mother to Moe to collect the funds and assisted her to secure the last remaining room in a motel close to public amenities and transport. Through the collective support of relief and recovery agencies, the family secured safe and reliable accommodation for the rest of the week.

11.38 Vulnerable People in Emergencies

11.39 The Vulnerable People in Emergencies Policy is a collaborative project involving DHS, DH, community service organisations, local governments and Victoria Police. The purpose is to improve the safety of vulnerable people in emergencies through:

- supporting emergency planning with and for vulnerable people
- developing local lists of vulnerable people (Vulnerable Persons Registers), which are available to Victoria Police in its role as evacuation managers, for consideration in response to emergencies.

11.40 Agencies funded by DHS or DH use existing relationships with their clients to identify people who are:

- frail and/or physically or cognitively impaired
- unable to comprehend warnings and/or to respond in an emergency situation.

11.41 These clients are then supported to develop Emergency Response Plans. The Vulnerable People in Emergencies Policy recognises that many vulnerable people are unable to develop Emergency Response Plans and cannot identify personal or community support networks to help them in an emergency. Those people are particularly vulnerable to emergencies and are placed on Vulnerable Persons Registers.

11.42 Through the Vulnerable People in Emergencies Policy, local agencies identified four vulnerable people living in Morwell and placed their details on the Vulnerable Persons Register. The Vulnerable Persons Register was accessed by Victoria Police in response to the Hazelwood Coal Mine Fire and these four individuals were brought to the attention of emergency agencies to ensure their wellbeing was considered.

11.43 Many people in the community may be vulnerable in emergencies due to a range of factors. The Vulnerable People in Emergencies Policy targets a specific group of vulnerable people and is not intended to cater for the needs of all people who may benefit from support before, during and after emergencies. Other programs were in place to provide emergency support to the broader community.

11.44 The Victorian Government funded Vulnerable People in Emergencies Policy also requires councils to keep lists of facilities where vulnerable people are likely to be situated, and include this list of facilities in their municipal emergency management plan. Councils are required to make the list of vulnerable people accessible to Victoria Police in the event of an emergency. A list of facilitates including St Hillary's, schools and pre-schools, disability day programs and group homes in Morwell were available to Victoria Police for its consideration in relation to relocation.

Outreach

11.45 Outreach support is an important component of recovery. DHS coordinated Red Cross outreach to residents in the southern area of Morwell to ensure residents knew how to access information and support. The Latrobe City Council, supported by 31 other councils, the CFA, SES and the Victorian Council of Churches, also conducted outreach to residents across Morwell and businesses in the Morwell CBD. A total of 6,441 households were visited. Outreach activities identified 20 households experiencing social isolation and/or complex issues and these households were followed up by DHS (nine households) and Red Cross (11 households). This was a key method of communicating information to community members, and for those who were not at home, a calling card was left.

11.46 DHS met with 78 aged residents at the Maryvale Crescent public housing units in Morwell on three occasions during the event: 19 February, 26 February and 27 March 2014. DHS proactively supported the residents by providing practical assistance and information as required.

DHS hotline

11.47 DHS operated a free information hotline (on 1800 006 468)_ from 21 February to 21 March 2014. The hotline provided the Morwell community with information on respite and relocation payments and other available support. During this time 10,332 telephone calls were received. From 21 March, DHS ensured that residents were made aware of the ongoing availability of support and assistance via the Community Information and Recovery Centre and the Latrobe City Council through a dedicated call centre (1800 017 777) that was established on 20 March.

Psycho-social recovery information sessions

11.48 In recognition of the importance of psycho-social recovery for residents and communities following an emergency, DHS engaged clinical psychologists Dr Rob Gordon and Dr David Younger to host two psycho-social recovery information sessions on 13 March 2014. The first session was designed to assist Latrobe City Council staff and government communications professionals to improve their communications with local residents with a focus on improving messaging to people experiencing high levels of stress and anxiety. The second session for health professionals focused on the challenges of correctly diagnosing symptoms that may present from anxiety, psychosomatic responses and toxic exposure.

Relief and recovery communications and information

Lead-up to the Hazelwood Coal Mine Fire

11.49 During the 2013-14 fire season and prior to the Hazelwood Coal Mine fire, the SEMC's Public Information Unit was active. The Public Information Unit was distributing information about the availability of and eligibility criteria for emergency relief and re-establishment payments via the Recovery website, the VERIL and in media lines issued to other departments.

11.50 In the week leading up to the Hazelwood Coal Mine Fire, the SEMC Public Information Unit prepared current information the Recovery website, the VERIL and all relief and recovery messages, with procedures in place to update this information as required – including out of hours. Preparation also involved:

- the distribution of key emergency relief and recovery information 'lines' across WoVG, via the EMJPIC
- production, printing and distribution of 'After the Fires' packs (of fact sheets on various topics) to all DHS regions, ready for use in the event of a major incident
- public information

11.51 HHSEM undertook a range of public communication activities to reach Morwell residents, through:

- updates of the Emergency Relief and Recovery Victoria website, as required

- updates of VERIL scripts, as required
- media interviews with DHS spokespeople (TV, radio and newspapers), especially on the provision of emergency financial assistance for respite, and later relocation
- briefings and media lines for DHS regional staff attending public meetings at Morwell (14 and 18 February)
- media lines drafted daily for DHS spokespeople at Morwell/Traralgon
- contributions to a WoVG print and radio advertising campaign (initiated by DPC) to inform locals of current activities, and offering phone numbers and websites for more information
- contributions to a twice-weekly newsletter that was letterbox-dropped to houses in Morwell, with hard copies distributed at community venues such as Morwell Neighbourhood House, Morwell rail station, aboard V/Line trains, at CFA info bus stops, etc
- contributions to the fortnightly recovery newsletter coordinated by council
- Twitter and Facebook messaging, and online monitoring of relevant social media outlets

Register.Find.Reunite

11.52 Victoria Police activated the Red Cross Register.Find.Reunite service during the 2014 bushfire season, prior to the commencement of the Hazelwood Coal Mine Fire. This service enables individuals to register their whereabouts during an emergency. Then, with the individual's permission, a matching process enables Red Cross to share details so that family, friends and loved ones can reunite with affected individuals. On instruction from the office of the Minister for Police and Emergency Services, the service was formally activated for the Hazelwood Coal Mine Fire on 27 February 2014, operating at DHS Respite and Relocation Assistance Centres in Morwell and the Community Respite Centre in Moe, to assist family and friends to find individuals who elected to take a break away from Morwell.

11.53 A total of 5,300 registrations were taken via Register.Find.Reunite over 18 days. Red Cross subsequently telephoned 659 Morwell residents who had registered with Register.Find.Reunite and were either over 70 years old, had significant health issues or had other characteristics that could have made them more vulnerable (for example, young children) to check on their welfare and provide them with information.

HHSEM communications activities

11.54 HHSEM and DH contributed to a range of public communication activities that provided information and advice to Morwell residents.

11.55 The Community Recovery Committee (formerly the Community Advisory Group that advised the fire agencies during the response period) set up an online community noticeboard to share information with the broader Morwell community.

11.56 HHSEM employed a Community Engagement/Communications Officer (from 22 April) to work with council, the local community, DHS recovery officers and the local DH

office for a three-month period to support their various community engagement and communications activities.

Other relief activities

11.57 A range of other respite assistance initiatives were made available by the Victorian Government to the Morwell community, including:

- free entry to Melbourne Museum venues (used by 171 people)
- free entry to Zoos Victoria zoos (used by 5,372 people)
- free transport and food and drink vouchers for the Morwell community to attend activities in neighbouring communities.

Transport relief

11.58 Regional transport planning undertaken by PTV is supplemental to local plans and is designed to facilitate access to additional resources should there be an escalation in transport needs following an incident. Bus operators servicing the Latrobe Valley are engaged as necessary as per the municipal emergency management arrangements. PTV has a regional office that can assist with engaging additional bus operators.

11.59 Prior to the establishment of the Moe Community Respite Centre on 19 February 2014, transport planning was initiated by the Community Health Team at incident level using local arrangements and municipal support. DTPLI also discussed contingency transport operations with the Taxi Services Commission in the event that taxis were required to support people with special transport needs. In the event that additional respite centres were required, PTV would have coordinated an augmented transport capacity with additional buses.

11.60 DTPLI, PTV and DHS regularly conferred at strategic levels (through the SEMT) and operationally (at REMT and with the local level Community Health Team) to consider transport options. This included an option to issue transport vouchers to assist people in using transport without additional personal cost. PTV offered advice and support to the Student Transport Unit of DEECD to assist its planning in the movement of 210 school children from Thursday 20 February 2014.

11.61 Both PTV and DTPLI were represented at regular meetings of the EMJPIC. PTV Customer Service and Call Centres were updated with travel information details.

11.62 Following the establishment of the Moe Community Respite Centre and health facility, public transport was serviced by a normal timetabled bus service and PTV advised DTPLI that public transport within the Latrobe Valley was operating as business as usual. The principal bus operator in the region, Latrobe Valley Bus Lines, reported that there was no additional demand for transport to both centres.

11.63 On 27 February 2014, the SCRC:

- noted the decision by the CHO on the precautionary recommendation to relocate vulnerable people who live and work in southern Morwell
- supported DHS identifying options for accommodation for relocated vulnerable people
- noted that DTPLI would continue to design relocation transport options.

11.64 On 27 February 2014, DTPLI asked PTV to assist, if necessary, in facilitating the mobilisation of additional bus resources with a capacity for several hundred people to be moved without tickets. On 28 February, PTV confirmed that an additional 26 buses could be made available. PTV noted that bus routes were to be determined in accordance with existing emergency management plans, such as the evacuation subplan of the State HazMat Plan.

11.65 On 28 February 2014, the Government announced that V/Line would provide a free return travel trip and local bus travel for Morwell residents who wanted to take a break from the conditions caused by the Hazelwood Coal Mine Fire. Complimentary train travel was available from Morwell to Melbourne or any V/Line station and back to Morwell. Residents of Morwell were able to obtain a free return ticket at Morwell station. Local travel on the Morwell town bus was also free for local residents. Morwell customers with a V/Line ticket did not need a myki card for the journey, which also extended to free travel on metropolitan trains, trams and buses. Customers were able to change the date of return by exchanging the ticket at a V/Line station before that date. PTV also undertook further planning in the likelihood that residents in the area south of the rail line required relocation.

11.66 By mid March 2014, when air quality health warnings were lifted, approximately 13,500 free V/Line rail tickets had been issued.

Relief payments

11.67 Relief payments provided by the Victorian Government to members of the community affected by the Hazelwood Coal Mine Fire included Personal Hardship Assistance Program respite payments and Personal Hardship Assistance Program relocation payments. Detail on these payments, and activities undertaken to mitigate the risk of fraud, are set out below.

Personal Hardship Assistance Program respite payments

11.68 DHS administers the Victorian Government's Personal Hardship Assistance Program, which provides emergency relief and re-establishment payments to support the immediate and longer-term needs of affected individuals and households.

11.69 DHS recognised that some Morwell residents were experiencing personal hardship as they tried to seek respite from the smoke and ash from the Hazelwood Coal Mine Fire. DHS made available a tailored Personal Hardship Assistance Program, called 'respite payments', for Morwell residents who met the following criteria:

- hardship experienced by the smoke related to the fire
- proof of Morwell address as primary place of residence
- proof of low income, for example, pension or benefit
- intention to relocate from Morwell for the purpose of respite, and the planned destination.

11.70 From 21 February 2014 respite payments of $500 per household were made available. DHS officers could approve up to $1,250 per household, by exception. Factors to consider were:

- the size of the household's membership

- where a family or household would relocate to for respite purposes
- mode of travel
- accommodation type, for example, whether the family would stay with family or in paid accommodation.

11.71 The eligibility criteria also reflected the issues associated with the fire and were based on the known facts and triggers. The smoky conditions associated with the Hazelwood Coal Mine Fire persisted and Morwell residents continued to be impacted by smoke and ash (to varying degrees). Accordingly, a second respite payment of $500 was made available to eligible Morwell residents on 7 March 2014.

11.72 As of 28 April 2014, 4,202 respite assistance payments totalling $2,107,500 had been made to Morwell residents.

Personal Hardship Assistance Program relocation payments

11.73 On 28 February, following the CHO's recommendation that 'at risk' residents living in the south area of Morwell should temporarily relocate away from the smoke, the Premier announced the availability of relocation payments. 'At risk' residents included pregnant women, residents aged 65 years and over, children under five years and anyone with pre-existing heart or lung conditions.

11.74 Relocation payments were made available by DHS to alleviate personal hardship arising from the effects of the emergency by helping to meet the immediate essential health, safety and wellbeing needs of impacted individuals and households. The payments covered needs such as transport, accommodation, medical care and other personal expenses. DHS coordinated and made the payments.

11.75 The Hazelwood Coal Mine Fire posed unique issues. For example, homes were not destroyed (as often happens following other natural disasters), but some residents did require temporary accommodation away from the smoke. In recognition of these issues, relocation payments were made available for 'at risk' residents who met the following criteria:

- hardship experienced by the continuing emissions from the fire
- proof of address within the affected area (the south area of Morwell) as the primary place of residence
- proof of low income (for example, pension or benefit)
- need to relocate because of assessed vulnerability.

11.76 Eligibility for a personal hardship relocation payment was assessed on a case-by-case basis and was in the order of $1,250 per week per household or $750 per single person household, aligning with the emergency relief payment to assist with temporary accommodation needs.

11.77 In response to the ongoing smoke and ash across parts of Morwell, the government approved second and third relocation payments for eligible residents on 7 and 14 March 2014.

11.78 As of 28 April, 1,307 relocation payments totalling $1,251,750 had been made to Morwell residents.

11.79 DHS provided additional assistance by finding accommodation options for the purpose of temporary relocation for people who required it. The following is an example:

> A female resident in her mid 90s and living on her own in the south area of Morwell without any support services caught a bus to the Moe Community Respite Centre seeking help to stay out of the smoke. The woman told DHS she had no family, only a couple of acquaintances, and was finding it difficult to get around on her walking frame. She was also struggling to breathe at times. DHS drove the woman to a Respite and Relocation Assistance Centre where she successfully applied for a relocation payment. DH sourced accommodation for the woman at an aged care supported accommodation facility in Churchill. DHS contacted Red Cross to assist the woman to make a smooth transition to her temporary accommodation. Red Cross volunteers helped pack the woman's belongings then visited her every few days to check in, have a chat and confirm her health, safety and wellbeing.

Fraud mitigation

11.80 To mitigate inappropriate access of respite and relocation payments, DHS implemented a number of measures to help mitigate misuse and fraudulent activity:

- DHS conducted an interview with each applicant to check their identity and eligibility criteria, their individual needs and their proposed travel and respite plans.
- Applicants were advised that if they received a relocation payment, their details could be shared with other agencies, including Victoria Police in Morwell.
- Applicants were advised that if they decided to return home early, they should advise DHS immediately, so that DHS could tell the police and avoid any false alarms.
- Where it has been identified that funds could have been obtained inappropriately, DHS is providing information to Victoria Police for investigation.

Recovery activities

11.81 Recovery activities from the Hazelwood Coal Mine Fire provided by the Victorian Government include the Community Information and Recovery Centre and the activities of relevant committees. These are discussed further below.

Community Information and Recovery Centre

11.82 On 28 February 2014, in response to the Morwell community's ongoing need for information and recovery support, the Latrobe City Council, in partnership with DHS, opened a Community Information and Recovery Centre in Morwell. The Community Information and Recovery Centre, which remains open, was initially staffed by DHS, AV, EPA, DEECD and Latrobe City Council.

11.83 The Community Information and Recovery Centre is a one-stop shop for information, cleaning assistance and other support. Agency representation has evolved in response to the community's needs and now includes the following services:

- on Fridays, Relationships Australia provides free counselling by appointment

- on Wednesdays, Insurance Council of Australia provides appointments for individuals to receive tailored insurance advice. General insurance advice is available at other times
- referrals to local agencies for support including for financial, generalist and family counselling.

Social and community recovery subcommittee

11.84 At the time of this Submission, the social and community recovery subcommittee,[93] chaired by DHS, is investigating a range of community strengthening activities that build on current community development opportunities within Morwell and surrounding areas. The focus is on direct support for affected people and to create linkages with existing programs. Work is also occurring around creating community connections.

11.85 Currently, services engaged with this committee are monitoring demand, particularly in respect to financial counselling and personal hardship, school support demand, and wellbeing. In relation to school support, considerable focus is being given to lost learning time.

Health recovery subcommittee

11.86 The health recovery subcommittee,[94] chaired by DH, has identified the following priorities:

- support the health-related needs of the community
- maintain health sector capacity and capability to respond in the short term and ensure an appropriate transition of the health care response to the Hazelwood Coal Mine Fire back to normal business
- provide health risk management advice to the public, health professionals and government through the recovery process.

Economic recovery

11.87 Economic recovery activities from the Hazelwood Coal Mine Fire provided by the Victorian Government include the Morwell Business Relief Fund, support for small businesses and the activities of economic recovery committees. Each of these is discussed further below.

11.88 Regional Development Victoria has also offered support to Latrobe City Council for events to assist in recovery and encourage residents and visitors to support local businesses and service providers.

Morwell Business Relief Fund

11.89 On 3 March 2014, the Premier announced the establishment of the Victorian Employers' Chamber of Commerce and Industry Morwell Business Relief Fund to

[93] Sits underneath the Hazelwood Coal Mine Fire Recovery Committee. See discussion above.
[94] Sits underneath the Hazelwood Coal Mine Fire Recovery Committee. See discussion above.

support businesses that have been adversely affected by the Hazelwood Coal Mine Fire.

11.90 The $2 million fund is being administered by Victorian Employers' Chamber of Commerce and Industry with the aim of providing short-term financial support through small grants of between $1,000 and $10,000 to owner-managers of small businesses in the Morwell area that have experienced income loss.

11.91 As at 30 April, 156 grant applications have been approved, totalling over $1 million granted to small businesses. Victorian Employers' Chamber of Commerce and Industry was assessing further applications.

Support for small businesses

11.92 As part of the economic recovery activities from the Hazelwood Coal Mine Fire, support was provided to small businesses, including through Small Business Support Workshops, the Small Business Bus and the Small Business Mentoring Service.

Small Business Support Workshops

11.93 Four Small Business Support Workshops were held in Morwell by Business Victoria to assist businesses to manage operations and plan for their recovery. The workshops were held on 10 March (two held – afternoon and evening), 17 March and 24 March. There were a total of over 58 participants at the four workshops. The workshops offered specific information for small business owners to help them manage their business operations through the crisis and plan for recovery.

Small Business Bus

11.94 The Small Business Bus, operated by Business Victoria, visited Morwell on six days: 3-4 March, 20 and 21 March and 28 and 29 March 2014. A total of 34 mentoring sessions were delivered on the Bus and 75 'business engagements' took place, in which a business owner received assistance from the Small Business Victoria Information Officer.

Small Business Mentoring Services

11.95 The Small Business Mentoring Service was very active in Morwell, providing mentoring sessions at the Latrobe City Council Offices, at the Small Business Bus and at the final Small Business Support Workshop held on 24 March 2014. Mentors attended all of the four workshops held. The service also doorknocked businesses in Morwell to provide direct assistance. In total 137 business owners received mentoring over 14 separate days from 3 to 29 March (including the 34 sessions delivered with the Small Business Bus).

Economic recovery committees

11.96 A Community Business Recovery Committee has been established to provide advice to Latrobe City Council about opportunities to promote economic development in the Morwell CBD.

11.97 The economic recovery sub-committee[95] is working with the Community Business Recovery Committee to identify a range of opportunities to promote economic development in the Morwell CBD. Current proposals include a business leader breakfast and Morwell business event. The timing of these events is being worked through in consultation with the group leading the 'Thank the firies' day event, which is planned for late May.

Economic Recovery Package

11.98 Regional Development Victoria is also delivering 2014 Bushfires Economic Recovery Package. $2.35 million has been made available to support the economic recovery of communities affected by bushfires in January and February 2014. Regional Development Victoria is already in discussion with Latrobe City Council about a number of projects in Morwell to be considered under this package.

Built environment (clean-up)

Planning and governance

11.99 On 28 February 2014, the SCRC supported DTPLI, MAV, LGV, DSDBI, EPA and FSC to set up a team to explore options for a town clean-up. In developing a *Morwell Clean-up Plan*, responsibility was structured as follows:

- DTPLI was responsible for coordinating the initial planning and development of options
- LGV was responsible for coordinating the implementation of the Plan in collaboration with Latrobe City Council
- Latrobe City Council was to become responsible for local operational delivery of the plan.

11.100 On 10 March DTPLI, with relevant agencies, completed an initial version of the *Morwell Clean-up Plan* and several options for implementation. This coincided with the decision by the FSC to declare the fire as 'contained'. Coordination of clean-up at state level then transitioned back to DHS, as per the state emergency management arrangements. At the regional level, the clean-up was coordinated by the clean-up subcommittee (this subcommittee sits under the regional Hazelwood Coal Mine Fire Recovery Committee) that was chaired by LGV. LGV supported Latrobe City Council to manage local clean-up activities.

11.101 In planning and implementing the Clean-up Plan, LGV staff toured affected properties with the head contractor to ascertain the most suitable cleaning options, and worked with the contractor to develop the areas that should be cleaned and type of cleaning to be undertaken. LGV staff obtained quotes and costings from the contractor to develop a budget for the assisted cleaning, and worked with other agencies to ensure consistency in cleaning approaches between schools, aged care facilities and early childhood centres. LGV provided the Government with the complete range of costed clean-up options for funding that was endorsed on 14 March by the Clean-up subcommittee and announced by government as a $2 million package on 18 March

[95] Sits underneath the Hazelwood Coal Mine Fire Recovery Committee. See discussion above.

2014. LGV also assisted providing advice between Latrobe City Council and DTF regarding eligibility for Natural Disaster Relief and Recovery Assistance payments from the Commonwealth Government.

11.102 In addition to playing a central role in coordinating the preparation of the clean-up plan in collaboration with Latrobe City Council, LGV provided ongoing support and advice during its implementation. LGV chairs the built environment (clean-up) subcommittee of the Hazelwood Coal Mine Fire Recovery Committee to implement its Clean-up Recovery sub-plan. LGV staff conducted more than 30 visits to Morwell to share emergency management advice. The subcommittee continues to meet to provide advice about the clean-up process. LGV offered Latrobe City Council senior level representation to assist in managing critical local issues associated with the Hazelwood Coal Mine Fire.

Initial cleaning undertaken by Latrobe City Council

11.103 Prior to finalising and implementing the *Morwell Clean-up Plan*, Latrobe City Council commenced immediate action in relation to clean-up and liveability, including providing information to residents, as follows:

- cleaning – Latrobe City Council engaged a number of local contractors to clean the Morwell CBD and the southern area of Morwell. This included high-pressure cleaning of paths, driveways and buildings, as well as cleaning windows and street furniture to remove the dust, ash and debris from the smoke associated with the fire
- information – on 28 February 2014 Latrobe City Council in partnership with DHS opened a Community Information and Recovery Centre in the southern area of Morwell in conjunction with DH, CFA and the EPA, with the aim of providing residents with a place to access council and State Government information in one location
- respite – Latrobe City Council agreed to commence a number of programs to help improve liveability for the Morwell community, including the offer of free respite sessions at nearby movie theatres, sporting activities and other support such as car wash and laundry services. The $50,000 in funding for this was underwritten by DTPLI prior to the official announcement of the *Morwell Clean-Up Plan* by Government to ensure the timely implementation of the plan.

Clean-up activities

11.104 The Morwell Clean-up Program had four inter-related elements:

- public areas clean-up
- assisted residential cleaning
- provision of self-cleaning equipment
- information kits and communications.

11.105 Public areas clean-up involved the cleaning of streets and other public spaces within the town of Morwell. Latrobe City Council is responsible for cleaning public areas, and engaged a head contractor to undertake cleaning of public amenities, street furniture, footpaths and retail walls and windows. The clean-up of public areas by Latrobe City Council is a component of recovery assistance (Category C – Community Recovery

Package) that is fully reimbursed by the Commonwealth Government under the NDRRA – see below.[96]

11.106 Assisted residential cleaning involved professional, assisted cleans of the homes of high-need Morwell residents, including HACC clients. This was estimated to include 650 HACC clients as well as other Morwell residents eligible for HACC services who had not yet utilised the program. Once notified, HACC clients were able to call the dedicated number (1800 017 777) operated by the council to register. Assisted residential cleaning included:

- cleaning of inside windows and ledges, blinds, light fittings and fans
- washing hard floors
- wiping skirting boards and other hard surfaces
- High Efficiency Particulate Air vacuuming of carpets, rugs and soft furnishings
- the cleaning of outside windows and ledges
- removal of ash and dust from verandahs
- wiping outdoor furniture.

11.107 The Latrobe City Council offered residents of the broader Morwell community not eligible for the free cleaning service a free loan of specialized self-cleaning equipment, including:

- outdoor hose connections and hoses
- extension cords
- High Efficiency Particulate Air 14 approved vacuums.

11.108 DTPLI sourced and purchased 70 High Efficiency Particulate Air filter vacuum cleaners, and 30 high pressure cleaners. The High Efficiency Particulate Air filter vacuum cleaners were made available to the Morwell community by the Latrobe City Council. The high pressure cleaners were withdrawn prior to their use due to concerns regarding asbestos.

11.109 Cleaning information and health and safety advice were also provided to the Morwell community. The Latrobe City Council leased additional retail space for the information centre to provide the range of loan equipment, personal protective equipment and fact sheets. The 1800 information numbers were staffed by six council operators.

11.110 As of 2 May 2014:

- 751 assisted clean-ups have been completed
- 623 self clean-up kits have been dispensed
- 685 laundry vouchers have been dispensed
- 1,091 car wash vouchers have been dispensed
- 413 High Efficiency Particulate Air vacuum cleaners have been loaned.

[96] See subchapter below entitled 2014-15 Budget support.

11.111 The bulk of the clean-ups will be completed in May and it is anticipated that all assisted cleans will be completed by the end of May.

Natural and agriculture recovery

11.112 Natural and agricultural recovery from the Hazelwood Coal Mine Fire provided by the Victorian Government includes issues of animal health and welfare, agricultural impacts and the activities of the natural and agriculture recovery subcommittee. Each of these is discussed below.

Animal Health and Welfare

11.113 During and after the Hazelwood Coal Mine Fire, Animal Health and Welfare Liaison Officers worked with local veterinarians, Latrobe City Council and animal aid networks on companion animal matters to ensure arrangements were in place to support residents and to monitor any impact on animals. In addition, information on caring for animals as a result of the fires has been provided by DEPI to the Latrobe City Council for insertion in its residents information pack. Officers are also liaising with local veterinarians and other key stakeholders to monitor agricultural production and animal health.

Agriculture impacts

11.114 DEPI is in regular contact with industry regulators and key agriculture stakeholders. At the time of this Submission, no agricultural impacts have been reported by producers.

Natural and agriculture recovery sub-committee

11.115 The natural and agriculture recovery sub-committee has identified several rehabilitation projects and the need for ongoing air and water quality monitoring by the EPA. The committee's priority recovery areas for natural and agriculture recovery include:

- assessing potential water quality impacts
- documenting mitigation measures
- identifying opportunities to foster community resilience.

Education and early childhood relief and recovery

11.116 The Hazelwood Coal Mine Fire affected a number of children's services, schools and a TAFE within Morwell. In Morwell there are nine children's services, five government schools, two Catholic schools, one independent school and one TAFE. Three of the schools (Commercial Road Primary School, Sacred Heart Primary School and Berry Street School) and two children's services (Maryvale Crescent Kindergarten and Goodstart Early Learning Morwell) are located south of Commercial Road Morwell and within 0.8 to 1.3 kilometres of the Hazelwood Coal Mine.

11.117 Primary school populations range in size from 95 to 330 students. Secondary provision is via the Morwell campus of Kurnai College catering for approximately 380 students year 7 - 10 while a large cohort of students travel out of Morwell to the Gippsland

Education Precinct at Churchill to undertake VCE study. Mainstream education provision is supplemented by an independent, alternative school, Berry Street School.

11.118 Morwell schools cater for students from disadvantaged backgrounds. The Index of Relative Socio-Economic Disadvantage identifies the Local Government Area of Latrobe City as one of the most disadvantaged in all of Victoria. School populations are characterised by high levels of socio-economic disadvantage and transience with some schools reporting up to 30 per cent student mobility. The average Student Family Occupation Index (SFO; used to determine the level of disadvantage in school communities) for Morwell primary schools is 0.80 compared to the state median of 0.50. A large cohort of Koorie young people are represented in both primary and secondary schooling along with higher than average numbers of students with moderate to severe disabilities and living in Out of Home Care. Average student attendance is lower than State median benchmarks; all schools have significant support and wellbeing programs aimed at supporting improved student engagement. The provision of stable learning environments is of critical importance to the engagement of students at Morwell schools.

11.119 Education relief and recovery from the Hazelwood Coal Mine Fire includes issues such as the following:

- incident management, executive oversight and support
- WoVG liaison
- closures and relocations of schools and Children's Services
- health advice
- air quality monitoring
- school respite activity
- cleaning
- education outcomes
- psycho-social impacts
- communications to parents, schools, early Children's Services and TAFE

11.120 Each of these is discussed below.

Incident management executive oversight and support

11.121 DEECD was aware of the Hazelwood Coal Mine Fire from its outset as a result of its membership of the SEMT.

11.122 At the core of its approach was ensuring the safety, wellbeing and education needs of children and young people affected by the Hazelwood Coal Mine fire.

11.123 From 9 February 2014, DEECD's Emergency Management Division worked with the SEV Region staff to manage DEECD's response to the Hazelwood Coal Mine Fire.

11.124 DEECD's Executive Board established a taskforce for the Hazelwood Coal Mine fire comprising the Secretary and six Deputy Secretaries and other relevant DEECD staff. The taskforce met on four occasions between 18 and 21 February 2014.

11.125 The Central Office IMT was activated on 18 February 2014.

11.126 The IMT is a key coordinating component of a command and control structure and is consistent with the AIIMS, which is used by emergency management authorities in Victoria and a number of government departments. A Central Office IMT is activated when an event is of a level of complexity or scale that necessitates the involvement of Central Office in addition to a region/regions in the management of the incident.

11.127 Staff from the Catholic Education Commission of Victoria (CECV) and Independent Schools Victoria (ISV) were invited to join the Central Office IMT in order to ensure a coordinated response across all affected schools and to assist CECV and ISV in making decisions about their schools. CECV attended the majority of the IMT meetings. While ISV was not in a position to attend IMT meetings, the association was updated on a daily basis by telephone or email by EMD staff.

11.128 During the Hazelwood Coal Mine Fire, the Secretary DEECD, Deputy Secretary Regional Services Group, Executive Director Emergency Management Division and the SEV Regional Director visited Morwell on several occasions during the Hazelwood Coal Mine Fire. The purpose of these visits was to meet with principals and directors of affected schools and Children's Services to ascertain, at first hand, the issues schools and Children's Services were experiencing and to discuss potential support mechanisms.

11.129 The three education ministers, Minister Dixon, Minister Lovell and Minister Hall/Minister Wakeling (Minister Wakeling was sworn in as the Minister for Higher Education and Skills in March 2014) were provided with both verbal and formal daily reports on the impact of the Hazelwood Coal Mine fire on education and programs in Morwell from 19 February to 19 March 2014. These reports were also distributed to the Secretary and Deputy Secretaries.

WoVG liaison

11.130 DEECD Central Office was represented by relevant staff at inter-agency meetings, either in person or via teleconference. Meetings included:

- SEMT meetings
- State Strategic Support team meetings, a subgroup of the SEMT
- SCRC meetings
- special SCRC meetings
- EEMJPIC meetings.

11.131 DEECD SEV Region was represented by relevant at inter-agency meetings, either in person or via teleconference. Meetings included:

- REMT meetings
- Regional EMJPIC meetings
- Relief and Recovery Committee meetings.

11.132 Emergency Management Division staff met with the EPA and the CHO, and other representatives from DH to address emerging issues.

11.133 Emergency Management Division staff represented DEECD on various occasions at the SCC as Emergency Management Liaison Officers.

11.134 SEV Region staff represented DEECD on various occasions at the Traralgon ICC and Hazelwood ICC as Emergency Management Liaison Officers.

Closures and Relocations of School and Children's Services

11.135 Between 13 and 18 February 2014, DEECD's SEV Region encouraged schools and Children's Services in the Morwell area to ensure students and staff avoid prolonged physical activity outdoors, consistent with the CHO's High level smoke warning for Latrobe Valley issued on 13 February 2014.

11.136 DEECD commenced planning for the possible relocation of schools and children's services on 18 February 2014.

11.137 On 18 February 2014, following the SEMT meeting, DEECD met with the CHO to discuss the impact of smoky conditions on schools and children's services in Morwell, particularly those close to the mine. In the meeting, DH advised that a report had been received from a children's service of children exhibiting hyperactivity, headaches, flushed faces and longer sleep times. At the meeting the CHO indicated that these symptoms may be consistent with CO exposure. The CHO advised that schools and children's services south of Commercial Road should relocate and indicated that relocation would be consistent with the current recommendations that people spend time out of the smoke if possible. The CHO provided advice in writing.

11.138 On 20 February 2014, in response to the CHO's advice, two schools south of Commercial Road and closest to the mine (Commercial Road Primary School and Sacred Heart Primary School) were relocated away from Morwell. A third school located south of Commercial Road (Berry Street School) had been closed since 13 February 2014. Following the identification of appropriate accommodation, this school was relocated away from Morwell on 25 February 2014.

11.139 By 19 February 2014, three children's services (two on or south of Commercial Road – Maryvale Crescent Pre-school and Goodstart Early Learning Morwell and one located north of Commercial Road, Dala Lidj-Woolum Bellum Kindergarten, had closed pending relocation. By 27 February 2014 four other children's services in Morwell, all north of Commercial Road (Carinya Early Learning Centre, Elizabeth Wilmot Pre-school, Parklands Pre-school and Gunai Lidj Child Care Centre) had closed or announced their intention to close, pending the identification of appropriate accommodation.

11.140 By 4 March 2014 all seven of these children's services were operating at new temporary locations away from Morwell. Two children's services operated by private providers north of Commercial Road had decided not to relocate.

11.141 One children's service (an out of school hours care program located at the Sacred Heart Primary School) was closed during the relocation period. Affected families were offered the out of school hours care service at Tobruk Street Primary School.

11.142 SEV Region provided daily transport for students of Commercial Road Primary School to and from their new temporary school locations in Moe and Newborough. Sacred Heart Primary School arranged its own transport to and from the new temporary location in Newborough.

11.143 The Morwell campus of GippsTAFE monitored conditions and modified work locations for staff and dispersed classes as required.

11.144 On 17 March 2014 the CHO lifted the advice for temporary relocation of 'at risk' groups in the southern parts of Morwell, advising that they can now plan to return to

their homes and work place. This led to the commencement of the clean-up of the schools and children's services in Morwell that had been vacated and the planning for the return of students, children and staff.

11.145 By the start of Term 2 on 22 April 2014, all schools and children's services in Morwell had been cleaned and staff and children had returned.

11.146 The following table shows the status of Morwell education facilities during and after the Hazelwood Coal Mine Fire:

Facility	Sector	From mine	Date closed	Date relocated	Relocated to	Date returned
Berry Street School	Independent specialist school	1.3km	13 February 2014*	25 February 2014	Yallourn North Community Hall	22 April 2014
Carinya Early Learning Centre	Early Childhood – Latrobe CC	2.4km	27 February 2014	3 March 2014	Traralgon ELC and Moe P.L.A.C.E.	24 March 2014
Commercial Road Primary School	Government school	1.1km	N/A	20 February 2014	Moe (Elizabeth Street) Primary School Newborough East Primary School Newborough Primary School	22 April 2014
Dala Lidj-Woolum Bellum Kindergarten	Early Childhood	2.0km	19 February 2014	25 February 2014	St Luke's Anglican Kindergarten Moe	22 April 2014
Elizabeth Wilmot Kindergarten	Early Childhood – Latrobe CC	3.6km	27 February 2014	3 March 2014	Glendonald Park Pre-school, Churchill	24 March 2014
GippsTAFE	Higher Education	2.2km	N/A	N/A	N/A	N/A
Goodstart Early Learning	Early Childhood	1.2km	19 February 2014	24 February 2014	Goodstart locations, Traralgon	15 April 2014
Gunai Lidj Childcare	Early Childhood	1.1km	27 February 2014	4 March 2014	Moe ELC	10 April 2014

Facility	Sector	From mine	Date closed	Date relocated	Relocated to	Date returned
Hazelwood North Primary School	Government school	5.2km	N/A	N/A	N/A	N/A
Kurnai College	Government school	3.9km	N/A	N/A	N/A	N/A
Kylie Early Learning Centre	Early Childhood	2.0km	N/A	N/A	N/A	N/A
Maryvale Crescent Kindergarten	Early Childhood – Latrobe CC	0.8km	17 February 2014	24 February 2014	Moe P.L.A.C.E.	24 March 2014
Mid Valley Kinder and Childcare	Early Childhood	3.5km	N/A	N/A	N/A	N/A
Morwell Park Primary School	Government school	3.4km	N/A	N/A	N/A	N/A
Morwell Primary School	Government school	3.8km	N/A	N/A	N/A	N/A
Parklands Kindergarten	Early Childhood – Latrobe CC	4.3km	27 February 2014	3 March 2014	Moe P.L.A.C.E.	24 March 2014
Sacred Heart Primary School	Catholic school	1.2km	N/A**	20 February 2014	Lavalla Catholic College, Moe	N/A
St Vincent de Paul's Primary School	Catholic school	2.6km	N/A**	N/A	N/A	N/A
Tobruk Street Primary School	Government school	2.5km	N/A	N/A	N/A	N/A

(Note: * DEECD received advice that Berry Street School had been closed on 10 and 11 February due to fires in the area, reopened on 12 February, then closed from 13 February. Berry Street School was listed on DEECD's Closures page from 20 February.

** Sacred Heart and St Vincent de Paul's Primary Schools were closed on 10 February due to fires in the area, not due to the smoke and ash. Sacred Heart's out of school hours care service was closed from 20 February.

Health advice

11.147 On 11 and 12 February 2014, circulars were issued to schools and children's services asking principals and service providers to take appropriate precautions for the health and wellbeing of staff and students, particularly those with heart and respiratory conditions.

11.148 On 13 February 2014, the CHO issued the first high level smoke warning for Latrobe Valley, stating that '…those at high risk should avoid prolonged or heavy physical activity outdoors…' This high level smoke warning for Latrobe Valley was reissued on 17 February 2014.

11.149 On 18 February 2014, DEECD sought advice from the CHO about the health risks associated with the Hazelwood Coal Mine Fire for students and staff in schools and children's services in the Morwell area.

11.150 On 19 February 2014, approved letters and question and answer sheets were distributed to families via their child's school. Separate communiqués were developed for facilities that had relocated as well as those that were remaining in Morwell.

11.151 On 20 February 2014, approved letters were sent to the SEV Region to distribute to children's services to send to families.

11.152 From 21 February 2014 DEECD put in place an on-call health advice service to schools and Children's Services. A team of three Primary School Nurses were pulled together to provide this service. No calls or requests for nurse support were received during the fire period.

11.153 DEECD provided 11 communiqués to SEV Region staff, principals, children service's directors and parents consistent with DH and EPA messages.

11.154 Three former principals attended the three DHS information and recovery centres established in Morwell (at Commercial Road Primary School, Hazelwood Road and Maryvale Road from 28 February to 2 March 2014). One former principal also attended the centre at Commercial Road Primary School on 3 March and 4 March 2014. The principals provided advice to families on access to Children's Services and schooling options should families choose to relocate out of Morwell.

11.155 The CFA and Latrobe City Council distributed face masks around the Morwell area. Following consultation between DEECD and DH on 24 February 2014, DH did not recommend the use of face masks for children due to the impracticality of prolonged use by children and the likelihood that most generic masks would not fit a child's face. Instead of wearing masks, DH recommended that children reduce their exposure to smoke and ash by remaining indoors or taking respite from the area. The introduction of air quality monitoring assisted in this practice. This advice was followed by schools and children's services.

Air quality monitoring

11.156 As mentioned above, on 11 and 12 February 2014, circulars were issued to schools and children's services asking principals and service providers to take appropriate precautions for the health and wellbeing of staff and students, particularly those with heart and respiratory conditions.

11.157 On 12 February 2014 at the SEMT meeting, DEECD raised the issue of air quality and its concern regarding the impact on schools and children's services in the vicinity of the

Hazelwood Coal Mine. This issue was submitted in the SEMT Situation Report on 12 February 2014.

11.158 At its meeting of 18 February 2014, DEECD's Executive Board took the decision to secure air quality monitoring for schools and children's services across Morwell.

11.159 In response to the Executive Board's decision, DEECD's contractor DTZ engaged hygienists to conduct air quality monitoring using hand-held devices at 21 facilities in Morwell and surrounding areas. This monitoring gave an instantaneous reading of carbon dioxide, CO and air particulates (PM10) in specific locations. Monitoring using hand-held devices was followed by the installation of real-time data logging monitors at these sites.

11.160 There were eight facilities north of Commercial Road in Morwell that continued to operate during the Hazelwood Coal Mine Fire. These facilities included four government schools (Morwell Primary School, Morwell Park Primary School, Tobruk Street Primary School and Kurnai College), one Catholic school (St Vincent de Paul's Primary School), two children's services (Mid Valley Kindergarten and Child Care and Kylie Early Learning Centre) and GippsTAFE. Air quality assessments were conducted at these locations from 19 February until 27 March 2014

11.161 The air quality monitoring equipment enabled staff to monitor the indoor concentrations of CO, carbon dioxide and particulates (PM10), relocate children outdoors when it was clear outside and ventilate the buildings by opening doors and windows.

11.162 Principals and children's services directors were briefed on how to read the data produced by the monitors and DEECD engaged a hygienist to provide further assistance. The hygienists provided regular advice to schools and Children's Services on air quality readings. It was an expectation of DEECD and SEV Region that had there been sustained levels of poor air quality observed by the hygienist that this would be reported to DEECD and that appropriate action would be taken including the implementation of further relocations. No such reports were received from the hygienists.

School Respite Activity

11.163 DEECD encouraged schools in the Morwell area that had not relocated to undertake respite activities at locations with better air quality to enable children to undertake physical activity and to assist in psycho-social wellbeing given the uncertain duration of the fire. Activities included trips to the beach, swimming pools, the Melbourne Zoo and historic towns in Gippsland. Some schools rotated students to other schools for a day at a time as well as taking excursions out of the area. Five government schools undertook a total of 44 respite activities from 23 February to 27 March 2014. DEECD also provided funding for bus travel to respite locations and additional teaching staff to support these trips.

11.164 The Catholic Education Commission of Victoria provided respite to its school north of Commercial Road through visits to schools outside of Morwell on three occasions and attendance at community engagement activities organised by the Morwell Emergency Management Committee. Other Catholic schools in the Latrobe Valley conducted activities according to the weather and the air quality on the particular day.

11.165 The Morwell campus of GippsTAFE continued its classes during the period and maintained a policy to send home any students and staff affected by smoke.

11.166 Schools that engaged in respite activities consistently reported the benefits for children having time away from the smoky conditions. To this end, the Morwell Primary School prepared a 'thank you' gift book from students and staff to show their appreciation of DEECD's efforts in supporting them through the fire.

Cleaning

11.167 On 26 February 2014, DEECD approved additional funding support for government schools in the Morwell area to undertake daily cleaning required to remove ash and dust from inside buildings. This occurred throughout the fire.

11.168 On 21 March 2014, a cleaning contractor engaged by DEECD to clean inside and outside the buildings commenced cleaning nine educational sites – two government schools, three non-government schools and four children's services. All cleaning was completed by 17 April 2014. To minimise further disruption to schools and Children's Services much of the cleaning occurred during term holidays (7-18 April 2014).

11.169 Following completion of the clean-up work, hygienists conducted an inspection at the nine sites. The inspections confirmed no visible ash or smoke residue remained in accessible areas and that the clean-up was successful at each site.

11.170 DEECD provided grants to four government schools that wished to arrange their own cleaning. Five children's services arranged their own cleaning and GippsTAFE arranged its own cleaning and will invoice DEECD.

11.171 The clean-up recovery sub-committee of the Hazelwood Coal Mine Fire Recovery Committee was established to develop the clean-up recovery sub-plan.

11.172 DEECD undertook clean-up planning inspections prior to the development of a scope of work by the clean-up recovery sub-committee.

11.173 DEECD's scope of works was based on the residential clean scope of works included in clean-up recovery sub-plan (Version 1, 14 March 2014). The objective of the plan was to outline arrangements for the coordination and management of clean-up recovery activities.

11.174 The investment by DEECD in a comprehensive cleaning strategy was appreciated by schools and children's services and may have offset some of the frustrations of those dealing with the challenges of managing business as usual activities in a difficult environment.

Educational outcomes

11.175 DEECD invested in a range of strategies to ensure that the educational outcomes of students were not adversely affected by smoke from the Hazelwood Coal Mine Fire.

11.176 To minimise disruption and maintain continuity, all the students of Commercial Road Primary School were relocated with their entire class and teacher, and taught together as a group by the same teacher at the new location. Commercial Road Primary School junior school students were relocated to Newborough Primary School; Commercial Road Primary School middle school students were relocated to Moe (Elizabeth Street) Primary School; Commercial Road Primary School senior school students were relocated to Newborough East Primary School. This relocation occurred from 20 February 2014.

11.177 Upon the CHO issuing a Health Advisory on 28 February 2014 recommending temporary relocation away from the smoke for people aged over 65, pre-school aged children, pregnant women and anyone with a pre-existing heart or lung condition living or working in Morwell, the SEV Region issued a communiqué for schools principals to distribute to parents of children enrolled in schools in Morwell who had not relocated advising them that they could temporarily enrol their children at another Victorian Government school closer to where they were temporarily living.

11.178 In addition, on 28 February 2014 a circular was issued to all Victorian school principals informing them of the status of the Hazelwood Coal Mine Fire and informing them that parents seeking to temporarily enrol their child at their schools should be given priority. The circular included advice for principals on how to temporarily enrol students.

11.179 DEECD worked with principals of affected schools to identify areas of need and allocated additional resources to ensure that students who were absent during the relocation period were supported to achieve their individual learning objectives.

11.180 Commercial Road Primary School developed and distributed homework packs to families of students who chose not to relocate to ensure continuity of the students' education.

11.181 Families who chose to relocate outside of Morwell and not temporarily enrol their children in another school were offered access to learning materials through Distance Education Centre Victoria. These materials were made available through the students' home schools.

11.182 DEECD provided additional funding to schools to cover the cost of employing casual relief teachers to replace staff absent as a result of the Hazelwood Coal Mine Fire.

Psycho-social impacts

11.183 There has been no increase in requests for psycho-social support for students as a result of the Hazelwood Coal Mine Fire.

11.184 DEECD offered staff at affected government schools an information session conducted by a DEECD Employee Assistance Program provider. The information session covered reacting to traumatic situations and managing wellbeing. Two schools (Commercial Road Primary School and Kurnai College) attended and provided positive feedback.

11.185 Data from the Employee Assistance Program provider shows that five staff from Morwell sought an individual support session during the period of Hazelwood Coal Mine Fire. Due to confidentiality of the service, data is not available to ascertain whether the support sessions related to impacts of the fire.

Communications to parents, schools, children's services and TAFE

11.186 The Higher Education and Schools Group was provided with communiqués to tailor as required for the needs of staff and students of GippsTAFE. Copies of communiqués developed for government schools and parents of children at government schools were provided to Catholic Education Commission of Victoria and Independent Schools Victoria for their use as required.

11.187 DEECD established a DEECD call centre on the weekend of Saturday 1 March and Sunday 2 March 2014 to respond to phone calls from parents in the Morwell area

about relocating students to other schools given the health advisory. No calls were received.

11.188 DEECD responded to media requests for information so as to ensure the Morwell community was aware of the arrangements for schools and children's services; for example, the Regional Director of DEECD's SEV Region was interviewed on ABC local radio on two occasions and Commercial Road Primary School was featured on the ABC's *7.30* program.

11.189 DEECD SEV Region maintained regular liaison with schools and children's services in Morwell as well as those relocated out of Morwell to monitor staff and student and child wellbeing.

11.190 At the end of the relocation period, Ministers Dixon and Lovell provided schools and children's services with letters for parents acknowledging their commitment to their children's learning and wellbeing and acknowledging the efforts of schools and Children's Services staff.

2014-15 Budget support

11.191 The 2014-15 Victorian State Budget includes significant support for victims of the Hazelwood Coal Mine Fire and the other bushfires, which occurred in January and February 2014. The Victorian Government activated a number of these measures under the NDRRA and a summary of these arrangements for the Hazelwood Coal Mine Fire is provided in the table below.

NDRRA and other financial assistance for communities affected by the Hazelwood Mine Fire February – March 2014

Payment	Administration	Intent	NDRRA	Comment
HOUSEHOLDS				
Emergency Relief Assistance	Administered through DHS	To cover immediate costs (eg emergency shelter, food, clothing and personal items) of households displaced or significantly affected.	A	Standing assistance
Emergency Reestablishment Assistance	Administered through DHS	To cover reestablishment costs of needy households displaced (subject to income and insurance tests).	A	Standing assistance.
Emergency Respite Assistance	Administered through DHS	To cover immediate costs to assist eligible Morwell residents to achieve respite from the consequences of the fire. $500 per household (discretion of up to $1,250 per household).	A	The Commonwealth agreed to this assistance under Category A on a one-off basis. Available from **21 February 2014**
Emergency Respite Assistance **2nd Payment**	Administered through DHS	To cover costs as above. $500 per household only.	N/A	State funding
Voluntary Relocation Assistance	Administered through DHS	To cover relocation costs of 'vulnerable' households advised to voluntarily relocate (e.g. transport, accommodation, medical care and other personal). Up to $1,250 per household per week.	D	The Commonwealth have agreed to this assistance under exceptional circumstances criteria (Cat.D). Formally announced **2 March 2014**
Additional clean-up support	Administered through Latrobe City Council	A $2 million community assistance package to help Morwell residents begin their clean-up of ash left by the Hazelwood mine fire.	N/A	State funding
COUNCILS and AGENCIES				
Emergency protection works and clean-up works	Administered by DTF, Councils submit claim forms	To meet councils' costs of emergency works to protect assets and clean-up.	B	This is standing assistance.
Essential infrastructure repair	Administered by DTF. Councils submit claim forms	To meet majority of councils' cost of repairing roads, bridges and other essential public infrastructure.	B	This is standing assistance.
SMALL BUSINESSES AND PRIMARY PRODUCERS				
Low-interest loans **Directly** impacted	Administered by Rural Finance Corporation	To provide recovery loans to viable businesses directly affected by a significant natural disaster (e.g. burnt premises) – up to $200,000.	B	Announced **4 March 2014**
Low-interest loans **Indirectly** impacted	Administered by Rural Finance Corporation	To provide recovery loans to viable businesses indirectly affected by a significant natural disaster (e.g. suffering loss of income) – up to $100,000.	B	Announced **7 March 2014**
Other assistance	Administered by Victorian Employers' Chamber of Commerce and Industry	$2m **Business Relief Fund** announced by the Premier.	N/A	State funding Announced **3 March 2014**

State Government Victoria

11.192 The 2014-15 Victorian State Budget: *Regional and Rural Victoria Budget Information Paper* notes that, in relation to the Hazelwood Coal Mine Fire:

- The Government has committed $11.5 million specifically to assist those affected by the Hazelwood Coal Mine Fire.
- Eligible Morwell residents have been provided with access to around $3.7 million for personal hardship, respite and relocation grants under the NDRRA. Funding of $2 million will assist Morwell residents to clean up after the impact of the fire. This includes access to clean-up equipment through Latrobe City Council, as well as vouchers for the cleaning of clothes and cars.
- Support for students and schools includes $1.3 million to help with the temporary relocation of students and the clean-up of affected kindergartens and school sites. Eligible primary producers, small businesses and not-for-profit organisations are provided with access to low-interest concessional loans of up to $100,000. In addition, businesses that suffered a loss of income as a result of reduced local trade are assisted through a Business Relief Fund of $2.1 million. Given the exceptional circumstances, the Commonwealth agreed to activate this business relief funding under Category D of the NDRRA on a 50:50 cost-sharing basis.
- The ongoing health of communities in the Morwell area will be protected with an additional $2.4 million for monitoring of the air and water quality levels by the EPA, while also assessing potential long-term environmental impacts.
- The government has also committed $5 million over two years for the Hazelwood Coal Mine Fire Inquiry.

11.193 From 21 February 2014, the Victorian Government made available a one-off Personal Hardship Voluntary Relocation Payment. The Victorian Government requested that this assistance be cost shared on a 50:50 basis with the Commonwealth Government, under Category D of the NDRRA. Category D assistance is provided only under exceptional circumstances. Following the Victorian CHO's temporary relocation advice on 28 February 2014, a payment of up to $1,250 per household per week was announced on 2 March 2014 to cover the relocation costs of 'vulnerable' households advised to voluntarily relocate.

11.194 The Commonwealth Government had also agreed to providing Emergency Respite Assistance under Category A of the NDRRA to cover immediate costs to assist eligible Morwell residents to achieve respite from the consequences of the fire. This was capped at $500 per household with discretion provided to grant an amount up to $1,250 per household. However, as the Hazelwood Coal Mine Fire was not declared safe until later in March, and the smoke and clean-up was likely to continue longer than expected, the Victorian Government agreed to make provision for a second round of $500 respite payments. This subsequent round of respite payments was fully funded by the Victorian Government. The Victorian Government understands that the Commonwealth Government has capped NDRRA Category D (Exceptional Circumstances payments) at $1 million.

11.195 To assist primary producers, small businesses and not-for-profit organisations, the Victorian Government announced on 4 March 2014 that low-interest loans up to $200,000 would be made available to those directly affected by a significant natural disaster. In addition, the Victorian Government made available on 7 March 2014 a new

'consequential effect' concessional loan of up to $100,000 for those that have suffered a significant loss of income as result of natural disaster. These additional loans, provided under Category B of the NDRRA with up to 75 per cent reimbursement from the Commonwealth Government (depending on the State reaching certain expenditure thresholds), would only be activated in situations where the concessional loans of up to $200,000 to directly affected parties had also been activated and where a community was affected by a natural disaster for several weeks.

11.196 In relation to bushfire recovery more generally, the Budget Information Paper notes that:

- the Government is providing significant support to victims of the early 2014 bushfires beyond the initial disaster relief provided under the NDRRA.
- support for individuals and households includes:
  - $2.32 million for a range of psycho-social and community support measures across bushfire-affected communities, including counselling, and local government recovery support
  - $150,000 to hold small events in fire-affected communities to help build the resilience of communities
- support for primary producers, small businesses and not-for-profit organisations includes:
  - low-interest concessional loans of up to $200,000 for eligible parties directly affected by the January 2014 bushfires in eight local government areas – Ararat, Hindmarsh, Horsham, Mildura, Northern Grampians, Southern Grampians, West Wimmera and Yarriambiack
  - low-interest concessional loans of up to $200,000 for parties directly affected by the February 2014 bushfires in 12 local government areas
  - $2.2 million to stimulate economic activity in bushfire-affected communities through 'buy local' marketing campaigns, tourism promotion and fast-tracking projects in fire-affected communities. This includes $1 million to fast track regional development projects in fire-affected communities
- damaged essential public infrastructure will be restored, including the repair of arterial roads, and $2 million will be allocated for repairs to the regional rail network. The Government will also assist local councils to undertake counter disaster activities and the repair and restoration of essential local infrastructure to be provided under the Commonwealth-State NDRRA
- Victoria's natural environment in key affected areas will be restored, including $585,000 for the protection of waterways that have been exposed or put at risk following the bushfires.

Natural disaster relief and recovery arrangements

11.197 To alleviate some of the financial burden following a natural disaster, the Government will also assist local councils with costs associated with undertaking 'counter disaster activities' and the repair and restoration of essential local infrastructure, under the Commonwealth-State NDRRA. 'Counter disaster activities' include direct assistance to individuals and activities undertaken for the protection of the general public.

11.198 Costs associated with the establishment of Municipal Emergency Coordination Centres and Relief and Recovery Centres are also reimbursable.

11.199 The NDRRA is administered by the Victorian DTF. Information on eligibility and the claims process is provided on via DTF website.[97] DTF's website also provides contact information for local councils seeking advice from DTF Officers.

11.200 Following these bushfires, DTF has provided ongoing support and advice to the Latrobe City Council on claims eligibility under the NDRRA, as well as the process for claiming.

11.201 Officers from DTF, VicRoads, LGV and DHS met with the Latrobe City Council face-to-face in April 2014.

11.202 At this visit, officers from DTF informed the council of the mechanism to request payment of advance funds to assist with cash if required. The council advised that they had incurred actual expenditure and did not expect to need an advance. DTF Officers indicated that claims lodged before the end of the 2013-14 year could be processed quickly to ensure reimbursement within the same financial year.

11.203 As at 8 May 2014, no claims have been received by DTF from the Latrobe City Council in relation to the February 2014 bushfires, including the Hazelwood Coal Mine Fire.

[97] See http://www.dtf.vic.gov.au/Victorias-Economy/Natural-disaster-financial-assistance.