HAZELWOOD MINE FIRE INQUIRY
IMPLEMENTATION MONITOR

Annual Report

(including the Annual Report of the Inspector-General for Emergency Management)

October 2015

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Preface

On 9 February 2014, a fire started in the Hazelwood Coal Mine in the Latrobe Valley. The fire burned for 45 days sending smoke and ash over the nearby town of Morwell and surrounding areas for much of this time.

The Premier of Victoria at that time, the Hon Denis Napthine, MLA, announced an independent inquiry into the Hazelwood mine fire on 11 March 2014. On 21 March 2014, the then Governor of Victoria, His Excellency The Honourable Alex Chernov, AC QC, appointed the Hazelwood Coal Mine Fire Board of Inquiry to inquire into the circumstances of the mine fire, the emergency response and the support provided to affected communities.

The Board, comprising the Hon Bernard Teague AO, Professor Emeritus John Catford and Ms Sonia Petering presented the Hazelwood Mine Fire Inquiry Report (HMFIR or the Report) to the Governor on 29 August 2014. In their Letter of Transmission, the Board expressed their hope that the work undertaken through and by the Inquiry, would assist in preventing a disaster like that of February and March 2014 from ever happening again (p5, HMFIR). The Report, containing 18 recommendations, 12 for the State of Victoria and six for the mine operator, GDF SUEZ, was tabled in Parliament on 2 September 2014.

In written submissions to the Inquiry, both the State Government and GDF SUEZ committed to undertake a range of actions in response to the mine fire. The Report affirmed 40 of these commitments (affirmations) for the State and 17 for GDF SUEZ. The Report states that the affirmations should be read alongside the recommendations and given similar weight with their implementation monitored and accounted for on the same basis.

Recommendation 1 of the Report was that;

The State empower and require the Auditor-General or another appropriate agency to:

> oversee the implementation of these recommendations and the commitments made by the State and GDF SUEZ during the Inquiry, and

> report publicly every year for the next three years on the progress made in implementing recommendations and commitments.

In accordance with this recommendation, on 2 September 2014 the then Deputy Premier announced my appointment as the Hazelwood Mine Fire Inquiry Implementation Monitor. I commenced in this role on 20 October 2014 following the release of the Victorian Government Implementation and Monitoring Plan (IMP) (p11, IMP). In summary, my responsibilities include to continuously monitor and review all actions committed to by the State and GDF SUEZ in response to the recommendations and affirmations contained in the Report and to annually report my findings by 31 October 2015, 2016 and 2017. I am also required to incorporate in my reports an assessment by the Inspector-General for Emergency Management (IGEM) of those parts of the IMP (17 affirmations) for which the IGEM is the monitor.

This Annual Report records the progress of the State in responding to the Inquiry recommendations and affirmations as detailed in the IMP as well as progress achieved by GDF SUEZ in response to the recommendations and affirmations directed to it in the Report. Where relevant, I have identified additional actions that I believe either the State or GDF SUEZ should take to ensure that the intent of the Report is achieved.

Neil Comrie AO, APM

October 2015

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Glossary

Common terms used throughout this document

Annual Report	Implementation Monitor Annual Report
Board	Hazelwood Mine Fire Board of Inquiry
Government	The State Government of Victoria, unless otherwise indicated
Inquiry	Hazelwood Mine Fire Inquiry
Inquiry Report or Report	Hazelwood Mine Fire Inquiry Report
Recommendation	A recommended action or set of actions recommended by the Board for action in its Inquiry Report
Reference Group	Inquiry Reference Group reporting to the SCRC and chaired by DPC
State	The State Government of Victoria
State Smoke Working Group	Alternative name of the Emergency Response and Recovery Working Group
Taskforce	Coal Mine Emergency Management Taskforce
Work plan	Implementation monitor's work plan
WorkSafe	WorkSafe is the Victorian Workcover Authority (VWA)

The following acronyms are used throughout this document

AAQ	Ambient Air Quality
AIIMS	Australasian Inter-service Incident Management System
BOM	Bureau of Meteorology
CBRNe	Chemical, biological, radiological, nuclear and explosive
DAM	Detection, Analysis and Monitoring Strategy
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
DHHS	Department of Health and Human Services
DOJR	Department of Justice and Regulation (including Emergency Management Victoria and the Emergency Management Commissioner)
DPC	Department of Premier and Cabinet
ECC	Emergency Command Centre
EM	Emergency Management
EMC	Emergency Management Commissioner
EMT	Emergency Management Team
EMV	Emergency Management Victoria

EMMV	Emergency Management Manual Victoria
EPA	Environment Protection Authority
ERPT	Earth Resources Practice Team (formerly Earth Resources Unit)
FSC	Fire Services Commissioner
HCMFIRG	Hazelwood Coal Mine Fire Inquiry Reference Group
HMFIR	Hazelwood Mine Fire Inquiry Report
HMFI	Hazelwood Mine Fire Inquiry
ICC	Incident Control Centre
IGEM	Inspector-General for Emergency Management
IIMT	Integrated Incident Management Team
IM	Implementation Monitor
IMP	Implementation and Monitoring Plan
IMT	Incident Management Team
JSOP	Joint Standing Operating Procedure
MFSP&COP	Mine Fire Service Policy and Code of Practice
MOU	Memorandum of Understanding
MR(SD)	Mineral Resources (Sustainable Development) Act 1990
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OH&S	Occupational Health and Safety
PM$_{2.5}$	Particulate matter 2.5 micrometres or less in diameter
RAMP	Risk Assessment Management Plan
RWG	Regulation Working Group
SCRC	State Crisis and Resilience Council
SEPP	State Environment Protection Policy
SIP	Shelter in Place
TFB	Total Fire Ban
VWA	Victorian Workcover Authority (now WorkSafe)
WoVG	Whole of Victorian Government

Executive Summary

In its Report of 29 August 2014, the Hazelwood Mine Fire Inquiry directed 12 recommendations to the State of Victoria and six recommendations to the owner, operator and licensee of the mine, GDF SUEZ. Further, the Inquiry identified a number of commitments made by the State and GDF SUEZ in submissions to the Inquiry and affirmed these commitments as affirmations. Both the State and GDF SUEZ supported the Inquiry's findings.

Recommendation 1 of the Inquiry Report provided for the appointment of an appropriate agency to;

> oversee the implementation of the recommendations and commitments made by the State and GDF SUEZ during the Inquiry, and

> report publicly every year for the next three years on the progress made in implementing recommendations and commitments.

The Inquiry Report stated that the affirmations hold similar weight to, and should be read alongside, the Inquiry recommendations. The Inquiry further stated that it expected progress on the affirmations to be monitored in the same way as the recommendations.

The State responded to the Report of the Inquiry with the release of the Victorian Government Implementation and Monitoring Plan (IMP) in October 2014. In accordance with Recommendation 1 of the Inquiry, the IMP announced the appointment of the Implementation Monitor (IM).

The IMP also stated that a number of the affirmations that fall within the scope of the role of the Inspector-General for Emergency Management (IGEM) would be monitored by the IGEM. The IGEM is required to report annually on the progress of these affirmations and that report is incorporated within the cover of this 2015 Annual Report.

From the State's IMP, the IM identified 100 individual actions that the State had committed to undertake in response to the Inquiry Report. Further, in its response to the Inquiry Report, GDF SUEZ committed to undertake 35 actions.

The IM confirmed these commitments with relevant State departments and agencies and also with GDF SUEZ.

The IM has engaged extensively with these departments and agencies and GDF SUEZ to gather all available evidence on the progress of the implementation actions. The IM has also undertaken a range of other activities including site visits and attended a range of related meetings. The findings of this report are founded on evidence provided by the State and GDF SUEZ and evidence gathered from site inspections, field visits and meetings attended.

It is pleasing to record that regulatory agencies such as WorkSafe, the Environment Protection Authority (EPA) and the Department of Economic Development, Jobs, Training and Resources (DEDJTR) are now operating in a more cooperative and coordinated manner in fulfilling their respective responsibilities regarding coal mining in Victoria.

There has also been significant progress made by the EPA and the Department of Health and Human Services (DHHS) with regard to the monitoring and public reporting of air quality in the Latrobe Valley. In addition, the Chief Health Officer DHHS and the Emergency Management Commissioner (EMC) have approved protocols that provide common standards for the measurement of and response to levels of particulate matter. There has also been good progress on the establishment of a 20 year health study into the long term health effects of the smoke from the Hazelwood mine fire.

The State established a Coal Mine Emergency Management Taskforce that has been the catalyst for improved cooperation and coordination between a range of key stakeholders with responsibilities for the management of emergencies relating to coal mine fires in Victoria. Mine operators and the Country Fire Authority have been engaged through this Task Force in relation to a range of fire prevention and suppression activities. However, the IM understands that this Task Force will cease to operate at the end of 2015. In the absence of any evidence to indicate how the important work undertaken by the Task Force will continue, the IM expresses concern that this situation may impact on the progress and sustainability of ongoing implementation actions.

It is also pleasing to be able to report that GDF SUEZ has completed most of their implementation actions and those remaining are progressing in a satisfactory manner. The IM acknowledges the high level of cooperation received from GDF SUEZ in undertaking its responsibilities. All requests from the IM were met promptly and efficiently.

While the IM considers that the overall progress made by the State and GDF SUEZ in the implementation of Inquiry recommendations and affirmations is positive, there are a number of matters that require more focussed and intensive action by the State. Essentially, these matters are all related to ongoing emergency management reforms and include:

> effective implementation of emergency management planning

> a joint program to assess prevention and preparedness controls on sites across Victoria

> development of an integrated emergency resource planning framework for the Latrobe Valley

> formalising the inclusion of essential industry providers in emergency management arrangements

> sustainable mechanisms for effective engagement across emergency, regulatory, industry and local government groups

> community engagement and the use of trusted local networks as an integral component of emergency management planning, and

> public emergency communications capabilities.

The IM acknowledges that some of these matters are linked to the Emergency Management White Paper reforms that are being monitored by the IGEM and have application more broadly than the coal mine environment. However, the implementation of these reforms is essential for the State to meet its commitments in the IMP. The IM and the IGEM have had ongoing liaison in meeting our individual obligations to monitor the progress of these implementation actions.

The IM has also met with the reopened Hazelwood Mine Fire Inquiry chairperson and board members and, at their request, reported progress on the implementation of the actions arising from the initial Inquiry Report.

This 2015 Annual Report contains detailed comments and findings on each of the implementation actions committed to in the State's IMP and those actions committed to by GDF SUEZ in response to the Inquiry Report.

As indicated above, this IM report also incorporates a separate assessment by the IGEM on progress of the State in implementing a number of affirmations for which IGEM is the monitor.

Introduction

Hazelwood Mine Fire

The 2013-14 Victorian summer was hot and dry. Extreme heatwave conditions occurred in mid-January which included Victoria's hottest four day period on record. By early February, a number of large bushfires totalling in excess of 300,000 hectares were burning across eastern, northern and western Victoria.

Sunday, 9 February 2014 was a day of extreme fire danger for much of the state. Early in the afternoon, a fire that had started two days earlier five kilometres north west of Morwell, broke containment lines. Soon after, at about the same time as the arrival of a strong south westerly wind change, a series of small fires ignited near Driffield, south west of Morwell and joined to form a single fire front.

This is not unusual for the Latrobe Valley where, similar to other parts of Victoria, bushfire represents a significant risk throughout summer. In fact it is not unusual for multiple significant fires to be burning in the Latrobe Valley at the same time. On Black Saturday 2009, 11 people died in the Churchill fire while major fires burned concurrently nearby at Delburn and Bunyip (p52, HMFIR).

Two fires on 9 February 2014 (Hernes Oak and Driffield) were in close proximity to the Hazelwood mine, an open cut brown coal mine of almost 1,200 hectares with a perimeter of over 18 kilometres. All coal is highly combustible. Latrobe Valley brown coal has a number of unique qualities however, which make it particularly vulnerable to fire. It is more porous than black coal and is present in deep seams close to the earth's surface. This makes fire in brown coal very difficult to extinguish once established. Coal mine fires are not uncommon. The first recorded fire in a Latrobe Valley open cut coal mine was in 1896 and major fires occurred at Hazelwood in 1977, 2006 and 2008 (p53, HMFIR).

> *Fire is an almost unavoidable concomitant of brown coal open cut mining (p8, Stretton 1944).*

Just prior to 2pm on Sunday, 9 February, GDF SUEZ personnel noticed embers from nearby fires spotting into the Hazelwood mine. By 2.30pm GDF SUEZ personnel observed a number of spot fires within the mine. These spread rapidly driven by the strong south westerly winds. GDF SUEZ personnel estimate that it took less than one hour for one of the spot fires which started in the top of the northern batters (mine wall) (p67, HMFIR) to burn down through all five levels of the batters, a depth of approximately 100 metres. Spot fires were also reported in the overburden dump on the floor of the mine, the operating areas and south eastern batters. By early Sunday evening, fire was widespread throughout the mine.

By the morning of Monday 10 February, the fire in the northern batters was approximately two kilometres long and there was a fire of approximately one kilometre in length in the eastern batters. There was also a fire of approximately 500 metres by 500 metres burning on the floor of the mine. Fire fighting efforts had contained the fire to the mine itself. The fire had also been prevented from spreading into the operational areas of the mine meaning power production had not been adversely affected. This was important given that the Hazelwood mine provides approximately 25 per cent of Victoria's baseline electricity supply (p51, HMFIR).

Once established the coal mine fire proved extremely difficult to extinguish. Significant mine instability, occupational and community health and safety concerns arose. On 16 February a reference group of national and international experts was established to ensure the most effective methods available for coal mine fire suppression were being used. A new suppression plan was adopted incorporating the use of compressed air foam and thermal imaging as recommended by the expert reference group.

The fire was declared under control on 10 March 2014. The Fire Services Commissioner (FSC) eventually declared the fire safe on 25 March 2014, 45 days after the fire took hold. More than 7,000 fire services personnel from across Australian fire and emergency services and GDF SUEZ were involved in fighting the Hazelwood mine fire.

The Board of Inquiry and Report

The Board of Inquiry was requested to inquire into, report on and make any recommendations that it considered appropriate in relation to:

1. the origin and the circumstances of the fire

2. the adequacy and effectiveness of fire management measures taken by the mine owner, operator and licence holder (GDF SUEZ)

3. the adequacy and effectiveness of the application and administration of relevant regulatory regimes

4. the adequacy and effectiveness of the response to the fire by the owner, operator and licensee and all relevant agencies, including informing affected communities and responding to those effects on and risks to, the affected communities, and

5. any other relevant related matters (p43, HMFIR).

The Board adopted an open and accessible approach to the Inquiry with a strong commitment to local community engagement, adapted from the 2009 Victorian Bushfires Royal Commission approach. Ten public community consultation meetings were conducted throughout the Latrobe Valley over a six weeks period during April and May 2014 attracting 264 participants (p46, HMFIR).

Residents participating in an Inquiry workshop to determine priorities (photo used with permission, Latrobe Valley Express www.lvexpress.com.au)

In excess of 160 public submissions were received directly by the Board with a further 600 received via the Environment Victoria website. Voices of the Valley, a local community advocacy group presented the Board with a health survey completed by 650 community members. The Board also engaged six independent experts to assist in assessing technically complex issues associated with occupational health and safety, bushfire risk, public communications, medical and environmental matters (p47, HMFIR). Public hearings were conducted in Morwell over three weeks in May and June 2014.

The Report was presented to the Governor of Victoria on 29 August 2014 and tabled in Parliament on 2 September 2014. The Board expressed the hope that the work undertaken by and through the Inquiry would assist in preventing a disaster like that of February and March 2014 from ever happening again.

In written submissions to the Inquiry, both the State and GDF SUEZ committed to undertake a range of actions in response to the mine fire. The Report affirmed 40 commitments (affirmations) for the State and 17 for GDF SUEZ. It states that the recommendations should be read alongside the affirmations and given similar weight with their implementation monitored and accounted for on the same basis.

The Report also included four future proposals warranting serious consideration by the State. Three of these relate to public health related matters and one to the potential for Latrobe Planning Scheme amendments. In framing its recommendations the Board took into account issues raised by the Latrobe Valley community and implementation feasibility. The Board intentionally framed its recommendations broadly to ensure that it did not constrain the best solutions by being overly prescriptive (p48, HMFIR).

Reopened Hazelwood Mine Fire Inquiry

On 26 May 2015 the Government announced the reopening of the Inquiry to be chaired again by the Hon Bernard Teague AO. Professor Emeritus John Catford is also serving again on the Board, joined by Ms Anita Roper.

Findings and any recommendations are to be reported to the Governor as soon as possible, and not later than:

a. 31 August 2015, in respect of the Anglesea mine Term of Reference and any reasonably incidental matters

b. 2 December 2015, in respect of the Health Terms of Reference, and any reasonably incidental matters, and

c. 15 March 2016, in respect of the Mine Terms of Reference, and any reasonably incidental matters.

At the time of receipt of final evidence for this report, the board was in the process of receiving written submissions and conducting community consultations and public hearings in relation to the Terms of Reference.

The Implementation Monitor

The Report noted that the role of the Bushfires Royal Commission Implementation Monitor (BRCIM) had ensured that recommendations from the Victorian Bushfires Royal Commission came into effect.

This success confirms the value of adopting a process so that government and the community have access to transparent independent verified information about the implementation of commitments and responses to the Board's recommendations. Monitoring arrangements reduce the prospect that this report will simply sit on a shelf (p49, HMFIR).

Recommendation 1 of the Report recommended that the State empower and require the Auditor-General or another appropriate agency to oversee the implementation of these recommendations and affirmations and report publicly every year for the next three years on progress. The then Deputy Premier announced my appointment as the Hazelwood Mine Fire Inquiry Implementation Monitor (IM) on 2 September 2014. I commenced in the role on 20 October 2014, upon the release of the Victorian Government Implementation and Monitoring Plan (IMP).

The requirements of my role include:

1. To continuously monitor and review:
   a) the actions that the Victorian Government committed to undertake and which are set out in the IMP at Chapters 3 and 4 and in Appendices 1 and 2 (available at www.dpc.vic.gov.au/index.php/news-publications/hazelwood-mine-fire-inquiry-report), and
   b) any actions taken by the owner operator and licensee of the Hazelwood Coal Mine operating under mining licence number 5004, or any successor licensee, (Mine Operator) in response to the recommendations and affirmations relevant to it made in the HMFIR (Mine Operator Recommendations).

   The IMP notes that the IM role does not alter existing responsibilities for oversight by regulators of compliance by duty holders such as GDF SUEZ.

2. Provide Annual Reports to the Secretary of the Department of Premier and Cabinet (DPC) by no later than 31 October 2015, 31 October 2016 and 31 October 2017 that comply with the requirements set out in Chapters 3 and 4 of the IMP and which as a minimum identify (as at the date of the report):
   a) those parts of the IMP (excluding any parts of the IMP that the IGEM is identified as the monitor) that the Implementation Monitor considers:
      i) have been completed, and
      ii) have not been completed, and the extent to which they have been completed
   b) the actions that the Mine Operator has taken to implement, and the extent to which the Mine Operator has implemented, the Mine Operator recommendations and affirmations, and
   c) any additional actions that the IM considers:
      i) the Victorian Government should reasonably take to complete the relevant parts of the IMP within the time specified (if any) in the IMP, or
      ii) the Mine Operator should take to implement the Mine Operator recommendations and affirmations, and
   d) incorporate an assessment provided by the IGEM in relation to those parts of the IMP for which the IGEM is identified as the monitor.

I have been very ably assisted in my role by Mr Brian Hine who worked with me throughout the four years of my BRCIM role and Superintendent Steve Gleeson APM, of Victoria Police who also worked with me previously during the Review of the 2010-11 Flood Warnings & Response. Patricia Pollard worked with the office as Editor in producing this 2015 Annual Report.

The Implementation and Monitoring Plan

On 2 September 2014, the then Deputy Premier welcomed the Inquiry Report stating that the Government supported the 12 recommendations directed to it, 11 of them in full and Recommendation 5 in principle. Recommendation 5 was supported in principle because, although the Government supported the intent of the recommendation, it stated that it needed to consider further how it should be effectively implemented. The former Government committed to publish an implementation plan as soon as practicable, no later than October.

Figure 1: Governance arrangements for Whole of Victorian Government Implementation and Monitoring
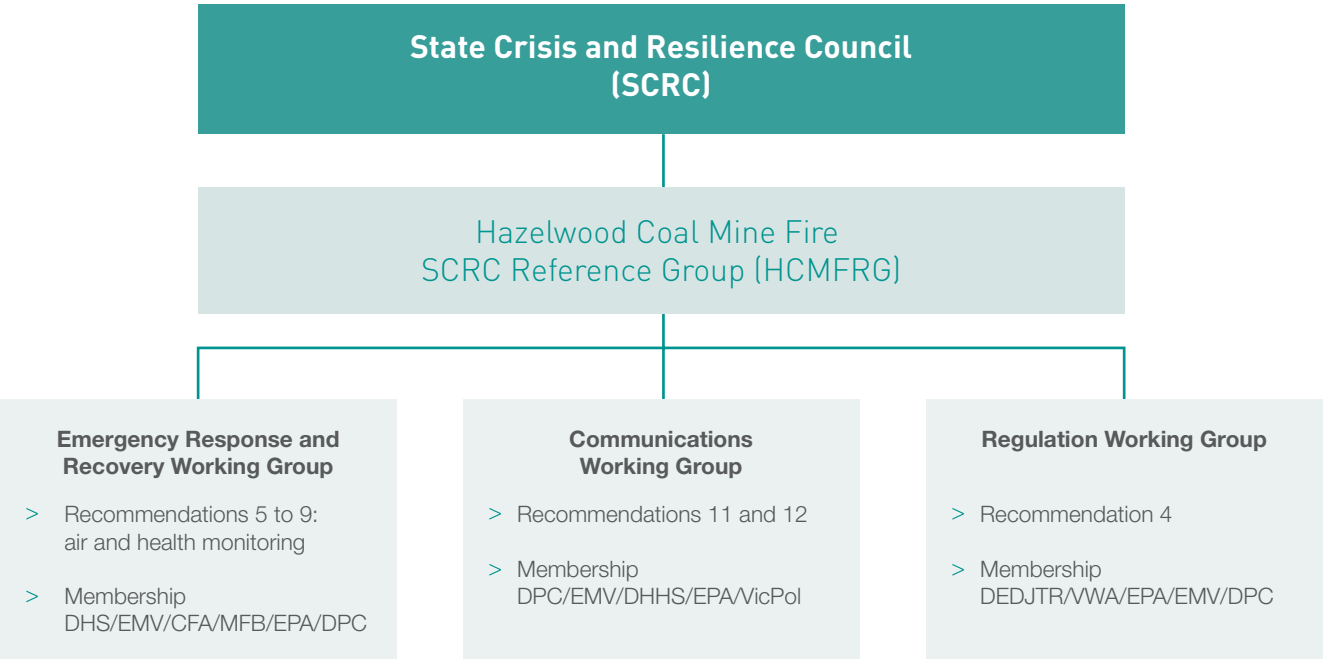
The Victorian Government Implementation and Monitoring Plan (IMP) was tabled in Parliament on 14 October 2014. The IMP outlines how the recommendations and affirmations of government actions will be implemented and monitored. An Inquiry reference group (Reference Group) was established to provide internal oversight of implementation of the plan. The Reference Group, supported by working groups for emergency response and recovery, regulation and communications, is chaired by the DPC and reports to the State Crisis and Resilience Council (SCRC). The IMP outlines what has been done and what will be done to implement the recommendations and affirmations directed to the Victorian Government. It also indicates where affirmations are linked to particular recommendations. All 12 recommendations for the State are to be monitored by the IM.

The IMP commits the Government to establishing a mechanism to allow the IM to monitor recommendations and affirmations that were directed to GDF SUEZ in the HMFIR (p9). At the time of publishing this report, no such mechanism had been established. However, this has not impacted on the role of the IM to date as GDF SUEZ has cooperated fully with the IM. The company has provided comprehensive evidence of progress against all recommendations and affirmations directed to it in the HMFIR. Whenever requested to do so, GDF SUEZ has provided the IM unfettered access to the mine site for the purposes of inspecting evidence. Such visits occurred on numerous occasions throughout 2014-15.

The IM is also required to monitor 15 of the 40 affirmations directed to the State Government while the IGEM is required to monitor the remaining 17. Eight affirmations are indicated in the IMP as implemented. Appendices 1 and 2 in the IMP set out the lead agency and the monitor for each recommendation and for each affirmation not yet implemented.

GDF SUEZ Response to the Inquiry

On 2 September 2014, GDF SUEZ issued a media release welcoming the Hazelwood Mine Fire Inquiry Report and its recommendations as a significant contribution to managing the future risk of fire. The release commended the Board of Inquiry for managing a broad range of complex and challenging issues and producing such a detailed report within an extremely short timeframe.

The statement committed GDF SUEZ to work closely with regulators, emergency services and the local community to address the key issues raised in the Inquiry Report. Consistent with commitments given to the Inquiry, GDF SUEZ was already in the process of implementing a range of fire safety management initiatives at the time of the release of the Inquiry Report.

The IM met with company representatives in early November 2014 which included an orientation inspection of the mine. GDF SUEZ offered ongoing access to the mine as required to enable the IM to fulfil his monitoring and reporting responsibilities. On 15 December 2014, GDF SUEZ provided the IM with a detailed annotated listing of action items arising out of the Inquiry Report. The list detailed the current status of each task linked to specific recommendations and affirmations. From this list the IM developed a work plan incorporating the 35 specific actions and due dates committed to by GDF SUEZ in response to the six recommendations and 17 affirmations directed to it in the Inquiry Report. GDF SUEZ accepted the work plan which forms the basis for the IM's ongoing monitoring and reporting.

The IM has visited the Hazelwood mine on three occasions at the time of publishing this report.

Implementation Monitor Approach

Consultation with key stakeholders

Prior to visiting the Latrobe Valley, the IM met with several people who had been directly involved from both a regulatory and community perspective throughout the Inquiry. The IM met with councillors and officers of Latrobe City Council in the afternoon of 11 November 2014 and with members of the local community at a public meeting in the evening of the same day. The next day the IM met senior GDF SUEZ personnel and conducted an orientation inspection of the mine. During December the IM met with representatives of the regulators. The purpose of this initial round of meetings was to describe the role and the approach of the IM to gathering evidence, monitoring progress and drafting reports.

On 10 December 2014 the IM wrote to all departmental Secretaries and agency Chief Executive Officers outlining his role and seeking the nomination of a senior officer as the primary IM contact officer. Lead agency responsibility for each recommendation and affirmations is detailed within the IMP. Throughout late 2014 and early 2015, the IM met with senior officers of departments and agencies with responsibilities for implementing recommendations and affirmations contained within the Inquiry Report. These meetings included determining key deliverables, due dates and discussing anticipated key dates for the delivery of evidence. Meetings were conducted with representatives of:

> Department of Environment, Water, Land and Planning (DELWP)

> Department of Economic Development, Jobs, Transport and Resources (DEDJTR)

> Department of Justice and Regulation (DOJR) including Emergency Management Victoria (EMV) and the Emergency Management Commissioner (EMC)

> Department of Health and Human Services (DHHS)

> Department of Premier and Cabinet (DPC)

> WorkSafe, and

> Environment Protection Authority (EPA).

The IM wrote to all departments and agencies on 18 February 2015 providing a copy of a work plan, developed from the IMP, detailing a full set of actions and due dates for which each department or agency had accepted lead responsibility. The work plan contains 100 actions with specific due dates. Thirty-eight of these dates are recurrent, indicating that the actions are ongoing and will be reported every year in the Annual Reports until they are complete.

Throughout February and March 2015 all agencies and departments formally confirmed their acceptance of the details contained within their respective work plans.

GDF SUEZ

A similar process was adopted with GDF SUEZ in terms of the recommendations and affirmations directed to it in the Inquiry Report. The IM developed a work plan on the basis of the action items identified by GDF SUEZ that comprises 35 actions and due dates. GDF SUEZ formally confirmed their acceptance of responsibility for the actions contained in the work plan.

Inspector-General for Emergency Management (IGEM)

The IMP specifies that affirmations directed to the State in the Inquiry Report are to be monitored by either the IM or the IGEM. Seventeen affirmations relating to emergency management reforms are currently underway and are the responsibility of the IGEM. These are specified in Appendix 2 of the IMP. Accordingly, the IM has worked closely with the IGEM throughout 2014-15 to ensure a coordinated and consistent approach across all affirmations. This included, with the express agreement of the specific agencies concerned, the provision of evidence received by the IM to the IGEM, where such evidence may have been of relevance for affirmations where the IGEM is the monitor. This approach reduced overall demands on agencies and departments in relation to the provision of evidence. The IGEM's report in relation to these affirmations can be found at the end of this report.

Meetings

The Reference Group was established to oversee and coordinate the implementation of the Government's IMP. The IM attended all meetings of the Reference Group as an observer and provided progress updates at each meeting. The IM also attended several Coal Mine Emergency Management Taskforce (the Taskforce) meetings throughout 2015.

Field visits

Visits to Hazelwood Mine were conducted in November 2014, February and May 2015.

The IM also visited the Latrobe Valley in August 2015 to meet with CFA and EPA and to inspect air quality monitoring stations.

The IM also visited Loy Yang, Yallourn and Anglesea mines during 2015.

Monitoring Progress

In 2014-15 the IM formally called for evidence on two occasions. On 18 February 2015 the IM wrote to the heads of departments, agencies and GDF SUEZ requesting evidence of progress in relation to all actions for which lead agency responsibility had been agreed. This first tranche of evidence was provided to the IM by 18 March 2015. The second formal and final request for evidence for the 2015 Annual Report was issued on 12 June 2015 and relevant evidence was delivered by 10 July 2015.

Departments, agencies and GDF SUEZ were invited to provide evidence to the IM at anytime that significant progress or completion of actions was achieved. GDF SUEZ and several agencies took advantage of this opportunity to keep the IM progressively informed throughout the year.

Drafting the Annual Report

Evidence was monitored continuously throughout 2015. Where necessary, follow up discussions and meetings were convened with relevant personnel to seek clarification and/or additional material. Final drafts of relevant sections of the Annual Report were provided to respective lead agencies for consideration and review during the last week of August 2015. Lead agencies were advised in writing that they had until 25 September 2015 to provide comments back to the IM if they so desired. No matters of substance were identified in writing by any agency via this process.

Consequently, this report reflects evidence provided to, or acquired by, the IM as at 10 July 2015.

Schedule 1 –
State of Victoria Recommendations and Affirmations Monitored by IM

Number	Recommendations (R)/Affirmations (A)	Page number
R1	The State empower and require the Auditor General or another appropriate agency to: > oversee the implementation of these recommendations and the commitments made by the State and GDF SUEZ during this inquiry; and > report publicly every year for the next three years on the progress made in implementing recommendations and commitments.	21
R2	The State establish for any future incident, integrated incident management teams with GDF SUEZ and other Victorian essential industry providers to: > require that emergency service personnel work with GDF SUEZ and other appropriate essential industry providers; and > implement the Australasian Inter-service Incident Management System.	22
R3	The State enact legislation, to: > require integrated Fire Management Planning, and > authorise the Emergency Management Commissioner to develop and implement regional and municipal fire management plans.	26
A13	The State develop an integrated emergency resource planning framework for the Latrobe Valley.	27
R4	The State: > bring forward the commencement date of s.16 of the Mineral Resources (Sustainable Development) Amendment Act 2014 (Vic), to facilitate the requirement that approved work plans specifically address fire prevention, mitigation and suppression; and > acquire the expertise necessary to monitor and enforce compliance with fire risk measures adopted by the Victorian coal mining industry under both the mine licensing and occupational health and safety regimes. NOTE: Both DEDJTR and WorkSafe are nominated as lead agency for this recommendation, whilst explicit responsibilities are also detailed for EMC and EPA. The IM sought clarification from DPC concerning specific responsibilities and leading arrangements for this recommendation. On 4 March 2015 DPC provided the IM with specific actions for R4.12, R4.13, R4.14 & R4.15 which are now incorporated into this work plan. DPC also confirmed that each agency will report to the IM as the action descriptions require and reports will be shared across agencies in the Regulatory Issues Working Group.	29
A9	The State improve government engagement with the coal mine sector regarding Emergency Management Plans.	31
A35	The State implement a risk based approach to work plans.	31
A39	Joint program for regulators, emergency service agencies and the Emergency Management Commissioner to assess the prevention and preparedness controls on sites across Victoria initiated.	31
R5	The State equip itself to undertake rapid air quality monitoring in any location in Victoria, to: > collect all relevant data, including data on $PM_{2.5}$, carbon monoxide and ozone; and > ensure the data is used to inform decision-making within 24 hours of the incident occurring.	42
A16	The State review Environment Protection Authority (EPA) emergency protocols, incorporating lessons from the Hazelwood mine fire. NOTE: The State Plan links A16 to R5, and it is included here accordingly. However aspects of A16 extend beyond R5.	43
A17	The State clarify future expectations of incident air monitoring and scenarios, and determine the appropriate inventory of equipment.	43
A22	The State will have an automatic air quality monitoring station in the south of Morwell for the next 12 months (to March 2015).	43
R6	The State take the lead in advocating for a national compliance standard for $PM_{2.5}$.	48
A23	The State review the State Environment Protection Policy for Ambient Air Quality.	48

Number	Recommendations (R)/Affirmations (A)	Page number
R7	The State review and revise the community carbon monoxide response protocol and the firefighter carbon monoxide response protocol, to: > ensure both protocols are consistent with each other; > ensure both protocols include assessment methods and trigger points for specific responses; > ensure GDF SUEZ and other appropriate essential industry providers are required to adopt and apply the firefighter carbon monoxide protocol; and > inform all firefighters about the dangers of carbon monoxide poisoning, and in particular highlight the increased risk for those with health conditions and those who are pregnant.	50
A19	The Department of Health and EPA to undertake further development on the carbon monoxide and $PM_{2.5}$ protocols and an engagement and education programs (sic) around environmental and health standards.	50
R8	The State review and revise the Bushfire Smoke Protocol and the $PM_{2.5}$ Health Protection Protocol, to: > ensure both protocols are consistent with each other; and > ensure both protocols include assessment methods and trigger points for specific responses.	52
R9	The State develop and widely disseminate an integrated State Smoke Guide, to: > incorporate the proposed State Smoke Plan for the management of public health impacts from large scale, extended smoke events; > include updated Bushfire Smoke, carbon monoxide and $PM_{2.5}$ protocols; and > provide practical advice and support materials to employers, communities and individuals on how to minimise the harmful effects of smoke.	53
A24	The State develop a State Smoke Plan covering the management of potential public health impacts from large scale, extended smoke events.	53
R10	The State should continue the long-term health study, and: > extend the study to at least 20 years; > appoint an independent board, which includes Latrobe Valley community representatives, to govern the study; and > direct that the independent board publish regular progress reports.	57
A25	The State undertake projects to understand health impacts and predict the movement of smoke from planned burning and bushfires.	57
A28	The State commission a long term study into the long term health effects of the smoke from the Hazelwood mine fire.	57
R11	The State review and revise its communication strategy, to: > ensure all emergency response agencies have, or have access to, the capability and resources needed for effective and rapid public communications during an emergency; and > ensure, where appropriate, that private operators of essential infrastructure are included in the coordination of public communications during an emergency concerning that infrastructure.	62
A20	EPA review its communications response and implement a structured community engagement process with the Morwell and surrounding communities. NOTE: Affirmation 20 is also addressed in the "Other Affirmations" section.	63
A26	The State improve local engagement on health issues.	63

Number	Recommendations (R)/Affirmations (A)	Page number
R12	The State, led by Emergency Management Victoria, develop a community engagement model for emergency management to ensure all State agencies and local government engage with communities and already identified trusted networks as an integral component of emergency management planning.	70
Other State of Victoria Affirmations Not Addressed Elsewhere in this Report		
A18	EPA to coordinate a meta-analysis, including smoke plume monitoring, of air monitoring data and other relevant information collected during the Hazelwood mine fire to create a body of knowledge of the impacts of extended brown coal fire events.	72
A20	EPA review its communications response and implement a structured community engagement process with the Morwell and surrounding communities. NOTE: Affirmation 20 is also addressed within Recommendation 11	72
A21	EPA will be monitoring $PM_{2.5}$ at all its fixed automatic air quality monitoring locations by the end of July 2014.	72
A26	The State improve local engagement on health issues.	72

Schedule 2 –
GDF SUEZ Recommendations and Affirmations Monitored by IM

Number	Recommendations (R)/Affirmations (A)	Page number
R13	GDF SUEZ revise its Emergency Response Plan, to: > require an increased state of readiness on days of total fire ban; > require pre-establishment of an Emergency Command Centre; > require pre-positioning of an accredited Incident Controller as Emergency Commander; and > require any person nominated as Emergency Commander to have incident controller accreditation and proficiency in the use of the Australasian Inter-service Incident Management System.	79
GDF A1	GDF SUEZ nominate a group of staff to be trained in the Phoenix Rapid-fire modelling tool prior to the 2014/2015 fire season.	79
GDF A2	GDF SUEZ offer enhanced training prior to the 2014/2015 fire season and on an ongoing basis, to personnel who are intended to perform a role under the emergency command structure and relevant emergency service agencies.	79
GDF A3	GDF SUEZ establish an emergency command structure at the mine to deal with Extreme Fire Danger Days.	79
GDF A4	GDF SUEZ notify Country Fire Authority (CFA) of the identity and contact details of those personnel holding those (emergency command) roles.	79
GDF A5	On Extreme Fire danger Days , GDF SUEZ ensure more personnel are rostered on and additional contractors are available for dedicated fire protection duties.	79
GDF A6	GDF SUEZ upgrade signage within the mine to make orientation easier for non-mine personnel.	79
GDF A12	GDF SUEZ nominate a representative to attend the meetings of the Municipal Fire Prevention Committee convened by Latrobe City Council.	79
GDF A13	GDF SUEZ nominate designated people to be in attendance at the CFA Incident Control Centre during an emergency which threatens the mine.	79

Number	Recommendations (R)/Affirmations (A)	Page number
R14	GDF SUEZ establish enhanced back-up power supply arrangements that do not depend wholly on mains power, to: > ensure that the Emergency Command Centre can continue to operate if mains power is lost; and > ensure that the reticulated fire services water system can operate with minimal disruption if mains power is lost.	84
GDF A7	GDF SUEZ negotiate with Ausnet Services regarding a feasibility study to upgrade the MHO substation from temporary to permanent standard.	84
R15	GDF SUEZ: > conduct, assisted by an independent consultant, a risk assessment of the likelihood and consequences of fire in the worked out areas of the Hazelwood mine, and an assessment of the most effective fire protection for the exposed coal surfaces; > prepare an implementation plan that ensures the most effective and reasonably practicable controls are in place to eliminate or reduce the risk of fire; and > implement the plan.	86
GDF A8	GDF SUEZ initiate a programme for reducing vegetation in the worked out areas of the northern batters to reduce fire risk commencing in the areas closest to Morwell. NOTE: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 and 16.	86
GDF A9	GDF SUEZ maintain and continue to use the additional pipe system located in the northern batters which was installed during the 2014 fire and install additional pipework as identified. NOTE: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 and 16.	86
GDF A10	GDF SUEZ conduct a review of the current pipework and condition in the areas of the mine other than the eastern section of the northern batters. NOTE: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 and 16.	86
GDF A11	On Extreme Fire Danger days GDF SUEZ instigate wetting down of non-operational areas. NOTE: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 and 16.	86
GDF A17	GDF SUEZ undertake the rehabilitation set out in Exhibit 88 – Statement of James Faithful, annexure 5 and discuss the appropriate timing of each sequence of rehabilitation with the Department of State Development, Business and Innovation.	86
R16	GDF SUEZ: > review its 'Mine Fire Service Policy and Code of Practice' so that it reflects industry best practice and ensures that, by taking a risk management approach, it is suitable for fire prevention, mitigation and suppression in all parts of the Hazelwood mine; and > incorporate the revised 'Mine Fire Service Policy and Code of Practice' into the approved work plan for the Hazelwood mine.	90
R17	GDF SUEZ adopt and apply the firefighter carbon monoxide response protocol.	91
GDF A16	GDF SUEZ develop a Carbon Monoxide management protocol for firefighter and mine employee safety prior to the 2014-2015 fire season, in consultation with WorkSafe and CFA.	91
R18	GDF SUEZ improve its crisis management communication strategy for the Hazelwood mine in line with international best practice.	92
GDF A14	GDF SUEZ review its own communications protocol to ensure that during the response to a fire which is capable of impacting on the community, it is able to communicate messages to the community via any protocol adopted following the (communications) review by all agencies.	92
Other GDF SUEZ Affirmations Not Addressed Elsewhere in this Report		
GDF A15	GDF SUEZ work with WorkSafe to review its Safety Assessment and Safety Management System in light of R5.3.21 and R5.3.23 of the Occupational Health and Safety Regulations 2007 (Vic).	93

Schedule 3 –
State of Victoria Affirmations Monitored by IGEM

Number	Affirmations (A)	Page number
A1	The State develop a Strategic Action Plan to improve and strengthen Victoria's emergency management capability.	142
A2	The State establish Emergency Management Victoria as the new overarching body for emergency management in Victoria.	142
A3	The State establish an Emergency Management Commissioner to ensure that control arrangements are in place, and coordinate the response roles of relevant agencies' resources.	143
A4	The State establish an Inspector-General Emergency Management as the assurance authority for Victoria's emergency management arrangements.	144
A5	The State establish a Volunteer Consultative Forum for the government to consult with volunteers and ensure their views are heard.	144
A6	The State implement actions set out in the White Paper on Emergency Management Reform to improve community awareness and education, and make information available during emergencies.	108
A7	The State strengthen industry engagement with the community.	110
A8	The State improve the State planning framework for emergencies.	112
A10	The State improve integration of industry in the response to an emergency.	116
A11	The State improve training for career and volunteer firefighters to include lessons highlighted by the Hazelwood mine fire.	120
A12	The State improve OHS in emergency response to include lessons highlighted by the Hazelwood mine fire.	122
A14	The State review emergency management communications arrangements across government commissioned by the State Crisis and Resilience Council, including considerations of: > the roles and functions of emergency communications committees; > enhancing specialist crisis communications capability within government; > the use of established local networks as a way to communicate during emergencies, > additional emergency communications training for government employees; and > developing a coordinated approach to the use of social media by government during emergencies.	124
A15	The State conduct a National Review of Warnings and Information.	127
A27	The State improve communication around psycho-social support to communities affected by emergencies.	128
A29	The State review the Personal Hardship Assistance Program and Implementation Guidelines for consistency and clarity of purpose.	129
A30	The State implement new technology for recording emergency assistance payments.	130
A31	Local Government Victoria coordinate emergency management officers across local councils.	131
A32	The State improve relief and recovery information available to Culturally and Linguistically Diverse communities.	133
A33	The State review relief and recovery communications and community engagement initiatives.	134
A34	The State prepare Regional Growth Plans.	145
A36	The State implement the Victorian Critical Infrastructure Resilience Strategy.	136
A37	The State enhance emergency risk mitigation planning.	138
A38	The State review the Latrobe City Municipal Emergency Management Plan.	141
A40	The State establish an appropriate mechanism to monitor implementation of the actions set out in its submission and the government's response to the Board of Inquiry's recommendations.	145

Readers Guide

This 2015 Annual Report should be read in conjunction with the Inquiry Report and the IMP. This report is in three parts. The first part (Chapter 1) relates to the commitments contained in the Government's response (IMP) to the Inquiry Report. This includes recommendations 1 to 12 and those affirmations where the IMP nominates the IM as the monitor. The second part (Chapter 2) relates to the recommendations and affirmations in the Inquiry Report directed to GDF SUEZ. The third part relates to those affirmations in the IMP where the IGEM is nominated as the monitor. This part has been produced by the IGEM and is published within this report as required by the IMP (p80).

Terms used in Reporting on Implementation Actions

Recommendation

A recommendation of the Hazelwood Mine Fire Inquiry Report for either the State or GDF SUEZ.

Affirmation

An action already announced, underway and/or undertaken by the Victorian Government or GDF SUEZ at the time of the Inquiry which was then affirmed by the Board as needing to be monitored in the same way as the Inquiry Report recommendations.

Implementation action

An action committed to by either the State in the IMP or GDF SUEZ in response to recommendations or affirmations of the Hazelwood Mine Fire Inquiry Report. Each action has a unique identifier. The first letter indicates whether it is a recommendation (R) or an affirmation (A). The first numeral indicates which recommendation or affirmation. The second numeral indicates the specific implementation action. For example, R1.1 is the first implementation action committed to by the State in relation to Recommendation one. These unique identifiers are used throughout the report for ease of reading.

Lead Agency

Department or agency nominated in the IMP with lead responsibility for specific recommendation or affirmation.

Progress

The IM's monitoring and reporting of progress in implementing each action by the State or GDF SUEZ.

Due date

The date confirmed with the lead agency for completion of the action. A due date of July with no year stated indicates the action is recurrent and progress will be reported each year.

Status

The current state of progress of the action at the time of publishing this report is indicated as follows:

> Complete means the action has been implemented satisfactorily

> Complete* means the action has been implemented satisfactorily but is to be revisited in the 2016 Annual Report

> Ongoing means the action is in progress and is to be revisited in the 2016 Annual Report, or

> N/A means this action is no longer applicable.

Findings

The IM's findings will include a statement for each action that indicates whether or not it has been implemented satisfactorily, or if the action is not currently due for completion, whether or not it is progressing satisfactorily. Where an action is still required it will be revisited in the 2016 Annual Report.

Departmental name changes

The HMFIR and the IMP were released prior to the machinery of Government changes implemented by the Government on 1 January 2015 and refer to departments that no longer exist. The IM workplan and this Annual Report were written after these changes and refer to the current departments. Both previous and current departmental names therefore appear throughout this report, depending on the context.

To assist understanding in this report, in general terms, the former Department of Transport Planning and Local Infrastructure (DTPLI) and the Department of State Development Business and Innovation (DSDBI) became the Department of Economic Development, Jobs, Transport and Resources (DEDJTR). The Department of Sustainability and Environment (DSE) became the Department of Environment, Land, Water and Planning (DELWP), including planning responsibility transferred from the former DTPLI. The Department of Health and Department of Human Services were amalgamated to form the Department of Health and Human Services.

Other

Schedules 1, 2 and 3 provide complete lists of the Inquiry Report Recommendations and Affirmations.

Throughout this Annual Report the terms 'Inquiry Report', 'Report' and 'HMFIR' are used interchangeably, as are the terms 'Inquiry' and 'HMFI'. The term 'regulator' describes DEDJTR, WorkSafe and EPA either individually or as a group.

1 CHAPTER 1
STATE GOVERNMENT IMPLEMENTATION COMMITMENTS

Recommendation 1

The State empower and require the Auditor General or another appropriate agency to:

> oversee the implementation of these recommendations and the commitments made by the State and GDF SUEZ during this inquiry; and

> report publicly every year for the next three years on the progress made in implementing recommendations and commitments.

Implementation Actions

Action		Due date	Status
R1.1	Hazelwood Implementation Monitor (IM) appointed.	December 2014	Complete
R1.2	IM role and responsibilities published.	March 2015	Complete
R1.3	Annual Reports incorporating IGEM and IM activities / findings published.	31 October 2015, 2016, 2017	Ongoing

Progress

R1.1 Hazelwood Implementation Monitor (IM) appointed

As previously noted in this report, the then Deputy Premier announced the appointment of the IM on 2 September 2014. The IM commenced on 20 October 2014 upon the release of the IMP and is contracted to continue in the role for three years, consistent with this recommendation.

Finding: Action R1.1 has been implemented satisfactorily.

R1.2 IM role and responsibilities published

The role of the IM, which includes continuously monitoring, reviewing and reporting annually on all actions taken by both the state and GDF SUEZ in response to their respective recommendations and affirmations contained in the HMFIR, is published on the Hazelwood Mine fire Inquiry page of the DPC website, www.dpc.vic.gov.au. The information includes IM email and telephone contact details.

Finding: Action R1.2 has been implemented satisfactorily.

R1.3 Annual Reports incorporating IGEM and IM activities/findings published

The IM is required to provide Annual Reports to the Secretary, DPC by 31 October 2015, 2016 and 2017. This is the first of these reports.

Finding: R1.3 is ongoing and cannot be reported as implemented until the final (2017) report is published.

Photo (left): Hazelwood Power Station (photo used with permission, Latrobe Valley Express www.lvexpress.com.au)

Recommendation 2

The State establish for any future incident, integrated incident management teams (IIMTs) with GDF SUEZ and other Victorian essential industry providers to:

> require that emergency service personnel work with GDF SUEZ and other appropriate essential industry providers; and

> implement the Australasian Inter-service Incident Management System (AIIMS).

Implementation Actions

Action		Due date	Status
R2.1	Taskforce, led by EMC, to improve integration of industry in emergency response, established.	July 2015	Ongoing
R2.2	Planning and preparedness for the summer seasons (2014-15 and 2015-16) conducted.	July 2016	Ongoing
R2.3	Pilot for integrated incident management teams (IIMTs) for 2014-15 summer period established.	July 2015	Ongoing
R2.4	IIMTs pilot progressively expanded to other Victorian essential industry providers.	July 2016	Ongoing
R2.5	IIMTs adopt AIIMS	July	Ongoing

Coal Mine Emergency Management Taskforce (the Taskforce) – Overview

Within the IMP there are four separate action items concerning the establishment and operation of an EMC led Taskforce.

Recommendation 2, which concerns the State ensuring relevant industry bodies are included in emergency incident management arrangements, has two Taskforce related action items as follows:

R2.1 Taskforce, led by EMC, to improve integration of industry in emergency response, established

R2.2 Planning and preparedness for the summer seasons (2014-15 and 2015-16) conducted

Recommendation 4, which broadly relates to regulation of mine fire risk, also has two Taskforce related action items as follows:

R4.10 Taskforce, led by EMC, to determine and coordinate emergency management priorities for both the Latrobe Valley and Anglesea Coal mines for the 2014-15 and 2015-16 fire seasons, established

R4.16 Taskforce led by EMC to coordinate fire preparedness for summer (and into 2015-16) established

Each of the four action items detailed above require some level of commentary concerning the establishment of the Taskforce and its operation. In particular, some overlap appears in action items R2.2, R4.10 and R4.16, which all relate to Taskforce activities concerning fire preparedness, however, some subtle distinctions are evident. For ease of reading and in order to avoid duplication, all of the above four action items will be addressed in this section of the report. References are provided at sections R4.10 and R4.16 to reflect this and to provide redirection to this section.

Evidence from EMV reflects that the Taskforce commenced on 16 September 2014. Terms of reference for the Taskforce are:

> review the fire/emergency preparedness of the four Victorian brown coal mines

> oversee the implementation of the relevant Hazelwood Coal Mine Inquiry affirmations and improvement plans, and

> support improved capability and interoperability between the coal mine industry, government agencies and community.

A separate Surf Coast (Anglesea Coal Mine) Taskforce commenced on 14 November 2014.

The IM considers it important to note that although the Taskforce is titled the Coal Mine Emergency Management Taskforce, the Taskforce is exclusively coal mine **fire** focussed. Other emergency incidents that have recently impacted on coal mines, such as flooding and land stability and which fall under the control of other agencies were not in scope. This observation has particular significance when considering the broader implications of certain recommendations and action items and is elaborated on further in this report.

The EMC acts as Taskforce chair and membership includes regulatory agencies, the CFA, DHHS, DELWP, local government and representatives from the mine operators.

In Taskforce meeting minutes for 30 September 2014, key actions for the Taskforce are agreed upon. The minutes state:

It was agreed that our key action for the immediate term is to identify and address key priorities related to the preparedness for the 2014-15 fire danger period.

This is consistent with the State's undertaking in the IMP at paragraph 3.12, for the Taskforce to work together with regulators and the mine operators on planning and preparedness for the forthcoming (2014-15) and subsequent fire seasons.

In its December 2014 status report the key priority for the Taskforce is expressed as follows:

….the Taskforce key priority to date has been the preparedness of the mines in addressing improved prevention and response capabilities, to reduce the risk of major fires occurring in or entering the mines during the 2014- 2015 fire season.

A review of subsequent Taskforce meeting minutes reflects that its activities went well beyond fire risk preparedness of the mines. Activities extended into fire interoperability across stakeholders including EM agencies, regulatory agencies and State and local government groups across the various phases of emergency management.

The Taskforce developed what is described as an "Improvement Plan" which identified key themes for intended works related to coal mine fire emergencies. Themes included:

> monitoring systems and processes

> planning and mapping

> hazard reduction / removal

> improved capability – training and equipment

> operational improvements

> relationships, including the sharing of information between and with industries and agencies

> systems alignment, and

> welfare.

These key themes were then applied to broadly categorise more than 130 initiatives identified as necessary to reduce fire risk and increase response capability should a fire start outside of and impact, or start in, one of the State's coal mines. The December 2014 Status Report for the Taskforce also acknowledged that some of the many listed initiatives were in fact mitigation activities that were already in place prior to the Taskforce commencing.

Progress

R2.1 Taskforce, led by EMV to improve integration of industry in emergency response, established

It is clear that EMV established the Taskforce focussed exclusively on the State's coal mines and, as previously detailed, on the hazard of fire. The private operators of those mines (as industry representatives) were included as Taskforce members.

The IM, as an observer, attended various Latrobe Valley and Anglesea Taskforce meetings. Such meetings were well attended and were generally well regarded by industry, regulatory and other stakeholders. It was evident that the Taskforce meetings provided an excellent forum for participants to build stakeholder relationships and encourage and enhance the level of industry integration in emergency response relative to coal mine fires.

However, the IM notes that the broad requirements of Recommendation 2 extend beyond GDF SUEZ and coal mine fires, to also require consideration of other Victorian essential industry providers and hazards other than fire to ensure that industry is integrated into incident management. Notably, history reflects that recent events in the Latrobe Valley coal mines have included flooding and land stability emergencies. The IM understands that the control agency for both of these hazards, VICSES, was not a member of the Taskforce.

Following the Hazelwood mine fire the Taskforce operations have highlighted coal mine fire emergency arrangements and have provided a strong foundation for future inclusion of industry to secure an integrated approach to emergency management.

Whilst strong stakeholder relationships will always be a key component of functional EM arrangements, the foundational piece remains the existence of clear policies, instructions, operating procedures and guidelines for practitioners. In this context, such material must clearly and unambiguously reflect the requirements for integration of industry in emergency response.

The IM notes that the EMV evidence included a draft (June 2015) Coal Mine Firefighting Training and Development Specification document. Section six of this document relates to command and control and touches on liaison with industry groups. It is acknowledged that this document remains in draft format, however, it makes no reference to the arrangements recently committed to by the State to establish IIMTs to improve integration of industry in emergency response. Similarly, the current EMV Joint Standing Operating Procedure (JSOP) for Incident Management Team (IMT) Operations (JSOP J2-03 issued September 2014) does not mention industry involvement in IMT operations and will need revision to reflect the commitment to IIMTs.

The IM notes that the Taskforce has a limited scope and its continued operations are uncertain. Accordingly, the IM expresses concern in regard to continued progress against action R2.1, and the broader requirements of Recommendation 2, beyond the life of the Taskforce.

Whilst aspects of R2.1 have been addressed, namely the formation of the Taskforce, subsidiary actions still require attention. These include the consideration of other hazards and other essential industry providers and ensuring relevant documentation is revised consistent with the intended integrated approach.

Finding: The IM will revisit R2.1 in the 2016 Annual Report.

R2.2 Planning and preparedness for the summer seasons (2014-15 and 2015-16) conducted

The IM considers that R2.2 is more comprehensively addressed in the commentary for section R4.10 – (determining and coordinating EM priorities).

The IM accepts that planning and preparedness for the 2014-15 summer season was conducted and that planning and preparedness works are continuing for the 2015-16 summer fire season.

Finding: The IM will revisit R2.2 in the 2016 Annual Report.

R4.10 Taskforce, led by EMC, to determine and coordinate emergency management priorities for both the Latrobe Valley and Anglesea Coal mines for the 2014-15 and 2015-16 fire seasons, established

The EMV led Taskforce was particularly active in undertaking works consistent with both the Improvement Plan it developed and its work plan. Works detailed were broadly aligned to understanding actual fire risk and enhancing fire preparedness and response capability relative to the Latrobe Valley and the Anglesea coal mines.

In a manner unprecedented in Victoria, Taskforce management brought together regulatory, local government and state government agencies, along with industry representatives and EM practitioners to apply a collective focus to these issues. As a consequence, substantial works are now listed as completed, whilst others works are reported as pending, established, in progress or ongoing.

There are some 133 initiatives recorded in the Taskforce Status report of December 2014. What remains unclear and what consequently the IM cannot determine, is which particular initiatives were considered to be the key emergency management priorities for the (then) forthcoming (2014-15) and subsequent fire seasons. It flows therefore, that the IM cannot determine if all actions considered critical were in fact completed to provide comfort that priorities were recognised and fully addressed. The reporting and tracking spreadsheet used by the Taskforce does not assist in this regard.

Whilst it may be suggested that all listed initiatives were considered to be priorities, this provides no assurance that criticality was overlayed, or that those matters still outstanding are in fact considered to be of lesser significance, based on recognised risk.

The IM readily acknowledges the significant achievements of the Taskforce given the enormity of the works undertaken and the applicable time imperatives. Taskforce achievements are even more remarkable given that its commencement coincided with the start of the fire season.

However, the development and application of a risk based framework, where risk likelihood, significance and consequence is applied, may have been beneficial in weighting works based on risk significance, allowing for the prioritising of activities accordingly.

The IM notes EMV evidence provided that a future direction for the Taskforce is to form a working group to review the current work plan to confirm satisfactory completion of tasks and initiatives and to identify any areas for attention. The IM is advised that these works are intended to be completed prior to the 2015-16 summer fire season.

The IM considers that the intended revisit to the work plan should involve application of a risk framework process to demonstrate that priorities have been appropriately recognised and necessary action then coordinated accordingly, consistent with the requirements expressed in the IMP.

The IM also acknowledges the intended closure of the Anglesea coal mine on 31 August 2015 and the proposed site mitigation works committed to by the Anglesea mine operators. The IM is cognisant of the further focus being applied to the Anglesea mine by the re-opened Inquiry underway at the time of writing this report.

Finding: The IM will revisit R4.10 in the 2016 Annual Report.

R4.16 Taskforce led by EMC to coordinate fire preparedness for summer (and into 2015-16) established

Finding: The IM considers R4.16 to be implemented satisfactorily. The IM considers that the activities and future operations of the Taskforce are able to be appropriately considered within the scope of monitoring to be afforded under R4.10.

R2.3 Pilot for IIMTs for 2014-15 summer period established

The EMC detailed the following in his statement to the HMFI:

The inclusion of industry is a critical step to more effectively manage an incident with the industry technical knowledge, resources and operational knowledge of the site and/or hazard. The incident management system may require amendment to cater for industry. However, there should be a shared obligation approach to mandate and encourage the inclusion of industry in incident management teams.

The IMP at paragraph 3.13 provides further context to this action, indicating that EMV is committed to reform of incident management systems so that relevant industry bodies, such as mine operators, are formally included in IMTs operating under the AIIMS structure. The IMP also recognises that inclusion of industry will assist emergency services to directly source technical information, resources and operational knowledge of the site or hazard, leading to more effective management.

Despite the State's undertakings that a pilot program would be established by the 2014 – 2015 summer period, EMV acknowledge that this did not formally occur.

The July 2015 evidence from EMV advised that rather than establish a formal pilot IIMT program, the parties (CFA and GDF SUEZ) agreed to implement immediate integration of appropriately trained mine personnel into IIMTs. Actions cited to reflect this integration included:

> appropriate GDF SUEZ personnel attending high fire danger day planning pre-briefings with CFA and Bureau of Meteorology (BOM) on weather predictions

> GDF SUEZ staff being present at the Multi Agency Incident Control Centre (ICC) during incidents that may threaten the Hazelwood Mine. GDF SUEZ advise that they have not been involved in any IIMT activations as no incidents posing threat to the mine have occurred, and

> an intention to engage GDF SUEZ in all relevant incident controller and media briefings.

EMV also advised that the impact of these actions has been to integrate appropriately trained industry personnel from the mines immediately and seamlessly into the IIMT process. It is also indicated that the efficacy of IIMT arrangements will only be tested through an intended emergency management exercise ahead of the 2015 -2016 summer season and through any response activity.

From the EMV evidence it is unclear to date if IIMT operations have ever actually been formally established (in an operational or training environment) or if their functionality has been stress tested or formally evaluated. However, indications that their efficacy will only be tested in a forthcoming exercise suggests that to date, IIMT operations remain an intention that is yet to be tested.

The IM envisages that any pilot program would require full and formal documentation to outline scope, purpose, objectives and clarity of roles in order to be clear to all involved. Undocumented processes and ad-hoc arrangements introduce significant risk, particularly in the EM context where roles, accountabilities and responsibilities need to be clear to avoid confusion.

The IM also recognises that pilot programs involve trialling so that they may be assessed and evaluated by all parties to determine their functionality and feasibility. Lessons learned can then be incorporated to progress the pilot and develop a model suitable for broader implementation.

As outlined above, in his statement to the Inquiry, the EMC described the inclusion of industry as a critical step to more effectively manage an incident with the industry/technical knowledge, resources and operational knowledge of the site and/or hazard. The EMC also highlighted that the (current) incident management system may require amendment to cater for industry. The IM considers that expressions of uncertainty about system capability further emphasise requirements for a formal pilot program for industry inclusion.

As stated under R2.1, the IM notes that the current EMV JSOP for IMT Operations (JSOP J2-03 issued 26 September 2014) makes no mention of industry involvement in IMT operations.

Conversely, a December 2014 EMV publication for Emergency Management Team operations provides for inclusion of industry in EMT operations and details the rationale for this. This document also highlights the need for regular training and exercising for EMTs to ensure all possess understandings of roles, responsibilities and capabilities.

The IM considers R2.3 has not been addressed in a manner consistent with the State's undertakings. Instead of conducting a pilot program, a number of more ad-hoc measures have been put in place to provide for increased GDF SUEZ involvement in emergency management arrangements, should an incident occur. Whilst the intent of such measures may in time bring about GDF SUEZ inclusion in IIMT operations, this falls well short of a structured pilot program that has been appropriately developed, documented, stress tested and evaluated. It follows that these alternate measures have not been formalised and do not establish a tested model suitable for progressive expansion to other Victorian essential industries.

Finding: The IM considers that this matter has not been satisfactorily implemented and will revisit R2.3 in the 2016 Annual Report.

R2.4 Integrated Incident Management Teams pilot progressively expanded to other Victorian essential industry providers

The IMP at paragraph 3.14 advises that a pilot of IIMTs will be established for the 2014–2015 summer period. The IMP then advises that after the 2014–2015 summer period, IIMTs will be progressively extended to other Victorian essential industry providers.

The IM considers that acquittal of R2.4 will be an ongoing body of work consistent with the literal meaning of progressive expansion. This item was to be the subject of initial progress reporting by the IM in 2016. However, a logical threshold requirement for progression of this action is the prior development and conduct of an appropriate pilot program for the process. As stated above, the IM has determined that such a pilot program has yet to occur. It follows that this must be conducted before progressive expansion can be contemplated.

Finding: The IM considers that R2.4 cannot be progressed until R2.3 (the pilot program) is first addressed. Accordingly, the IM will revisit action R2.4 in the 2016 Annual Report.

R2.5 IIMTs adopt the AIIMS

Evidence provided to the IM reflects that each of the Latrobe Valley coal mines continues to invest in AIIMS training for their personnel. Other evidence provided to the IM from GDF SUEZ, linked to Recommendation 13, specifies numbers of GDF SUEZ personnel who have either completed the introduction to AIIMS training or have been accredited as Level 2 incident controllers.

However, this action goes beyond having mine staff familiar with AIIMS. The action requires a model for IIMT operations to be in place which would specify who fills what role, including industry participants and what level of AIIMS training role incumbents would require. The IM envisages that any instructions or operating procedures promulgated for IIMT operations would clearly provide for inclusion of industry participants trained to the appropriate level in AIIMS operations. This would ensure that participants would not only be aware of the process by which the incident was being managed, but also to provide assurance that they could capably acquit the role expected of them.

The IM also notes advice from EMV that a revision of the current version of AIIMS is pending, and that this revision will specifically detail the inclusion of industry into functional roles in the IMT structure where appropriate. The IM would anticipate that any such revision would also require stress testing to determine functionality.

The IM considers that R2.5 cannot be progressed until R2.3 (the pilot program) is first conducted and the requirements of R2.4 (progressive expansion) are scoped to identify all other essential industry providers who are to involved in IIMT operations and who will consequently require AIIMS proficiency. The IM also notes the pending review of the AIIMS model, which will afford focus to industry inclusion in IMT operations.

Finding: The IM will revisit R2.5 in the 2016 Annual Report.

Recommendation 3

The State enact legislation, to:

> require integrated Fire Management Planning, and

> authorise the Emergency Management Commissioner to develop and implement regional and municipal fire management plans.

Implementation Actions

Action		Due Date	Status
R3.1	New legislative framework for emergency risk mitigation planning introduced.	July	Ongoing
R3.2	Regulators (for sites that pose significant risk) participate in regional and local emergency risk assessment and planning.	July	Ongoing
R3.3	Strategies for managing the consequences of emergencies developed.	July	Ongoing
R3.4	Emergency management planning to address risks/hazards/ consequence management be aligned across both public and private land.	July	Ongoing
R3.5	All key stakeholders involved in risk mitigation activities.	July	Ongoing

Affirmations Linked to Recommendation 3

Affirmation 13

The State develop an integrated emergency resource planning framework for the Latrobe Valley.

Implementation Action

Action		Due Date	Status
A13.1	Latrobe Valley integrated emergency resource planning framework developed.	July	Ongoing

Progress

R3.1 New legislative framework for emergency risk mitigation planning introduced

R3.2 Regulators (for sites that pose significant risk) participate in regional and local emergency risk assessment and planning

R3.3 Strategies for managing the consequences of emergencies developed

R3.4 Emergency management planning to address risks / hazards / consequence management be aligned across both public and private land

R3.5 All key stakeholders involved in risk mitigation activities

The broad requirements of Recommendation 3 call for the enactment of legislation to require integrated fire management planning and to authorise the EMC to develop and implement regional and municipal fire management plans.

However in its IMP the State's commitments for Recommendation 3 extend well beyond an integrated fire management planning focus. This is not surprising and is consistent with other (prior) undertakings made by the State to reform EM planning. Chapter 3 of the Victorian Emergency Management Reform White Paper (December 2012) outlined a new approach to be introduced for local, regional and state level emergency (not fire specific) management planning to be embedded in legislation.

Furthermore, the 2014-15 State Interim Emergency Management Strategic Action Plan (page 5) highlighted that:

EMV will lead a project to rationalise existing EM planning arrangements to deliver an integrated and holistic EM planning framework. In 2014-2015, a review of existing emergency management plans and statutory and administrative planning requirements at state, regional and municipal levels will be undertaken. This review will inform the development of legislation to deliver an integrated EM planning framework and remove redundant requirements from legislation. This will lead to an overhaul of the Emergency Management Manual Victoria (EMMV) in 2015-16.

Consistent with the intended reforms highlighted in the 2012 White Paper and in the State's 2014-15 EM Strategic Action Plan, the actions committed to for Recommendation 3 in the IMP are not fire exclusive and instead reflect a broader, all hazards EM planning focus. Specific actions committed to in the IMP provide for:

> the introduction of a new legislative framework in the next Parliament for emergency risk mitigation planning

> ensuring regulatory involvement (for sites that pose significant risk) in EM risk assessment and planning

> the development of strategies for emergency consequence management

> providing for EM planning addressing risk in a manner aligned across public and private land, and

> all key stakeholders being involved in risk mitigation activities.

The IM has noted that none of the actions aligned to Recommendation 3 have due dates nominated. The cornerstone action remains the introduction to Parliament of the new legislative framework. The IM anticipates this framework would encompass all other actions aligned to this recommendation which are therefore consequential actions.

Evidence provided to the IM for this recommendation reflects that various works are progressing consistent with the undertakings in the White Paper, the Strategic Action Plan and the Recommendation 3 action items.

Included in EMV evidence was a paper titled Emergency Management Planning Legislation – Proposed Reforms, which was tabled by the EMC at the 18 June 2015 SCRC meeting for consideration. This paper provided an overview of recognised issues in the EM planning environment and outlined needs for legislative reform and how this would remedy some, but not all, concerns. It highlighted that effective reform for EM planning would also be contingent upon securing other relevant legislative and non-legislative change said to be in development. The paper advised that the legislative changes sought are intended to establish a structure that facilitates and supports effective and accountable all-hazards planning arrangements at the state, regional and local level.

The paper outlined various steps for the development of required legislation and nominated target timelines subject to various levels of approval.

The IM acknowledges the lengthy history concerning intended reform for EM planning arrangements and the status of works now underway to this regard. Accordingly, the IM will subject all Recommendation 3 actions to greater scrutiny in future reports.

The IM has more broadly considered the proposed EM planning reforms and weighed these against the EM planning related issues that were explored in the HMFI and which are touched on elsewhere in the State's IMP.

Whilst noting the broad intentions for reform, the IM remains concerned that certain shortcomings that the Inquiry recognised with risk assessment processes and with site level emergency planning arrangements do not appear to be in scope for the EM planning reforms highlighted. These issues also arise partially in action items R4.13 and R4.14, and more specifically in actions aligned to Affirmation 9, which is also linked to Recommendation 4. Accordingly these issues are more comprehensively discussed within those sections of this report.

The IM has highlighted that Recommendation 3 does not have a due date nominated and that actions R3.2 to R3.5 are all considered to be subsidiary actions to action R3.1 (new legislative framework introduced). The IM notes the progress on this matter and the timelines associated with the intended works.

Finding: The IM will revisit Recommendation 3 in full in the 2016 Annual Report.

A13.1 Latrobe Valley integrated emergency resource planning framework developed

Progress

Evidence from EMV reflects that some preliminary work has been led by the CFA towards identifying resource requirements to enable development of a Latrobe Valley Integrated Emergency Resource Planning Framework. On 25 June 2015 CFA District 27 (Morwell) management met with local industry representatives to establish a forum to assist in progressing these works. The IM notes that this action does not have a due date specified.

The IM is aware of previous endeavours to quantify Latrobe Valley risk to produce a model to inform emergency planning and resource allocation. In 1997 the CFA initiated a pilot project, the Latrobe Valley Resource Allocation Project intended to:

> …develop and implement a risk management process to achieve efficient and equitable allocation of CFA fire and emergency response resources for the preparedness and safety of the Latrobe Valley community.

The IM understands that the Latrobe Valley was selected for this pilot due to:

> the privatisation of the electricity industry

> population and demographic changes

> growth in the plantation industry

> brown coal extraction, and

> resource driven industrial expansion.

The IM understands that this project produced draft mapping products, detailed response times and a range of reliable hazard and emergency management data sets from CFA and other sources. Although focussed on wildfire, the project had the potential to be broadened to include other risks. The IM understands that despite this substantial preliminary work, this project did not proceed beyond the pilot stage. The IM considers that it may be beneficial for an approach such as this to be reinitiated to progress A13.

On the evidence provided for A13.1 the IM considers that progress to date has been minimal. Given the concentration of critical State infrastructure in the Latrobe Valley, the IM considers that the successful delivery of this affirmation is fundamental to achieving the intention of the HFMI in preventing a disaster like the Hazelwood Coal Mine Fire from ever happening again.

Finding: The IM will revisit A13 in the 2016 Annual Report.

Recommendation 4

The State:

> bring forward the commencement date of s.16 of the *Mineral Resources (Sustainable Development) Amendment Act 2014 (Vic)*, to facilitate the requirement that approved work plans specifically address fire prevention, mitigation and suppression; and

> acquire the expertise necessary to monitor and enforce compliance with fire risk measures adopted by the Victorian coal mining industry under both the mine licensing and occupational health and safety regimes.

Note – Whilst both DEDJTR and WorkSafe are nominated as lead agency for Recommendation 4, DEDJTR and WorkSafe are not the lead agency for all actions and affirmations within Recommendation 4. Explicit responsibilities are also detailed for EMC and EPA, whilst some actions nominate a collective of lead agencies. The IM has sought clarification from DPC concerning specific responsibilities and leading arrangements for Recommendation 4. On 4 March 2015 DPC provided the IM with specific actions for R4.12, R4.13, R4.14 and R4.15 which are now incorporated into the work plan. DPC also confirmed that each agency will report to the IM as the action descriptions require and reports will be shared across agencies in the Regulation Working Group.

There are three affirmation linked to Recommendation 4. Affirmations 9 and 39 for which EMV is the lead agency and Affirmation 35 for which DEDJTR is the lead agency.

Implementation Actions

Action		Due date	Status
R4.1	MR (SD) Act amended		
	a. Explanation of cause for amendments provided to IM.	June 2015	Complete
	b. Explanation of further reforms necessary provided to IM.	June 2015	Complete
R4.2	Commencement of amendment to MR (SD) Act brought forward to 31/12/15.		
	a. Amendments to transitional provisions of section 16 of the *Mineral Resources (Sustainable Development) Amendment Act 2014* drafted.	March 2015	Ongoing
	b. Parliament proclaims commencement date of section 16.	December 2015	Ongoing
	c. Amendments to transitional provisions of section 16 are made.	December 2015	Ongoing
R4.3	All members of the (VWA) Earth Resources Unit provided with systems approach training.	October 2014	Complete*
R4.4	System Safety Specialist employed (by WorkSafe) as the manager Systems Safety in the Programs Division of the Earth Resources Unit.	June 2015	Complete*
R4.5	Systems based approach to safety in the Earth Resources Unit is enhanced.	June 2015	Complete*
R4.6	Mine fire risk management enhanced by reform of:		Complete
	> Mining law;	This action is fulfilled by R4.2, R4.7, R4.8, R4.11 and R4.17.	
	> Coal mining licences; and		
	> Coal mining work plans.		
R4.7	Latrobe Valley mine licences varied to require licensees to manage fire prevention, mitigation and suppression in order to protect the environment and public safety.		
	a. Latrobe Valley Mine Licences varied.	March 2015	Complete
	i. Hazelwood risk assessment and management plan approved.	December 2015	Ongoing
	ii. Yallourn risk assessment and management plan approved.	March 2016	Ongoing
	iii. Loy Yang risk assessment and management plan approved.	June 2016	Ongoing

Action		Due date	Status
R4.8	Regulations amended to be consistent with the risk-based workplace requirements of the amended MR (SD) Act.		
	a. Amendments to Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2013 drafted.	June 2015	Ongoing
	b. The proposed amendments to the regulations are released for comment.	September 2015	Ongoing
	c. Amendments to regulations are made.	December 2015	Ongoing
R4.9	Regulatory Impact Statement prepared.		
	a. Decision on whether RIS is required to be reviewed.	March 2015	Complete
	b. RIS drafted.		N/A
	c. RIS released for comment.		N/A
	d. RIS comments received.		N/A
R4.10	Taskforce, led by EMC, to determine and coordinate emergency management priorities for both the Latrobe Valley and Anglesea Coal mines for the 2014-15 and 2015/16 fire seasons, established.	July	Ongoing
R4.11	Anglesea Coal Mine operator managing fire prevention, mitigation and suppression consistent with the Mines (Aluminium Agreement) Act 1961.	N/A – See Addendum, page 35	
	a. Anglesea Risk Assessment and Management Plan approved.		
R4.12	DSDBI and WorkSafe, as regulators:		
	> are better connected;		
	> take a broader interpretation in the application of legislative powers; and		
	> adopt an active approach to the supervision of mine fire risk management.		
	a. Prepare a DEDJTR – WorkSafe Memorandum of Understanding	March 2015	Complete
	b. an annual action plan to implement the Memorandum of Understanding.	June 2015	Complete
R4.13	DSDBI, WorkSafe. EMC and EPA responsibilities to provide effective and efficient coordinated oversight of fire prevention, mitigation and suppression in Victoria's coal mines revised and explicitly set out.	March 2015	Ongoing
	a. DEDJTR and WorkSafe responsibilities set out in a DEDJTR/WorkSafe Memorandum of Understanding.	March 2015	Complete*
	b. DEDJTR and EPA responsibilities set out in a DEDJTR/EPA Statement of Agreement.	March 2015	Complete*
	c. DEDJTR/WorkSafe/EPA/EMV remain active members of the Mine Safety Task Force and undertake a review of the effectiveness and efficiency of oversight prior to the 2015/2016 fire season.	September 2015	Ongoing
R4.14	Other means to strengthen regulatory oversight of fire risk management, consistent with a risk based approach to regulation and the requirements of governing regulation, considered.		
	a. (EPA) EPA will strengthen regulatory oversight of consequential environmental risk posed by fire risk mitigation and management activities.	September 2015	Ongoing
	b. (WorkSafe) This action fulfilled by R4.3, R4.4 & R4.5 and shared training across DEDJTR/WorkSafe/EPA and CFA relating to mine fire.	October 2015	Ongoing
	c. (DEDJTR) Amendments to MR (SD) Act for increased power to impose new or additional conditions to reduce risk are made.	June 2016	Ongoing

Action		Due date	Status
R4.15	Expertise to monitor and enforce compliance with fire risk measures adopted by the Victorian Coal Mining industry under both the mine licensing and OHS regimes acquired.		
	a. (DEDJTR) Seek funding to acquire expertise and hire mine fire safety expertise.	June 2015	Complete
	b. (WorkSafe) Acquire expertise for provision of technical advice and training.	June 2015	Ongoing
R4.16	Taskforce led by EMC to coordinate fire preparedness for summer (and into 2015-16) established.	November 2014	Complete
R4.17	Anglesea Mine Licence varied to require mine licensee to manage fire prevention, mitigation and suppression.		
	a. Requirements to manage fire prevention, mitigation and suppression at Anglesea coal mine established with Alcoa consistent with *Mines (Aluminium Agreement) Act 1961*.		N/A – R4.17(a) has been fulfilled by R4.11

Affirmations Linked To Recommendation 4

Affirmation 9
The State improve government engagement with the coal mine sector regarding Emergency Management Plans.

Affirmation 35
The State implement a risk based approach to work plans.

Affirmation 39
Joint program for regulators, emergency service agencies and the Emergency Management Commissioner to assess the prevention and preparedness controls on sites across Victoria initiated.

Implementation Actions

Action		Due Date	Status
A9.1	Government engagement with coal mining sector concerning emergency management plans improved.	July	Ongoing
A35.1	Risk-based approach to work plans implemented.	July	Ongoing
			This item is fulfilled by actions R4.2, R4.8 and R4.11
A39.1	Joint program for regulators, emergency service agencies and EMC to assess the prevention and preparedness controls on sites across Victoria.	July	Ongoing

Background

Recommendation 4 details a variety of actions broadly related to recognition and management of coal mine fire risk. Action items include securing legislative reform to strengthen regulatory oversight, enhancing regulatory agency capabilities, collaborative activities by regulators, the formation of a coal mine task force and clarification of agency roles and responsibilities to better manage risks and/or instances of coal mine fire. Some actions had a particular agency nominated as the lead agency whilst others required collaborative responses from regulatory agencies and/or the EMC. For example, R4.13 which required regulatory groups and the EMC to revise and set out their respective responsibilities relative to coal mine fires was an action that required a broader collaborative response. To provide for collaborative works where this was required, the State formed a Regulation Working Group (RWG). The RWG reports to the SCRC Reference Group that includes representatives from the various regulatory groups and also EMV and CFA.

There are also three Affirmations that the IMP links to Recommendation 4. These broadly concern improving government engagement with the coal mining sector regarding emergency management plans, the implementation of a risk based approach to work plans and the initiation of a joint program (emergency and regulatory agencies) to assess the prevention and preparedness controls on sites across Victoria.

Progress

R4.1 *Mineral Resources (Sustainable Development) Act* amended

a. Explanation of cause for amendments

In 2012, the Economic Development and Infrastructure Committee of the Victorian Parliament conducted an Inquiry into Greenfields Mineral Exploration and Project Development in Victoria. The Committee's May 2012 report recommended that the Government consider redirecting the regulatory focus of exploration, mining and extractive work plans away from prescriptive conditions towards outcomes to manage risk.

The Government accepted the recommendation and in 2014 moved to amend the relevant sections of the principle act, the Mineral Resources (Sustainable Development) Act 1990 [MR(SD)]. The intent of the amendment was to redirect work plans away from lengthy documentation towards outcomes to manage risks and ensure that all risks are identified, eliminated or mitigated.

The original clause in the principle act regarding work plans (s40) contained no mention of risk. The new clause in the MR(SD) Amendment Act 2014 requires the identification of risks and specifically what the licensee will do to eliminate or minimise those risks (such as fire prevention, mitigation and suppression measures).

Transitional provisions within the MR(SD) Amendment Act 2014 however, provide for all existing approved work plans to remain validly in force.

The revised requirements apply only to new work plans and work plan variation applications that are submitted after the Act commences. Given that such applications are infrequent, it could take many years for licensees to be required to incorporate risk based approaches into work plans. To ensure that licensees are required to develop risk based work plans sooner rather than later, transitional provisions require amendment.

b. Explanation of further reforms necessary

There are a number of reforms required to fully implement the intent of the new work plan requirements. These include amending the transitional provisions of the MR(SD) Amendment Act 2014 outlined above. It will also be necessary to amend the objectives of the Act to reflect the risk based approach and to increase the Minister's power to vary licence conditions based upon the risks as required.

Progress in relation to these reforms is reported in 4.2 and 4.14 below.

Finding: The IM considers action R4.1 has been implemented satisfactorily.

R4.2 Commencement of amendment to MR(SD) Act brought forward to 31 December 15

While the MR(SD) Act was amended in February 2014, the government advised the HMFI that the relevant sections may not come into operation until December 2016. The HMFI recommended therefore that the commencement date be brought forward and discussed in the body of the Report, December 2015. The State accepted this and accordingly the IMP brought forward the commencement date to 31 December 2015 (see R4.2(a) below).

a. Amendments to transitional provisions of section 16 of the MR(SD) Amendment Act 2014 drafted

DEDJTR created a position of Senior Manager Policy and Legislation within the Energy and Earth Resources Division specifically to deliver key elements of the government's response to the Hazelwood Mine Fire Inquiry. The Senior Manager is responsible for bringing forward the legislative reforms required to introduce risk based work plans and to provide authoritative policy advice regarding mine fire prevention, mitigation and suppression.

The Senior Manager commenced on 9 February 2015. The IM has seen evidence that good progress has been made in drafting the proposed legislative amendments in consultation with key stakeholders including industry.

b. Parliament proclaims commencement date of section 16

c. Amendments to transitional provisions of section 16 are made

The due date for R4.2 is December 2015.

Finding: The IM considers R4.2 is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

R4.3 All members of the (WorkSafe) Earth Resources Unit (ERU) provided with systems approach training

WorkSafe engaged an independent consultant to develop and deliver systems approach training for the Earth Resources Practice Team (ERPT, formerly ERU) staff. The consultants worked with senior WorkSafe Victoria engineers over two one day sessions during September and October 2014 to develop a consolidated one day training program specifically for all ERPT staff. On 27 October 2014, all 11 staff of the ERPT attended the the one day Systems Approach to Safety Assurance training session.

WorkSafe has further advised the IM that it is committed to ongoing training, financial investment and succession planning or a combination of these, ensuring that systems approach training becomes ongoing core business for the agency. The IM has seen evidence of specific financial allocations for these purposes in 2015-16 budget papers provided by the agency.

Finding: The IM considers R4.3 has been implemented satisfactorily. As a systems approach to staff training and development is an important ongoing requirement however, the IM will revisit R4.3 in the 2016 Annual Report.

R4.4 System Safety Specialist employed (by WorkSafe) as the Manager Systems Safety in the Programs Division of the Earth Resources Unit

WorkSafe Victoria considered this action further following the release of the IMP and decided an organisational restructure was required to ensure that this action is delivered in a manner consistent with the intent of Recommendation 4 of the HMFI.

The revised structure extends systems safety capability across all hazardous industries, not restricting it to the ERPT staff. While the IM understands this broader approach should ensure systems safety expertise is consistent and contemporary across all occupational health and safety hazards, it will be important to maintain a focus and ensure adequate investment in specific coal mine systems safety as intended by the HMFI.

The position of Manager Systems Safety Operations and Hazardous Industries Division was created and a recruitment process was conducted leading to the commencement of the role on 14 July 2015.

Finding: The IM considers action R4.4 has been implemented satisfactorily. As it will be important for this new role in particular to contribute to future coal mine systems safety improvements, the IM will revisit R4.4 in the 2016 Annual Report.

R4.5 Systems based approach to safety in the Earth Resources Unit is enhanced

Significant resources have been committed by WorkSafe Victoria to ensure all members of the ERPT have the requisite technical expertise in the review, inspection and audit of fire prevention and mitigation strategies in the open cut coal mining industry.

A number of training programs were developed and delivered to relevant staff throughout 2014-15. On 25 and 26 March 2015 the IM was at Loy Yang for the commencement of the first of a number of training programs. Twenty-seven representatives from ERPT and a number of other agencies including EPA, CFA and DEDJTR participated in this two day training program delivered by external consultants. The training was designed to provide participants with the skills necessary to consistently monitor and enforce compliance with fire risk measures adopted by the Victorian coal mining industry. Feedback from participants was positive, particularly in terms of enhancing inter agency relationships.

External consultants were also engaged to deliver a two day training program for 15 (five Earth Resources) WorkSafe staff on Root Cause Analysis (RCA) on 23 and 24 June 2015. RCA is a risk management methodology used by many multinational companies to enhance understanding and provide a structure for incident causation, analysis and the identification of prevention and mitigation controls. This training was initiated by WorkSafe to ensure a consistent approach to inspections and verifications regarding low frequency, high consequence event prevention across the agency.

External consultants were engaged again during March 2015 to deliver an accredited five day training course to 12 WorkSafe inspectors (four Earth Resources) in the role of Lead Auditor, Occupational Health and Safety Management Systems. Thirteen inspectors (five Earth Resources) also participated in a Hazardous Areas Basics workshop on 11 June 2015. This training was designed to ensure that inspectors are aware of the latest requirements in terms of hazardous areas electrical equipment which is a required competency for technical inspectors in this sector.

WorkSafe analysts and mining engineers also attended a two day Layers of Protection Analysis (LOPA) training program on 15 and 16 June 2015. LOPA is a semi-qualitative risk assessment tool. It provides a method for evaluating the risk of hazard scenarios and comparing this to risk tolerance criteria to determine whether existing safeguards are adequate. This is an important skill in enabling WorkSafe staff to challenge operators to prove that independent controls have been implemented so far as is reasonably practicable.

As the OH&S regulator, WorkSafe conducts site verification processes of prescribed mines to identify areas where strategic intervention is required, detect and appropriately deal with any regulatory breaches or non-conformance, assess overall levels of safety management and provide feedback and recommendations to mine operators so that they can improve mine safety.

The most recent Hazelwood verification process relating to fires in mines prior to the Hazelwood mine fire in February 2014 was conducted in June 2012 by three WorkSafe staff over two days. Seven control measures and three safety management system elements were assessed which led to the issuing a small number of improvement notices. In September-October 2014 WorkSafe conducted a Hazelwood Mine verification process over a five day period. The verification team included seven members, four from WorkSafe, two from DEDJTR and one from CFA. Thirteen control measures and three safety management system elements were reviewed and where appropriate inspected during the process, leading to the issuing of substantially more improvement notices than the 2012 verification.

The IM has received evidence substantiating the ongoing active involvement of WorkSafe in monitoring and reporting progress and compliance with improvement notices by GDF SUEZ. The evidence indicates a more proactive approach by WorkSafe to ensuring regulatory compliance. It is clear to the IM that WorkSafe has adopted a more comprehensive and proactive approach in relation to mine inspections since the Hazelwood mine fire, which must be sustained over time.

At the time of receipt of final evidence for this report, further training was being scheduled for staff required to investigate fire prevention and mitigation strategies within the open cut coal mining industry. At least two further training programs were scheduled. These include a three day program focusing on fire risk management and a broader two day program focussing on safety management systems to be delivered by independent consultants. Both programs are designed to ensure that relevant staff have the skills necessary to monitor and enforce compliance with fire risk measures as required by Recommendation 4.

The IM notes the investment made in enhanced systems based training by WorkSafe since the delivery of the HMFIR. The IM also notes that where relevant, WorkSafe has invited participation from other regulators in these training opportunities as well as actively engaging experts from other relevant agencies in safety assessment processes.

Finding: The IM considers R4.5 has been implemented satisfactorily. However, as indicated above in relation to other training, this is an important ongoing requirement and the IM will therefore revisit R4.5 in the 2016 Annual Report.

R4.6 Mine fire risk management enhanced by reform of:

- **Mining law;**
- **Coal mining licences; and**
- **Coal mining work plans**

Finding: The IM considers that R4.6 has been fulfilled by R4.2, R4.7, R4.8, R4.11 and R4.17.

R4.7 Latrobe Valley mine licences varied to require licensees to manage fire prevention, mitigation and suppression in order to protect the environment and public safety

a. Latrobe Valley Mine Licences varied

Section 34 of the MR(SD) Act 1990 enables the Minister for Energy and Resources to vary a mine licence, vary or suspend a condition of a mine licence or add a new condition to a mine licence. On 20 January 2015, the Minister added a new condition (1A Risk Management) to the Schedule of Conditions to mining licences 5004 (Hazelwood), 5003 (Yallourn) and 5189 (Loy Yang). This condition requires the Latrobe Valley coal mining licensees to conduct a risk assessment and submit a Risk Assessment and Management Plan (RAMP) by 30 June 2015, 31 August 2015 and 31 October 2015 respectively. This condition explicitly requires the RAMP to include (but is not limited to) fire prevention, mitigation and suppression.

In March 2015, DEDJTR consulted with the Latrobe Valley coal mines about meeting the requirements of the new licence conditions.

In May 2015, DEDJTR issued a *Compliance with Risk Management Conditions* document to each licensee to advise them of how to comply with new condition 1A (risk management) of their respective licences. GDF SUEZ submitted its RAMP to DEDJTR by 30 June 2015 as required.

Finding: The IM considers R4.7(a) has been implemented satisfactorily.

  i. **Hazelwood risk assessment and management plan approved**

  ii. **Yallourn risk assessment and management plan approved**

  iii. **Loy Yang risk assessment and management plan approved**

The final due date for approval of the Latrobe Valley Coal Mines Risk Assessment and Management Plans is June 2016.

Finding: The IM will revisit R4.7(a)i, ii and iii in the 2016 Annual Report.

R4.8 Regulations amended to be consistent with the risk-based workplace requirements of the amended MR (SD) Act

a. **Amendments to Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2013 drafted**

Delivering this commitment required redrafting Regulation 32 and Schedules 14, 15, 16 and 17 of the MR(SD)(Mineral Industries) Regulations 2013 and Regulations 5 and 7 and Schedule 1 of the MR(SD) (Extractive Industries) Regulations 2010.

The proposed amendments were drafted by the Energy and Earth Resources Division of DEDJTR following consultation with the industry.

b. **The proposed amendments to the regulations are released for comment**

c. **Amendments to regulations are made**

Finding: The IM considers R4.8 is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

R4.9 Regulatory Impact Statement (RIS) prepared

a. Decision on whether a RIS is required to be reviewed

The IMP stated (paragraph 3.34) that a RIS would be required prior to amending the regulations to ensure that they are consistent with the risk-based workplace requirements of the amended MR(SD) Act. DEDJTR advised the IM however that it was not certain a RIS was required and that this matter required more detailed analysis.

In early 2015, DEDJTR collected data in relation to the number of work plans and work plan variations that will be required to facilitate the risk based approach proposed in the regulations. These requirements were then used to estimate the overall additional regulatory burden. The findings of this process indicated that the proposed regulations have an estimated regulatory burden well below the threshold set in the Victorian Guide to Regulation to require a RIS.

DEDJTR consulted with the Victorian Competition and Efficiency Commission and the Earth Resources Reform Steering Committee including the Minerals Council of Australia, Cement Concrete and Aggregate Australia, Construction Material Processors Association and the Prospectors and Miners Association of Victoria in relation to this finding.

On 21 May 2015 the Minister for Energy and Resources agreed in principle to an exemption from the preparation of a RIS to accompany the proposed regulations.

b. **RIS drafted – not now applicable**

c. **RIS released for comment – not now applicable**

d. **RIS comments received – not now applicable**

Finding: The IM notes the Minister for Energy and Resources agreed in principle to an exemption from the preparation of a RIS in relation to this matter.

R4.10 Taskforce, led by EMC, to determine and coordinate emergency management priorities for both the Latrobe Valley and Anglesea Coal mines for the 2014-15 and 2015-16 fire seasons, established

Progress in relation to R4.10 is reported under Recommendation 2 of this report.

R4.11 Anglesea Coal Mine operator managing fire prevention, mitigation and suppression consistent with the Mines (Aluminium Agreement) Act 1961

a. Anglesea Risk Assessment and Management Plan approved

The State committed to implement the above action by June 2016. On 12 May 2015, Anglesea mine operator, Alcoa announced that the Anglesea coal mine and power station would permanently close on 31 August 2015. On 26 May 2015, the Governor in Council announced the appointment of a Board of Inquiry into the Hazelwood Coal Mine Fire. The terms of reference of the (reopened) Inquiry include inquiring into and reporting on options that could be taken by the operator of the Anglesea mine to decrease the risk of fire arising from or impacting on the mine during the 2015-16 fire season. At the time of the receipt of final evidence for this report the re-opened HMFI report in relation to this matter had not been published.

Addendum: The reopened HMFIR in relation to this matter was tabled in Parliament on 2 September 2015. The Board concluded that Alcoa had either implemented or was in the process of implementing a range of fire mitigation strategies that are sustainable, practical and effective. The only recommendation made by the Board was that Alcoa publish a progress report detailing the steps it has taken to implement its fire mitigation strategies since 31 July 2015 by 15 September 2015 (which has occurred), to be updated by 15 November 2015, on the Alcoa website.

Finding: The IM considers R4.11 is no longer applicable.

R4.12 DSDBI and WorkSafe, as regulators:

- **are better connected**
- **take a broader interpretation in the application of legislative powers, and**
- **adopt an active approach to the supervision of mine fire risk management.**

Since the Hazelwood Mine Fire, DEDJTR and WorkSafe Victoria staff have been working more closely together. This includes regularly sharing information regarding inspection visits, field reports and potential regulatory breaches, conducting joint visits and audits such as the DEDJTR geotechnical audit of the Yallourn mine in April 2015, utilising a joint audit tool and participating in joint training and joint industry workshops.

During 2015, DEDJTR also reviewed and updated mine incident notification processes to ensure that both WorkSafe and EPA are advised of all incidents that are reported to DEDJTR. The IM has also seen evidence of regular timely (email) information exchange between WorkSafe and DEDJTR officers initiated from both agencies across a range of matters of potential mutual concern throughout 2014-15. These agencies are also actively engaged in a number of broad whole of Victorian Government (WoVG) processes such as the DEDJTR chaired Alcoa WoVG Coordination Group which has been established to ensure a coordinated government response to address any issues arising from the planned closure of the Anglesea mine.

a. Prepare a DEDJTR – WorkSafe Victoria Memorandum of Understanding

Senior officers of DEDJTR and WorkSafe Victoria commenced regular meetings in November 2014 to draft a Memorandum of Understanding (MOU) between the two organisations. A draft action plan to guide implementation of the MOU was also developed for circulation and discussion across relevant staff of both agencies as part of this process. The MOU covers all critical aspects of relationships between DEDJTR and WorkSafe Victoria. Specific details in relation to mine fire risks are included in Schedule 1 Earth Resources Sector. The MOU was formally endorsed by the Secretary DEDJTR and the CEO of WorkSafe Victoria in May 2015.

Finding: The IM considers action R4.12(a) has been implemented satisfactorily.

b. An annual action plan to implement the Memorandum of Understanding

As indicated under R4.12(a) above, an annual action plan was drafted to guide implementation of the MOU. DEDJTR and WorkSafe engaged an independent consultant to facilitate a workshop for staff of both organisations. The 'Bringing the Memorandum of Understanding to life – a Collaborative Workshop' was conducted on 1 June 2015. In excess of 40 officers participated in the full day workshop including EPA representatives who were invited as observers. The purpose of the workshop was to reflect on the recently endorsed MOU, review the draft annual action plan, identify any gaps and clarify roles and key task for delivery during the 2015-16 financial year.

The products from the workshop were used to refine and improve the then draft annual action plan. The workshop also provided an opportunity to build professional relationships between the two organisations.

Finding: The IM considers R4.12(b) has been implemented satisfactorily.

R4.13 DSDBI, WorkSafe, EMC and EPA responsibilities to provide effective and efficient coordinated oversight of fire prevention, mitigation and suppression in Victoria's coal mines revised and explicitly set out

The IM received evidence from the RWG in respect to coal mine regulatory arrangements.

The Latrobe Valley coal mines are principally regulated by three agencies – DEDJTR (mine operations), WorkSafe (occupational health and safety and dangerous goods) and EPA (environmental discharges). These regulators require a mine operator to comply with its duties under legislation including:

> *Mineral Resources (Sustainable Development) Act 1990*

> Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2013

> *Occupational Health and Safety Act 2014*

> Occupational Health and Safety Regulations 2007

> *Environment Protection Act 1970*, and

> Environment Protection (Scheduled Premises and Exemptions) Regulations 2007.

This RWG evidence included a description of the fire risk management roles and responsibilities of the agencies that either regulate (DEDJTR, Worksafe, EPA) or that may need to interact with mine operators (EMV, CFA and the EMC). The IM notes evidence of a range of works that have either been completed, are in progress, or are proposed which have relevance to R4.13.

Works include:

> a revised MOU between DEDJTR and WorkSafe (Note that this action is specifically addressed at action R4.12)

> a DEDJTR and EPA Working Agreement (Note that this is specifically addressed at R4.13[b], which follows this section)

> a process concerning verification from the mining licensee that the fire fighting equipment to be kept at the mine site is to the satisfaction of the Chief Officer of the CFA. At the receipt of final evidence the RWG advised the IM that a letter was to be drafted to the Chief Officer of the CFA to discuss how equipment requirements would be determined and how this would be communicated to ERR as the regulator

> WorkSafe enhancing its internal capabilities in regard to systems safety methods and undertaking shared training with other regulatory groups and emergency agencies (detailed at R4.3, R4.4 and R4.5)

> a mine dust mitigation strategy being progressed by EPA and DEDJTR which includes consideration of the regulatory powers of each agency

> proposed legislative reform for emergency management planning to better connect local government, regulatory and emergency agencies (detailed at R3), and

> DEDJTR progressing a range of legislative amendments to impose increased requirements on mine operators to eliminate or reduce risks associated with mining operations.

Whilst noting the extent of the above works, the IM considers that more holistic and integrated works are necessary to ensure effective and efficient coordinated oversight.

Each of the agencies mentioned at R4.13 has different roles and responsibilities with regard to Victoria's coal mines and therefore gather different information to meet these specific responsibilities. Evidence from the CFA advised that whilst no formal coal mine fire reporting is prescribed by any legislation, CFA's regular meetings with mine operators enable them to learn of fire incidents informally. The IM also notes that regulatory groups, consistent with their respective regulatory responsibilities, have differing thresholds to require mines to report (to the respective regulator) instances of fire.

Notwithstanding the improved sharing of information between regulators reported in R4.12, no evidence was provided to the IM to demonstrate that a process exists to ensure individual agency information is aggregated and shared to assist in the provision of effective and efficient coordinated oversight of fire prevention, mitigation and suppression. The IM contends that effective arrangements require sound mechanisms to ensure that those collectively involved have a common and complete landscape appreciation of the relevant environment.

The IM also notes the comments of the EMC, in his statement to the HMFI reflecting a need to better connect regulatory and emergency agencies:

There is a need to support a more collaborative, all hazards approach to mitigation planning within the mine and across the adjoining landscape. An objective party, such as the EMC, can provide the environment through EMV to support a more inclusive and comprehensive planning approach. This would achieve a greater focus on consequence management, from the well being of the community to the continuity of the essential service. It also provides the basis for testing the efficacy of planning.

Similarly, initial discussions with the mining sector have revealed the need for clarity on the appropriate government department to act as a coordinating broker when the mine operators are faced with competing demands from various regulators. One example for this type of challenge is the introduction of vegetation to reduce dust emissions, which in turn can contribute to the increased threat of fire.

The IM concurs with these comments from the EMC that a more collaborative, all hazards approach is required for mitigation planning and that EMV inclusion, perhaps even as a coordinating broker when competing tensions arise, may facilitate a more complete approach.

The IM acknowledges the works progressing in regard to R4.13 and that the operations of the Coal Mine Fire Taskforce have served to better connect regulatory groups, mine operators and fire agency staff (see R2.1). The IM reiterates the concern expressed at R2.1 in respect to mechanisms to progress collective works to ensure the provision of effective, efficient and coordinated oversight of coal mine fire prevention, mitigation and suppression beyond the life of the Taskforce, given its continued operations are uncertain.

The IM notes that the due date for R4.13 was March 2015. Whilst evidence of progress is evident, particularly in the cross regulatory working arrangements, there are a range of broader emergency management arrangements yet to be completed.

Finding: Whilst noting the progress of this action, particularly by the regulatory agencies (see 4.13a, b and c following), the IM remains concerned that the reported progress against this action falls short of the effort required of all agencies, including EMV, to provide effective and efficient coordinated oversight of coal mine fire risk management. The IM will revisit R4.13 in the 2016 Annual Report.

a. DEDJTR and WorkSafe Victoria responsibilities set out in a DEDJTR/WorkSafe Victoria Memorandum of Understanding

See R4.12 (a) above.

b. DEDJTR and EPA responsibilities set out in a DEDJTR/EPA Statement of Agreement

DEDJTR and EPA have worked collaboratively to develop a formal statement of agreement documenting respective roles and responsibilities. An EPA officer was seconded to DEDJTR from October 2014 to January 2015, as a senior adviser to facilitate this process. The role provided strategic advice on all reform projects with a focus on enhanced regulatory effectiveness, consistency, accountability and transparency in consultation with key stakeholders.

An inaugural workshop was conducted on 17 February 2015 involving 15 senior officers from both agencies. The final "Working Agreement" document was endorsed by the EPA CEO and the Deputy Secretary, Regulation and Compliance DEDJTR in May 2015. A second collaborative workshop was conducted on 28 April 2015. The purpose of this workshop was to determine the objectives and scope of the six schedules which will ultimately support the working agreement to ensure consistent collaborative implementation in the field. The workshop also determined the resources required to deliver the schedules and established delivery timelines. It is intended to have all schedules endorsed by December 2015.

Schedule 4 focuses explicitly on emergency management. In June 2015 an Interim Schedule 4 – Emergency Management was formally endorsed by DEDJTR and EPA. The interim schedule addresses coal mine fire only, acknowledging that other hazards will be included prior to finalising the schedule later this year.

The IM notes that while action R4.13 focuses on coal mine fire risk, DEDJTR and EPA have appropriately adopted a holistic approach to incorporate all earth resource industries (minerals, extractive, petroleum, geothermal, greenhouse gas sequestration and pipelines) into the agreement.

Finding: The IM considers R4.13(a) and R4.13(b) have been implemented satisfactorily. The schedules to support the DEDJTR and EPA Working Agreement, however, remain under development. The IM will therefore revisit R4.13(a) and R4.13(b) in the 2016 Annual Report.

c. DEDJTR / WorkSafe Victoria/ EPA / EMV remain active members of the Mine Safety Task Force and undertake a review of the effectiveness and efficiency of oversight prior to the 2015/2016 fire season

The IM has attended several Mine Safety Taskforce meetings and has also seen documentary evidence of regular participation by all nominated agencies and local government in these meetings. The EPA is an active member of the both the Latrobe Valley and Surf Coast Coal Mining Taskforces being represented by the Gippsland and South West Regional Managers respectively. DEDJTR has also been actively engaged in the taskforces throughout 2014-15, represented by the respective District Managers and the Executive Director Earth Resources Regulation. WorkSafe is also an active member of both taskforces, represented by the Acting Director of Hazardous Industries and Acting Manager Earth Resources Practice Operations & Hazardous Industries. The IM notes, however, that the continued operation of the Taskforce is uncertain.

Finding: The IM considers R4.13(c) is progressing satisfactorily and will be revisited on in the 2016 Annual Report.

R4.14 Other means to strengthen regulatory oversight of fire risk management, consistent with a risk based approach to regulation and the requirements of governing regulation, considered

a. EPA will strengthen regulatory oversight of consequential environmental risk posed by fire risk mitigation and management activities

Air pollution, in particular dust emanating from the three coal mines surrounding Morwell, has long been recognised as a concern by Latrobe Valley community members. There is potential for coal mine fire mitigation works to increase (and potentially decrease) air pollution in the vicinity of mines. The EPA conducted inspections of Hazelwood, Yallourn and Loy Yang mines during 2014-15 to increase understanding of each mine and the dust and fire mitigation strategies being implemented at each site.

EPA has been working with DEDJTR on a joint approach to regulate dust emanating from the mines to mitigate the impacts on surrounding communities. The first requirement was to design and develop an audit tool for use in joint EPA/DEDJTR inspections. In March 2015 the audit tool was used to conduct joint audits of the three Latrobe Valley coal mines. The audits addressed dust modelling and prediction, planning and operations, site management and dust control measures, dust modelling and assessment, integration of weather conditions and levels of community consultation.

At the closure of evidence, EPA and DEDJTR were assessing the findings to identify opportunities for improvements in dust mitigation management. This process will include determination of appropriate regulatory powers for each agency and the development of a joint coal mine dust mitigation regulatory strategy to improve amenity for the Latrobe Valley. The IM has seen evidence of early drafts of a Latrobe Valley Dust Industry Sector Strategy. The IM understands that the intention is to have the final strategy endorsed by both DEDJTR and EPA by September 2015.

b. (WorkSafe) This action fulfilled by R4.3, R4.4 & R4.5 and shared training across DEDJTR / WorkSafe / EPA and CFA relating to mine fire

c. (DEDJTR) Amendments to MR (SD) Act for increased power to impose new or additional conditions to reduce risk are made

A range of amendments to both the MR(SD) Act and the MR(SD) Amendment Act 2014 are required to further increase the requirements to reduce risks associated with mining operations. This includes:

1. Section 2 of the MR (SD) Act (the overall objective)
2. Sections 26 and 34 of the MR(SD) Act (for minerals industries)
3. Sections 77J and 77M of the MR(SD) Act (for extractive industries)
4. Sections 16 and 17 of the MR(SD) Amendment Act 2014 (identify risks to infrastructure).

DEDJTR has been developing prospective amendments in consultation with the industry for consideration by the Minister. As reported under R4.2(a) above, good progress is being made in drafting a proposal for legislative amendments in consultation with key stakeholders.

Finding: The IM notes the progress in relation to this action and will revisit R4.14 in the 2016 Annual Report.

R4.15 Expertise to monitor and enforce compliance with fire risk measures adopted by the Victorian Coal Mining industry under both the mine licensing and OHS regimes acquired

a. (DEDJTR) Seek funding to acquire expertise and hire mine fire safety expertise

Following the release of the IMP, DEDJTR developed a business case to fund the implementation of the commitments contained in the IMP. Funding for DEDJTR to acquire the expertise necessary to monitor and enforce revised coal mine fire risk licensing and OH&S regimes, was included in the 2015 Victorian State Budget.

As reported at R4.5, on 25 and 26 March 2015 senior representatives from DEDJTR and other agencies including EPA and CFA participated in a joint training program. The program is part of an ongoing collaborative process to provide participants with the skills to consistently monitor and enforce compliance with fire risk measures for the Victorian coal mining industry.

DEDJTR has created several new mine fire safety positions to strengthen the expertise available to ensure industry compliance with coal mine fire risk management requirements. These include Mine Fire Inspectors, a Manager Mine Fire Assessment and a Manager Mine Fire Prevention. These positions will be part of the Mine Fire Safety Unit within the Earth Resources Regulation Branch of the Department under the direction of a General Manger. At the time of receipt of final evidence for this report, recruitment processes were underway for these positions.

DEDJTR is also establishing an expert panel to provide technical advice about geotechnical, hydrological and fire risk assessments. The purpose of the panel is to provide high level advice in relation to these technical areas. This includes identifying the necessary principles and approaches to be applied by licencees in risk assessment and management of industry, the environment and public safety.

Technical experts will be sought with experience across the application of risk management in organisations, fire management in open-cut coal mines, emerging approaches to open-cut coal mine rehabilitation as well as experts with specific knowledge of coal properties, propensity for ignition and contemporary measures and practices for fire prevention, mitigation and suppression. DEDJTR will conduct a tender process to appoint appropriately qualified panel members.

At the time of receipt of final evidence for this report DEDJTR had appointed an interstate expert to conduct the assessment of the Hazelwood RAMP submitted on 30 June 2015 as required under the revised licence conditions.

Finding: The IM considers R4.15(a) has been implemented satisfactorily.

b. (WorkSafe) Acquire expertise for provision of technical advice and training

As the OH&S regulator, WorkSafe now include CFA and DEDJTR technical specialists in their verification processes of Latrobe Valley coal mines to ensure comprehensive monitoring and compliance with fire risk controls in line with regulatory obligations.

As outlined in detail in relation to actions R4.3, R4.4 above, WorkSafe Earth Resources team members have recently undertaken a broad range of training designed to increase technical expertise to monitor and enforce compliance with fire risk measures adopted by the Victorian coal mining industry. This is an ongoing commitment and at the time of receipt of final evidence for this report further training involving a Fire Risk Management Workshop, based on Minerals Industry Operational Risk Management was funded and scheduled for August 2015.

WorkSafe has also recruited officers with specialist expertise such as the Manager Systems Safety (see R4.5) to increase agency capacity to enforce compliance with fire risk measures.

Finding: The IM considers action R4.15(b) is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

R4.16 Taskforce led by EMC to coordinate fire preparedness for summer (and into 2015-16) established

Progress in relation to R4.16 is reported under Recommendation 2 of this report.

R4.17 Anglesea Mine Licence varied to require mine licensee to manage fire prevention, mitigation and suppression

a. Requirements to manage fire prevention, mitigation and suppression at Anglesea coal mine established with Alcoa consistent with *Mines (Aluminium Agreement) Act 1961*

Finding: The IM considers that R4.17(a) has been fulfilled by R4.11.

A9.1 Government engagement with coal mining sector concerning emergency management plans improved

In considering Affirmation 9, the IM acknowledges the EMV evidence provided for Recommendation 3 concerning the intended introduction of reforming legislation for emergency management planning arrangements.

The IM notes that this intended reform is broad in application and not coal mine exclusive. The reform targets municipal, regional and state level emergency management planning arrangements in an all hazards context.

These broad intentions for reform of municipal, regional and state arrangements are notable. In contrast Affirmation 9 relates specifically to government engagement with the coal mining sector for emergency management (not fire exclusive) planning purposes. Recent emergency incidents in Victoria's coal mines have included hazards other than fire, such as large scale flooding and land stability events which occurred in 2011.

Whilst the IM's assessment of this affirmation will necessarily be coal mining sector emergency plan focussed, observations made may be applicable to the emergency planning arrangements for other sectors, industries and hazards.

The IM also acknowledges that the creation and the activities of the Coal Mine Fire Taskforce, as highlighted within Recommendation 2, has improved government engagement with coal mine personnel. The Taskforce has brought together representatives from regulatory groups, local government, the coal mines and fire agencies to apply a collective focus to coal mine fire risk. Strong relationships were forged and collective activities were undertaken to ensure Victoria is better prepared to contend with threats or occurrences of coal mine fire.

This Affirmation however, requires the IM to consider government engagement with the coal mine sector for broader emergency management planning purposes, beyond a fire focus, to determine if improvements are evident. This requires the IM to consider the current emergency planning arrangements for the coal mining sector, whilst remaining cognisant of the broad planning reform proposed (see Recommendation 3).

Mines which are prescribed under Occupational Health and Safety legislation, such as the Latrobe Valley coal mines, are required to compile an emergency plan which must be used as the primary means of responding to incidents involving a significant risk of serious injury or death. Such incidents to which the emergency plan will apply could include a fire or flood, catastrophic failure of mine or plant, bomb threat, hazardous material incident etc.

Prescribed mines are required to develop these site level emergency plans in conjunction with the emergency agencies that have responsibility for the area in which the mine is located and with the local municipal council in relation to major mining hazards that could detrimentally affect the health and safety of people in the area surrounding the mine.

Requiring emergency agency involvement in emergency plan compilation is logical. Any agency that would then be called upon as the relevant control agency for a particular incident at the site, for example the CFA for a fire event or VICSES for a land stability or flooding event, would then be a party to the site emergency plan development. This should ensure that the emergency agencies to be relied upon were both familiar with the plan and that control strategies developed were actually possible and within the capabilities of the agency to be relied upon.

No head of power exists to compel involvement by the emergency agencies and local government officers as a key component of this process. The onus is on the prescribed mine to engage with emergency agencies and councils.

The IM has explored the actual level of collaboration between mine personnel, emergency agencies and local government that this site level emergency management planning process entailed. The IM has visited each of Victoria's coal mines and has queried mine personnel and local government officers about mine emergency planning processes.

Responses reflected that as there were no mechanisms to compel EM agencies to become involved in this site level EM planning process required of the prescribed mines, actually securing involvement with EM agencies could be problematic. It was also reported that when engagement might be secured, sometimes through exercising personal friendships, then this was more ad-hoc and did not provide a robust, consistent, or formal approach to the development or assessment of these site level emergency plans. When participation was secured this did not safeguard that those who became involved were sufficiently authorised or possessed the appropriate skills and technical knowledge necessary for the task.

Regulatory groups advised the IM of concerns reported to them by the mines of an inability to secure the involvement of EM agencies and local government representatives in the site level emergency planning process. Additionally, Local government officers advised the IM of an absence of meaningful consultation in the site level emergency management planning process. Whilst a completed site emergency management plan may be provided to the local government office, this was generally compiled in the absence of any local government input. Accordingly, local government input for site level emergency management planning in respect to what treatments ought to be considered concerning broader community impacts (beyond the site) from emergency events could be lacking.

In the emergency management planning regime lower level plans serve to inform the development of higher level plans. Lower level plans, such as site level plans, will be quite tactically focussed to detail how specific hazards (incidents) will actually be managed. In managing emergency incidents a fast and effective local response is recognised as important in limiting the impacts of an incident both for the site and for the surrounding community. Higher level plans, such as regional or state level plans, will be more strategic. They will support the execution of the lower level plan whilst also giving consideration to escalation mechanisms should the incident become protracted, prove difficult to contain, or if span of control is exceeded. They also focus on consequence management. Higher level plans may not require activation if lower level arrangements prove effective. However, an ineffective site level plan will have compounding implications for higher level plans.

Site level plans for coal mines fall outside of the recognised formal hierarchy of municipal, regional and state level emergency plans. Neither are coal mine site level emergency management plans recognised to be sub plans to municipal emergency plans.

Victoria's coal mines present significant risk and these risks are not fire exclusive or limited to the local environment. Should a large scale or protracted emergency event compromise power production capabilities then state-wide impacts can be envisaged. Such contingencies highlight the importance of appropriate site level emergency management planning processes involving all key stakeholders.

The IM notes from material provided for recommendation 3 that the proposed emergency management planning legislative reforms do not appear to acknowledge or address site level emergency management planning arrangements.

The IM also notes that whilst proposed planning reforms are intended to encourage industry inclusion, particularly in regional level emergency planning activities, they do not ensure emergency agencies participate in site level planning activities with the coal mines (industries) even though such agencies are the recognised control agencies for emergency events that may impact at particular mine sites.

Actions 4.13 and 4.14 are also related to this affirmation in that they explore regulatory and emergency agency roles in regard to managing fire risk in coal mines. Findings of the IM in regard to 4.13 and 4.14 should be read in conjunction with this section.

Given the issues highlighted, the IM considers the current coal mine emergency management planning process to be disjointed, incomplete and in need of improvement.

Finding: The IM notes that A9 does not have a specified due date. Accordingly, the IM will revisit A9.1 in the 2016 Annual Report.

A35.1 Risk-based approach to work plans implemented

Finding: The IM considers that A35.1 is fulfilled by actions R4.2, R4.8 and R4.11.

A39.1 The State initiate a Joint program for regulators, emergency service agencies and EMC to assess the prevention and preparedness controls on sites across Victoria

Progress

This affirmation is contained in Chapter 9 (Regulatory Framework) of the Government's second submission (June 2014) to the HMFI as an intended action under the joint themes of mitigation and integration.

The Government's submission states:

The proposals are intended to ensure a better integrated approach in the identification and assessment of risks and associated control measures between the duty holders, regulators, local government and emergency service agencies. The potential for impacts upon the community will be given greater emphasis in the identification and control of risks (9.6).

The Government intends to initiate a joint program, involving relevant regulators, emergency services and the EMC that will enable regulators and emergency services to assess the prevention and preparedness controls on sites across Victoria that fit a low likelihood/high consequence or long term duration incident profile…

An important feature of this work would be an assessment of the resilience of potentially affected communities and the development of supportive engagement strategies in preparation for such incidents (9.59).

The IMP indicates that a senior working group of regulators has been established to develop an accountability framework to monitor risks and hold the brown coal mine operators to account. The IMP also indicates that the taskforce will contribute to the delivery of this affirmation. While the creation of the taskforce is a welcome initiative as discussed in detail in recommendation 2, the IM is concerned that its achievements to date fall well short of the actions required to fulfil this affirmation. This appears to be particularly the case in terms of assessing controls on sites and the resilience of potentially affected communities across Victoria. Furthermore, the IM understands that the continued operation of the taskforce is uncertain.

Finding: The IM will revisit A39.1 in the 2016 Annual Report.

Recommendation 5

The State equip itself to undertake rapid air quality monitoring in any location in Victoria, to:

> collect all relevant data, including data on PM$_{2.5}$, carbon monoxide and ozone; and

> ensure the data is used to inform decision-making within 24 hours of the incident occurring.

Implementation Actions

Action		Due Date	Status
R5.1	Mobile air monitoring capability (Travel BLANkET), four drop in particulate monitors, plus additional equipment for new portable air monitoring stations, purchased by EPA.	July 2014	Complete
R5.2	Further research into other field-ready devices conducted.	January 2015	Complete*
R5.3	Automatic air quality monitoring station operating in southern part of Morwell to collect data over a 12 month cycle.	March 2015	Complete This item is fulfilled by Actions for Affirmation 22
R5.4	Relevant response agencies equipped with suitable equipment and expertise to commence monitoring within 24 hours of agreed escalation triggers.	July 2017	Ongoing
R5.5	Establish and document a response model that includes: a. The threshold conditions which will relate to potential community impact, under which rapid air quality monitoring will be deployed (an 'escalation procedure') b. The type of 'prolonged smoke events' that should be covered by the recommendation (for example, coal mine fires, landfill fires) c. The exact type and format of air quality data needed by agencies to make health and operational related decisions based on rapid air quality monitoring d. The range of pollutants to be included in rapid air quality monitoring.	December 2014	Complete
R5.6	Review rapid response capability to inform the response model and increase capacity via: a. having an inventory of equipment across agencies b. purchasing further equipment c. additional training of staff d. improved deployment procedures e. formalising partnerships between emergency response agencies.	December 2015	Ongoing
R5.7	Response model produced for inclusion in EMMV.	October 2015	Ongoing

Affirmations Linked To Recommendation 5

Affirmation 16

The State review Environment Protection Authority (EPA) emergency protocols, incorporating lessons from the Hazelwood mine fire.

NOTE: The State Plan links Affirmation 16 to Recommendation 5 and it is included here accordingly. However aspects of Affirmation 16 extend beyond Recommendation 5.

Affirmation 17

The State clarify future expectations of incident air monitoring and scenarios, and determine the appropriate inventory of equipment.

Affirmation 22

The State will have an automatic air quality monitoring station in the south of Morwell for the next 12 months (to March 2015).

Implementation Actions

Action		Due Date	Status
A16.1	EPA emergency protocols reviewed incorporating lessons from Hazelwood mine fire.	December 2015	Ongoing
A17.1	Expectations of incident air monitoring and scenarios clarified and an appropriate inventory of equipment determined.	January 2015	Ongoing This item is fulfilled by R5.1, R5.2, R5.4, R5.5 & R5.6.
A22.1	The State will have an automatic air quality monitoring station in the south of Morwell for the next 12 months (to March 2015).	April 2015	Complete

Progress

R5.1 Mobile air monitoring capability

As part of its response to Recommendation 5, the State committed to the acquisition of a mobile air monitoring capability (Travel BLANkET), four drop-in particulate monitors plus additional equipment for new portable air monitoring stations.

To meet this commitment and to facilitate rapid air quality monitoring response, EPA has purchased equipment that is available for quick deployment in response to an emergency. This equipment consists of:

> two ADR PM$_{2.5}$ monitors

> two Beta Attenuation Monitor (BAM) PM$_{2.5}$ monitors

> a version of the Tasmanian Travel BLANkET system for mobile PM$_{2.5}$ monitoring

> three Envidas loggers for the acquisition and transmission of data collected in the field

> one Green Wavelength Nephelometer for smoke monitoring, and

> three ultrasonic wind sensors for measuring wind speed and wind direction.

The IM has examined relevant tax invoices confirming the purchase of this equipment.

Finding: The IM considers action 5.1 has been implemented satisfactorily.

The mobile air monitoring station south of Morwell (photo: IM)

R5.2 Further research into other field-ready devices conducted

In October 2014, EPA conducted a workshop to understand the types of emergencies that would likely need a rapid air quality monitoring response, the types of equipment required (including field ready devices) and what pollutants would need to be monitored.

Following this workshop, a spreadsheet was produced to provide a tabular breakdown of the potential incidents that might require a rapid air monitoring response and what key contaminants might need to be measured. A second table developed following the workshop identifies the contaminants that will need to be measured, the types of equipment that could be used and the summary rationale for selection. This table also identifies how much of this equipment EPA currently holds and the quantity needed to provide an effective rapid response capability across the State. This information was used to inform the draft WoVG response model, the response procedure for the 2014-15 fire season and a subsequent bid for State funding.

The draft WoVG response model was the subject of a further workshop held with government stakeholders in December 2014 to refine the model and understand key stakeholder needs. Further discussion on this response model can be found at R5.5.

The related State funding bid of 2015 specified a number of different instruments and instrument types that EPA considered necessary for the delivery of a rapid response air quality monitoring capability, based on the October 2014 research workshop.

Outcomes from a gap analysis recently conducted by the CBRNe Working Group provided validation of the State funding bids put forward by EPA, CFA and MFB. This Group considers how the State can respond to chemical, biological, radiological, nuclear and explosive (CBRNe) events and is auspiced under the State Smoke Framework Working Group. It includes representatives from CFA, MFB, EPA, DHHS, WorkSafe, Victoria Police and DEDJTR.

The 2015-16 State budget committed $30 million over 5 years to implement the initiatives in the IMP in response to the Report recommendations. This includes an amount of $5 million over 5 years for the EPA to enable the delivery of a State rapid response air quality monitoring capability.

EPA is presently conducting an open tender process for equipment to provide this monitoring capability. Probity auditors have been engaged to ensure that this high cost, high profile tender process is conducted in a fair and transparent manner. A governance structure has been established for this tender process, consisting of an EPA steering group, tender evaluation group and an external partner's tender reference group has been established. The steering group consists of senior EPA staff from across the Authority. The tender evaluation panel draws on EPA staff with appropriate technical expertise and the tender reference group comprises partner agencies EMV, MFB, CFA, DHHS and DELWP.

Responding to probity advice, EPA has altered the way in which equipment is specified in the tender. It has moved away from requiring specific individual pieces of equipment to asking for equipment with the same properties as equipment identified in the State funding bid. For example, the funding bid identified a number of specific (proprietary) $PM_{2.5}$ monitors. Due to the very limited size of the market for air quality instrumentation, many potential suppliers may not have access to the same $PM_{2.5}$ monitors which are vendor specific products. The tender specification now lists the attributes or characteristics required of rapid response $PM_{2.5}$ instruments – for example, $PM_{2.5}$ monitors that are portable, independently powered, able to be carried by one person and have a certain level of precision or accuracy. This approach means the market can provide guidance on technologies suitable for this application, thus allowing for innovation and ensuring maximum competition between vendors.

To progress the tender, the EPA has:

> developed the tender specification

> prepared necessary procurement process documents

> worked with the Victorian Government Solicitors Office (VGSO) to prepare the contract for the eventual successful tenderer

> established the tender timeline to ensure completion in time to deliver an increased rapid response air monitoring capability for the coming fire season, and

> advertised the tender on Wednesday 8 July 2015 on the TendersVic website and in the Herald Sun newspaper. To maximise competition and innovation, the tender was also advertised on the Clean Air Society of Australia and New Zealand (CASANZ) website.

Approval of the selected tender is currently expected in late September 2015.

Information systems infrastructure changes

The upgrade of related information systems is a critical and significant piece of work to ensure data collected in the field by this new technological capacity is available to decision makers when required. A high-level plan has been developed that details the requirements of EPA's scientific information systems, including requirements around rapid response monitoring.

EPA's information and technology team, TIE (Technology and Information Enablers) has produced a working draft proof of concept for a potential data architecture using existing EPA infrastructure to collect, store and report on data from the field.

The next steps involve the collection of detailed user requirements relating to information system needs, preparation of a comprehensive specification and conduct of a transparent and fair procurement process for services to deliver these system changes.

The review by EMV of the equipment failure south of Morwell (see discussion on this issue at Affirmation 22) identified two actions that will influence information systems change. Both will form part of the detailed user specification for delivery.

The first is the way air quality messages around equipment failure are delivered to the EPA website. These messages are currently manually driven and the EMV review suggested a more automated response. It also recommended that EPA's current air quality databases be upgraded to be able to handle more quality control flags than the current system allows.

In order to move from the current single agency response to a multiagency response procedure, it is necessary to have input, buy-in and agreement from other agencies including CFA, MFB and DHHS. EPA intends to use the CBRNe Working Group to drive input and buy-in with these agencies. Following discussion at a recent meeting of the working group, it was agreed that it is appropriate for the response model to be brought to this forum for review and update as a part of an all-agencies operational approach.

On 3 June 2015, EPA and EMV discussed timelines for the equipment tender and implementation process for Recommendation 5 action items. The points discussed and agreed between EPA and EMV included:

> the deployment model is likely to focus on interoperability between agencies for the deployment of rapid monitoring equipment

> EPA will work to a deployment date of 1 December 2015 for tier two instrumentation (the small mobile types of instrumentation that can be deployed within 24 hours) focussing on the most common pollutants for analysis during a fire (e.g. $PM_{2.5}$, carbon monoxide)

> a graduated deployment of tier two and tier three instruments (longer-term instruments that take longer to deploy but are more precise and measure for an extended duration) will continue post 1 December 2015, and

> information system improvements and telemetry may not be available by 1 December 2015, so EPA will develop manual work-arounds for monitoring activities.

The next steps for delivery of R5.2, R5.4, R5.5, R5.6 and R5.7 are to:

> complete the tender process

> commence the development and roll-out of equipment for the coming fire season, including effective maintenance regimes for EPA and agencies involved in rapid response monitoring, to ensure that equipment is available and ready for use

> revise the current deployment protocol to encompass an all agencies approach to rapid response air quality monitoring and provide a revised version for inclusion in the EMMV

> conduct two exercises to test EPA's ability to deploy rapid air monitoring equipment, in conjunction with Victoria's emergency services and key stakeholders. There will be a desktop (virtual) exercise around September-October 2015 in preparation for the fire season, where capabilities are tested without actually deploying to the field. A functional (real-time) exercise will also be conducted during the fire season, where actual field deployment and operational capabilities are tested. Learnings from these exercises will be used to continually refine emergency response, and

> prepare detailed specifications for information infrastructure system changes and procure a supplier to deliver these changes.

The research is directly linked to the acquisition of field-ready rapid air monitoring equipment and the EPA is currently engaged in a tender process for this purpose.

Finding: The IM considers that while the core obligation of R5.2 has been implemented satisfactorily this action will be revised 2016 Annual Report.

R5.3 Monitoring station operating in southern part of Morwell

Discussion on this action is detailed at Affirmation 22.

Finding: The IM considers that R5.3 has been implemented satisfactorily.

R5.4 Response agencies equipped for monitoring within 24 hours

Discussion on this action is detailed at R5.2 and as previously stated, there is an ongoing tender process for the acquisition of rapid air quality monitoring equipment. The IM will continue to monitor this process and with regard to R5.4, specific attention will be paid to the development of capability of response agencies in the use of this equipment, including training and exercising requirements.

Finding: The IM considers that R5.4 is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

R5.5 Establish and document a response model

R5.6 Review rapid response capability to inform the response model

R5.7 Response model produced for inclusion in EMMV

As detailed at R5.2, in October 2014, EPA conducted a workshop to understand the types of emergencies that would likely need a rapid air quality monitoring response, the types of equipment required (including field ready devices) and what pollutants would need to be monitored.

Parallel to this process, an EPA rapid air monitoring response procedure (for fire) was developed for implementation during the summer 2014-15 fire season. The IM has inspected this document and considers that the action taken on an interim basis for the 2014-15 fire season was appropriate.

The development of an ongoing model based on a multiagency response procedure is being addressed by the process detailed at R5.2. The IM is advised that this process will be concluded by the due date of December 2015.

Finding: The IM considers that R5.5 has been implemented satisfactorily. This action is linked to R5.6 and R5.7 for which the due date for completion is December 2015. The IM considers that these actions are progressing satisfactorily and will revisit them in the 2016 Annual Report.

A16.1 – EPA emergency protocols reviewed incorporating lessons from Hazelwood mine fire

The role of the EPA during the Hazelwood Coal Mine fire was to provide high quality monitoring data and expert advice to operational and emergency services and information to the community. During this time, another event occurred at Golden Beach, Gippsland, with an oil slick reaching the shoreline.

The learnings from both incidents highlighted a need to make systematic improvements to EPA's incident management process and to strengthen integration with the broader emergency management sector.

In June 2014, the EPA executive approved the review and redevelopment of EPA's three response systems (ranging from a community pollution report to a major all agencies emergency such as Hazelwood) into a single Incident Management System (IMS). This will include and be underpinned by an emergency management framework that provides clarity around roles such as responsibilities, response actions and decision making in emergencies.

To support the review, an internal audit of EPA's current incident management and response systems was undertaken by Ernst Young and completed in September 2014.

In October 2014, all the findings from the Inquiry and IMP, internal audit and EPA internal debriefs for the Hazelwood and Golden Beach incidents were consolidated and reviewed.

From this activity, a high-level program of work was established to guide the build of an emergency management system from the top-down, incorporating a new incident response system and associated operational protocols.

Prior to the onset of the 2014-15 fire season, EPA engaged with the emergency services at both state and regional levels to build immediate processes and systems that would support WoVG responses (especially to fire), involving:

> an emergency management partnership MOU with DELWP

> Fire Readiness 2014-15 Emergency Management Plan, and

> EPA Rapid Air Monitoring Response Guide (for fire)

The EPA has also reviewed and/or established the following policies:

> Code Red management policy

> heat health safety management policy, and

> fatigue management – incident response policy.

The IM has examined documentary evidence that confirms the development of the processes/systems/policies mentioned above.

The EPA has continued the development and integration of key EPA personnel and business practice in emergency management and incident response. This is intended to co-ordinate and drive consistency throughout EPA, with the assistance of key partner organisations.

Throughout March and April 2015, improved internal communications process and business practice guidance was introduced. For example:

> weekly messaging highlighting the emergency roster and providing detailed supporting information

> an emergency response team weekly newsletter that discusses any new processes and/or events (including learnings) that occurred in the past week

> the adaptation of EMV JSOP 3.16 guide and implementation of this JSOP in EPA's emergency response practice, and

> the introduction of an air monitoring process and SITREP's (situation reports) for air quality monitoring alerts to address issues arising from the monitoring equipment failure in South Morwell in March 2015.

An accountability workshop was held on 17 April 2015 for EPA managers and directors and attended by emergency services partners. The focus of the workshop was to help EPA understand the emergency management structure in the State and identify EPA's emergency management responsibilities around planning, response and recovery.
Further development of the information generated from the workshop was undertaken to produce draft accountability mapping for EPA.

In May and June 2015, the EPA Executive Management Team (EMT) endorsed the next steps for EPA emergency management and the development of a single incident response system. Two key outcomes from the EMT meeting on 5 May 2015 were:

> establishment of a new governance group responsible for coordinating emergency management strategy, organisational preparedness, emergency response capacity and capability. The Emergency Management Planning and Advisory Committee will:

– be a planning and advisory committee to the EMT, and

– make recommendations for consideration and decision by the EMT, and

> approval (subject to further consultation) for the agreed rostering and availability process critical to a future single incident (including emergency) response system.

At the 9 June 2015 meeting, EMT approved the Emergency Management Framework, with conditions and review before and after every fire season.

Targeted engagement commenced with key staff in June 2015 around the concepts of a new incident (including emergency) response system, through EPA's Emergency Management Forum. Given significant activity is needed to implement change to emergency management practice in EPA, including staff roles, this forum will now meet on a monthly basis.

Currently in development are two "Smoky Day" exercises (one desktop and one functional) to test the deployment and operations of the rapid response air quality monitoring process. The desktop exercise will test capabilities without actually deploying equipment to the field and occur in September-October 2015 in preparation for the upcoming fire season. The functional exercise will test actual field deployment capabilities during the fire season and is anticipated to occur about Christmas. EPA is working with EMV in the development of both exercises and invitations will be extended to emergency services partners to be either part of the exercises or act as an observer. Findings from these exercises will be used to further refine emergency response procedures.

The implementation of emergency management and incident response reform is a key program in the draft 2015-16 Regional Services Plan. Over the next 6 months, EPA will:

> identify staff training needs in emergency management and response

> develop and introduce a new training program to build capability

> develop and commence transition to a new single incident (including emergency) response system

> finalise EPA's accountabilities in emergency management, and

> update all relevant emergency protocols.

The due date for Affirmation 16 is December 2015.

Finding: The IM considers that this action is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

A17.1 – Expectations of incident air monitoring and scenarios clarified and an appropriate inventory of equipment determined

Finding: The IM considers that the obligations of the State related to this affirmation are met by the delivery of the commitments at R5.1, R5.2, R5.4, R5.5 and R5.6.

A 22.1 Collection of air quality data over a twelve month cycle.

The EPA installed a mobile air monitoring station (MoLab2) on 19 February 2014 in the south of Morwell township to monitor a range of parameters and the online data feed from this station to the EPA website commenced on 21 February 2014. Supplementary air sampling was also commenced for other relevant parameters.

The station was initially located at the Bowls Club but in February 2015 was relocated to a site in Maryvale Crescent. The station is still operational.

This continuous air quality monitoring station has now been in place for more than 12 months, providing the community with near real time monitoring data online at www.epa.vic.gov.au/Our-work/Monitoring-the-environment/Air-quality-bulletins/Hourly-air-quality-data-table.

Sampling for a range of pollutants that cannot be measured by automatic air stations was also conducted at the monitoring station in the south of Morwell. This included volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), respirable silica and metals. In addition and as part of the larger recovery monitoring effort, a number of other temporary automatic air quality monitoring stations were established in the area surrounding the mine site.

The combined data from all the air quality monitoring conducted in the vicinity of the mine site (including south of Morwell) from February 2014 to present has been analysed and a summary report of air quality prepared.

The draft report was peer reviewed by members of EPA's air expertise group and an air expert from Queensland who was asked specific questions around the alignment of the report and Affirmation 22. Other inputs to the report were:

> feedback on the draft report was sought from EPA's Science and Engineering Advisory Council (SEAC) at their meeting of 22 May 2015

> the draft report was sent to key stakeholders in recovery and emergency management for comment. Feedback was provided from the CFA, MFB, DHHS and the DELWP, and

> the draft report was presented at an externally facilitated community consultation session. At this session, EPA scientists talked directly with members of the community about the report and their concerns in the Latrobe Valley. EPA made changes to the draft scientific report to add in important local context, answer questions and make the presentation of the data clearer. Comments made by the community have been included in the appendices of the report.

The *Hazelwood Recovery Program air quality assessment – Morwell and surrounds February 2014 – May 2015* report was published on 30 June 2015, along with a media release. The report records that there is no evidence of any ongoing changes to the air quality of the Latrobe Valley due to the Hazelwood mine fire.

Failure of Morwell monitoring equipment on 9 March 2015

In the early morning of 9 March 2015, the EPA air monitoring station at Morwell began recording and transmitting a false data reading about *visibility reduction* – a measure of fine-particle pollution in the air, such as smoke. This false data was auto-published to the EPA website and social media and the false readings of *Poor* and *Very Poor* air quality remained published for 28 hours before being corrected.

This error caused significant community concern and related inquiries identified a number of issues with EPA's processes for displaying air quality data on its website and the manner in which it responded to community concern.

The CEO of the EPA and EMV jointly commissioned a review into this incident. An independent consultant was engaged as part of the review team. The review report of 27 March 2015 reveals repeated failures by the EPA to meet community or stakeholder expectations of being promptly notified of the equipment malfunction and consequent false data reading.

The review report identifies a range of actions that the EPA, working together with EMV and other relevant agencies, has committed to in order to address the issues raised through interim, medium and long-term action items. These actions fall into three categories: air quality data collection and validation, communication of air quality data and EPA's role in emergencies.

The EPA has also acknowledged the need to work closely with the local community to understand the air monitoring requirements and capability for the Latrobe Valley.

The EPA and other agencies will report against these actions to the Emergency Management Coal Mine Taskforce.

The IM has examined the comprehensive action plan contained in the review report and is satisfied that this plan is an appropriate response to the shortcomings identified by the review of this incident.

NOTE: Following the EMV led review into the 10 March 2015 incident involving the south Morwell air monitoring station, EPA now regularly informs community and stakeholders when issues arise affecting the collection or reporting of data from their air monitoring equipment (www.epa.vic.gov.au).

Finding: The IM considers that Affirmation 22 has been implemented satisfactorily.

Recommendation 6

The State take the lead in advocating for a national compliance standard for $PM_{2.5}$

Implementation Actions

Action		Due Date	Status
R6.1	Submission to NEPC	October 2014	Complete
R6.2	Agenda item for COAG Health Council	October 2014	Complete
R6.3	Continued advocacy for adoption of national $PM_{2.5}$	July	Complete
R6.4	The proposed variation to include the $PM_{2.5}$ standard in the NEPM(AAQ) is agreed by the NEPC and is enacted	July	Ongoing
R6.5	Following the enactment of a national $PM_{2.5}$ compliance standard, Victoria formally adopts the standard in its own legislation through the amendment of the SEPP(AAQ)	July	Ongoing

Affirmations Linked to Recommendation 6

Affirmation 23

The State review the State Environment Protection Policy of Ambient Air Quality

Implementation Actions

Action		Due Date	Status
A23.1	State Environment Protection Policy for Ambient Air Quality [SEPP(AAQ)] is reviewed.	July	Ongoing

Progress

R6.1 Submission to NEPC

A 2011 National Environment Protection Council (NEPC) Ambient Air Quality (AAQ) review made a number of recommendations, including to:

> revise the standards for all air pollutants in Schedule 1 of the National Environment Protection Measure (NEPM) to take into account new evidence around the health effects of air pollution, and

> introduce compliance standards for $PM_{2.5}$

On behalf of the NEPC and participating jurisdictions, NSW EPA has been leading the review of the particle standards (PM_{10} and $PM_{2.5}$).

On 13 May 2014, the NEPC gave notice of their intent to vary the AAQ NEPM for particles based on the latest scientific understanding of the health risks arising from airborne particle pollution.

Public consultation on an impact statement and draft varied measure occurred between July to October 2014. The EPA co-ordinated a Victorian government response from relevant agencies and provided it, in confidence, by way of submission to the Chair of the Air Thematic Oversight Group (Air TOG). The Air TOG progresses work plans and reports to the NEPC Committee that in turn reports to the NEPC. Membership of the Air TOG comprises technical, policy and/or administrative representatives from the environment agencies of the Commonwealth States and Territories. The current Chair of Air TOG is the Chair and CEO of NSW EPA. EPA Victoria is represented by the Executive Director Knowledge, Standards and Assessment.

Finding: The IM considers that R6.1 has been implemented satisfactorily.

R6.2 Agenda item for COAG Health Council

The Victorian Government has advocated for a $PM_{2.5}$ compliance standard by placing this issue on the agenda (Item 6.4 – Proposal to vary the NEPM AAQ – setting a formal standard for fine particles) and leading relevant discussion at the Australian Government (COAG) Health Council in October 2014

Finding: The IM considers that R6.2 has been implemented satisfactorily.

R6.3 Continued advocacy for adoption of national $PM_{2.5}$

The Victorian Government has further advocated for a $PM_{2.5}$ compliance standard by:

> sending letters to all Commonwealth, State and Territory Environment Ministers in October 2014 seeking support for a $PM_{2.5}$ compliance standard

> discussing the issue at the Heads of EPA meeting in April 2015, and

> briefing Victorian senior officials and the Victorian Minister for the Environment prior to recent relevant meetings.

The IM has examined documentation that confirms that the Victorian Government has undertaken this advocacy action.

Finding: The IM considers that R6.3 has been implemented satisfactorily.

R6.4 – NEPM AAQ is agreed by the NEPC and enacted

The NEPC met on 15 July 2015. One item discussed was the proposal to vary the NEPM AAQ for particles (including $PM_{2.5}$ and PM_{10} standards).

As a key element of the National Clean Air Agreement, Ministers signalled their in-principle support for varying the NEPM AAQ to implement strengthened reporting standards for airborne fine particles, taking into account the latest scientific evidence of the health impacts of airborne particles.

The previously mentioned meeting of COAG Ministers agreed in-principle to adopt reporting standards for annual average and 24-hour $PM_{2.5}$ particles of 8μg/m3 and 25 μg/m3 respectively, with a move to 7μg/m3 and 20μg/m3 respectively over the longer term. Ministers agreed to finalise their consideration of the NEPM by 31 December 2015, including appropriate annual and 24-hour standards for PM_{10}.

Finding: The IM considers that R6.4 is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

R6.5 – Victoria amends the SEPP AAQ

Following final consideration, the Commonwealth is expected to make the formal variation to the NEPM AAQ by 30 June 2016. EPA and DELWP will then commence the process to vary the State Environment Protection Policy (Ambient Air Quality) which is expected to be undertaken by 31 December 2016.

Finding: The IM considers that R6.5 is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

A23.1 State Environment Protection Policy for Ambient Air Quality [SEPP (AAQ)] is reviewed

This affirmation is addressed by R6.1 to R6.5 above.

Recommendation 7

The State review and revise the community carbon monoxide response protocol and the firefighter carbon monoxide response protocol, to:

> ensure both protocols are consistent with each other;

> ensure both protocols include assessment methods and trigger points for specific responses;

> ensure GDF SUEZ and other appropriate essential industry providers are required to adopt and apply the firefighter carbon monoxide protocol; and

> inform all firefighters about the dangers of carbon monoxide poisoning, and in particular highlight the increased risk for those with health conditions and those who are pregnant.

Implementation Actions

Action		Due Date	Status
R7.1	CO protocol for emergency responders and community safety drafted	December 2014	Ongoing
R7.2	Expert panel engaged to review the CO protocol	December 2014	Ongoing
R7.3	Revised firefighting CO protocol consistent with community protocol	December 2014	Ongoing
R7.4	New community and firefighting protocols implemented	January 2015	Ongoing

Affirmation Linked to Recommendation 7

Affirmation 19

The Department of Health and EPA undertake further development on the carbon monoxide and $PM_{2.5}$ protocols and an engagement and education programs around environmental and health standards.

Implementation Action

Action		Due Date	Status
A19.1	CO and $PM_{2.5}$ protocols further developed and engagement and education programs around environmental and health standards undertaken.	July	Ongoing

Progress

R7.1 CO protocol for emergency responders and community safety drafted

R7.2 Expert panel engaged to review the CO protocol

R7.3 Revised firefighting CO protocol consistent with community protocol

R7.4 New community and firefighting protocols implemented

The SCRC Reference Group has an Emergency Response and Recovery Working Group (alternatively named the State Smoke Working Group) which has undertaken the role of overseeing the development work required under the State Smoke Framework (which will address a range of protocols and standards, including those related to carbon monoxide). This governance structure is chaired jointly by DHHS and EMV and has representation from DELWP, MFB, CFA, EPA, WorkSafe, Ambulance Victoria and Victoria Police.

The then Chief Health Officer, DHHS and the EMC approved the initial Standard for Managing Significant Carbon Monoxide Emissions (the Standard) on 23 January 2015. This Standard incorporated both the *Latrobe Valley Coal Fires Carbon Monoxide Response Protocol* (Department of Health, February 2014) and the *Standard for Managing Significant Carbon Monoxide Emissions* (Emergency Management Victoria, August 2014) so that occupational and community exposure to carbon monoxide is now addressed in a single document.

In August 2014, DHHS conducted a tender process for the establishment of an expert panel investigation of air quality reference values for short to medium term community exposure to carbon monoxide (CO) and fine particles (i.e. $PM_{2.5}$) in smoke and review of the CO protocol for protecting firefighter health and safety during emergency situations. The contract for this work was awarded to Golder Associates (the Contractor).

The Contractor was required to convene three independent expert panels to investigate air quality reference values for short to medium term exposure to:

> carbon monoxide in smoke for the community

> carbon monoxide in smoke for firefighters, and

> $PM_{2.5}$ for the community.

The Contractor was responsible for briefing the expert panels, moderating their discussions and drafting the resulting analyses and conclusions in reports.

In relation to community exposure to carbon monoxide in smoke, DHHS posed seven explicit questions for the panel's consideration. To ensure the independence of the expert panel, the Contractor acted as a conduit between the panel and DHHS on a range of detailed analytical discussions regarding the content of the panel's reports.

The expert panels examining community exposure (carbon monoxide and $PM_{2.5}$) included six independent experts from various Australian organisations with a combined expertise in air quality, toxicology, environmental health, epidemiology and medicine. The panel examining CO exposure for the community met on 9 December 2014 and a first draft report was provided to DHHS on 28 January 2015.

As the panel included independent experts from across Australia with full time work priorities separate to their panel work, discussions required significant coordination by the Contractor and occurred over a period of several months. Its final report was provided to DHHS on 24 July 2015.

The expert panel reviewing CO protocols for protecting firefighters during emergencies had expertise in occupational and clinical medicine. Its report was provided to DHHS on 15 July 2015.

The panels' reports were not prescriptive and to ensure accurate and meaningful interpretation, the Department engaged independent toxicology and risk assessment consulting firm, Toxikos, to provide further expertise and experience in air quality relevant to population health and emergency management and assist with final interpretation and amendments (if needed) of the Standard for community exposure to carbon monoxide.

The outcomes of the expert panels' investigations have informed the DHHS review and revision of the *Standard for Managing Exposure to Significant Carbon Monoxide Emissions (January 2015)*. EMV lead the review of the occupational (firefighting) aspects of the revised Standard in conjunction with the CFA, MFB and WorkSafe.

The IM was provided with evidence that a document titled *Standard for Managing Exposure to Significant Carbon Monoxide Emissions – Version 2, (July 2015)* was approved and endorsed by the EMC and Acting Chief Health Officer DHHS on 31 July 2015. The IM notes that this document contains sections on protection of responders and protection of the community with regard to significant carbon monoxide emissions.

This document is an important input to a suite of material being actively developed to meet the State's obligations under R7.1 to R7.4 and also Affirmation 19. As the completion of this document was outside of the evidence timeline established for the completion of this Annual Report, the IM has been unable to analyse the documents but notes the positive progress of these actions.

The IM is advised that DHHS will now work with EMV to implement the revised *Standard for Managing Exposure to Significant Carbon Monoxide Emissions*.

The initial commitment by the State to implement the actions relating to Recommendation 7 was by December 2014 and January 2015 (R7.4). The IM accepts that the complexity of the work involved in developing, reviewing and implementing this standard has been a significant factor in the delay in finalising these actions. It is now anticipated that R7.1 to R7.4 will be completed and implemented before the 2015-16 fire season.

Finding: The IM considers that these actions are progressing satisfactorily and will revisit them in the 2016 Annual Report.

A19.1 CO and $PM_{2.5}$ protocols further developed and engagement and education programs around environmental and health standards implemented

Progress on the development of carbon monoxide and $PM_{2.5}$ protocols is discussed at R7.1 to R7.4. It is important that these protocols form part of any related engagement and education program around environmental and health standards.

A collaborative and coordinated approach to engagement and education programs is critical and central to the success of future responses to large, extended or complex fires.

As with many of the HMFI recommendations and affirmations, there are links and crossovers with work that is inter-related. Communication, education and community engagement are embedded within several recommendations of the Inquiry, including those related to the $PM_{2.5}$ protocol (Recommendation 8) and the State Smoke Framework (Recommendation 9).

DHHS is working with other key agencies through the State Smoke Working Group to ensure a coordinated approach to engagement and education programs. The Working Group has agreed that such programs are best coordinated under the banner of the State Smoke Framework (refer to progress report for Recommendation 9).

The first phase of the air quality and public education program will involve the development of key messages and communication materials associated with exposure to carbon monoxide and fine particles ($PM_{2.5}$) in advance of the 2015-2016 summer fire period.

Finding: The IM considers that A19.1 is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

Recommendation 8

The State review and revise the Bushfire Smoke Protocol and the $PM_{2.5}$ Health Protection Protocol, to:

> ensure both protocols are consistent with each other; and

> ensure both protocols include assessment methods and trigger points for specific responses.

Implementation Actions

Action		Due Date	Status
R8.1	a. Bushfire smoke response protocol reviewed.	December 2014	Ongoing
	b. $PM_{2.5}$ Health Protection protocol reviewed.	November 2014	Ongoing
R8.2	$PM_{2.5}$ protocol is subjected to expert panel review.	December 2014	Ongoing

Progress

Version 1 of the *Community Smoke, Air Quality and Health Protocol* (Community SAQH Protocol) was approved by the Chief Health Officer DHHS and endorsed by the CEO EPA and the EMC on 23 January 2015. The Community SAQH Protocol is an updated version of the protocol *Bushfire Smoke, Air Quality and Health – Air quality assessment & community health protection messaging: an integrated approach* (Bushfire Smoke Protocol) of 2014 with a broadened scope beyond that of bushfires. The scope of the Community SAQH applies to all fire settings where levels of fine particles in smoke are significant and a health concern. This includes extremely hazardous events where the incident controller and other agencies have a need to understand the process in place for information for community health protection advice and precautionary actions. As such, it combines the content of the Bushfire Smoke Protocol and the *Hazelwood Coal Mine Fire – $PM_{2.5}$ Health Protection Protocol* (the $PM_{2.5}$ Protocol) which had previously existed as an addendum.

This Protocol has subsequently been amended to include recommendations of the independent expert panel investigation of air quality reference values for short to medium term community exposure to $PM_{2.5}$ in smoke. Details of the appointment of this panel and their investigation are outlined at R7.1 to R7.4.

The IM has recently been provided with evidence that a document titled *Community Smoke, Air Quality and Health Protocol (sub-titled Air Quality assessment, forecasting and health protection messaging for particulate matter), 29 July 2015* was approved and endorsed by the Acting Chief Health Officer DHHS, the CEO EPA and the EMC.

The protocol is an important input to a suite of material being actively developed to meet the State's obligations under actions R7.1 to R7.4, R8.1, R8.2 and Affirmation 19. As its completion was outside of the evidence timeline established for the completion of this Annual Report, the IM has been unable to analyse the protocol but notes the positive progress of these actions.

The IM is advised that DHHS will now work with EMV and EPA to implement the revised *Standard for Managing Significant Carbon Monoxide Emissions*.

Finding: The due date for the completion of R8.1 and R8.2 was December 2014. The process for the review of the Community SAQH Protocol has been complex (similar to the CO standard as detailed in R7.1 to R7.4) but in the view of the IM is progressing satisfactorily. The IM will revisit these actions in the 2016 Annual Report.

Recommendation 9

The State develop and widely disseminate an integrated State Smoke Guide, to:

> Incorporate the proposed State Smoke Plan for the management of public health impacts from large scale, extended smoke events;

> Include updated Bushfire Smoke, carbon monoxide and $PM_{2.5}$ protocols; and

> Provide practical advice and support materials to employers, communities and individuals on how to minimise the harmful effects of smoke.

Implementation Actions

Action		Due Date	Status
R9.1	Best Practice protocols, such as the "Shelter in Place" protocol, which address smoke-related issues, exist.	July 2015	Ongoing
R9.2	State smoke framework developed and implemented in stages over the next 18 months to address the management of potential public health impacts and community concern associated with large scale, extended and often complex smoke incidents. Framework is supported by:		
	a. A range of management protocols	April 2016	Ongoing
	b. An all hazards framework		
	c. Community engagement requirements.		
R9.3	Draft State Smoke Framework and associated scoping paper finalised.	December 2014	Ongoing
R9.4	Integrated State Smoke Guide developed and widely disseminated.	July	Ongoing

Affirmations Linked to Recommendation 9

Affirmation 24

The State develop a State Smoke Plan covering the management of potential public health impacts from large scale, extended smoke events.

Implementation Action

Action		Due Date	Status
A24.1	State Smoke Plan developed.	July	Ongoing

Recommendation 9 Overview

Recommendation 9 requires the State to develop an Integrated State Smoke Guide incorporating a State Smoke Plan to manage potential public health impacts from large scale and extended smoke events. The State Smoke Guide should include updated bushfire smoke, carbon monoxide and particulate matter protocols and provide practical advice to a range of stakeholders on how to minimise harmful effects of smoke.

The State has interpreted this recommendation as best served through the development of an overarching State Smoke Framework that extends and seeks to integrate these concepts. The State Smoke Framework will take into account existing processes and protocols as well as those in development across relevant agencies and departments. The IM is advised that this approach will deliver a more sustainable and effective outcome that extends management not only from significant smoke events but also from other events.

The State Smoke Working Group has undertaken the role of overseeing the development of the work required under the State Smoke Framework. This governance structure is chaired jointly by DHHS and EMV and has representation from DELWP, MFB, CFA, EPA, WorkSafe, Ambulance Victoria and Victoria Police.

Progress

R9.1 Best practice protocols such as "shelter in place" exist

Following a review of best practice decision making during outdoor hazardous atmospheres, a best practice approach to shelter-in-place (SIP) for Victoria was developed in 2011 to provide an effective and expedient response. The strategy was validated for various Australian residential house types under Australian conditions using scientific testing. This report considered an outdoor hazardous atmosphere to incorporate toxic loads from accidental or deliberate chemical releases, or smoke and products of combustion from fires.

A Protective Action Decision Guide for Emergency Services during Outdoor Hazardous Atmospheres was published in 2011 for emergency services to use during outdoor hazardous atmospheres where there may be a risk to public health. This guide details best practice principles for planning and implementing community protective actions during hazardous atmospheres. A standard approach to protective action decision making is provided and includes the recommendation of issuing SIP as a default protective action to avoid potential public exposure, followed by a more detailed analysis process utilising a flow chart.

A Protective Action Guide for Local Government and Industry during Outdoor Hazardous Atmospheres was published in 2011 for local government and industry. This guide provides information on a standard approach to community protective actions during hazardous atmospheres. The main purpose of this document is to ensure that local government and industry are using consistent terminology with emergency services when providing public information related to a chemical incident to ensure public confidence and compliance.

Community education templates were also developed using a descriptive catch phrase for the public to implement when instructed to SIP.

The Inquiry questioned the degree to which SIP is understood at community level. Re-branding as *Shelter Indoors* and further socialisation at community level with appropriate marketing and education is needed to better prepare communities. This work will be a collaboration between EMV, DHHS and the fire services and is expected to produce the following Smoke Framework deliverables:

> re-affirmed and revised protocol to guide shelter indoors as a protective action at community level

> improved education and understanding of the principle and application of shelter indoors, and

> improved community safety.

R9.2 State smoke framework developed and implemented in stages over the next 18 months to address the management of potential public health impacts and community concern associated with large scale, extended and often complex smoke incidents. Framework is supported by:

a. **a range of management protocols**

b. **an all hazards framework**

c. **community engagement requirements**

R9.3 Draft State Smoke Framework and associated scoping paper finalised

R9.4 Integrated State Smoke Guide developed and widely disseminated

A draft State Smoke Framework dated 21 May 2015 has been developed in consultation with the State Smoke Working Group. As outlined in the IMP, the Framework will be developed further and implemented over the next 12 to 18 months.

The Framework combines and is underpinned by a range of services, management protocols and practices, as well as integrating new predictive tools that will better address community needs. The Framework aims to improve the knowledge and application of tools used to help understand impacts of events where significant smoke or emissions are produced. These tools, when applied appropriately, enable the collection and subsequent interpretation of data to inform the provision of evidence-based advice to community and government.

The Framework is designed to build on the current all-hazards approach to emergency management.
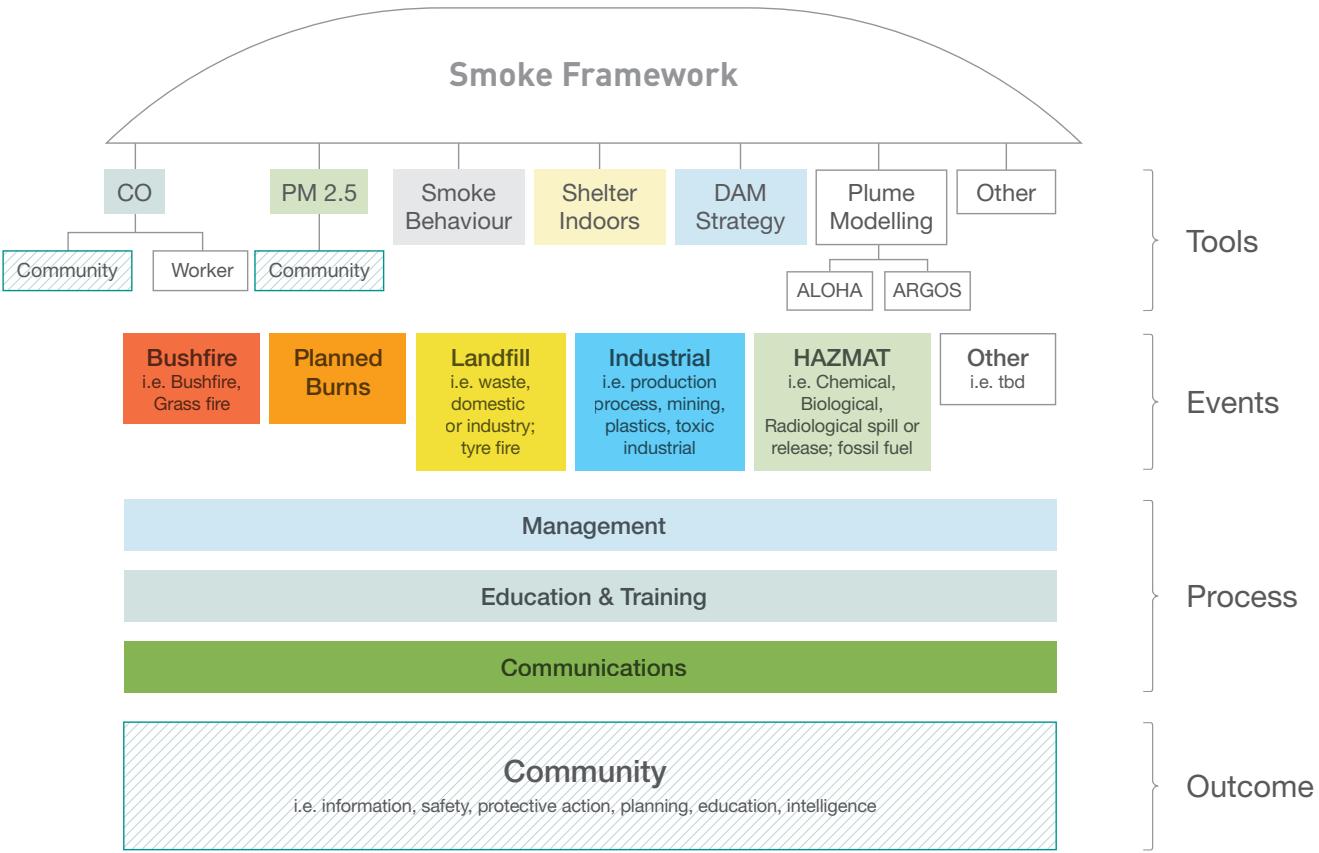

Figure 2: Smoke Framework diagram (Source: State Smoke Framework Version 1.0, 21 May 2015)

Figure 2 depicts how predictive tools can be brought together and applied to a range of scenarios to inform management considerations of incident controllers and supporting agencies. These tools are also used to serve the education and communication needs of both responders and communities seeking direction, public information and advice. The aim is to ensure that the community will be provided with better information based on validated intelligence and data.

Included in the Framework are protocols for Carbon Monoxide (CO) Response and Fine Particles ($PM_{2.5}$) (refer to progress reports on Recommendations 7 and 8 for further information on the development of these protocols.)

It is proposed that the State Smoke Framework will drive development of an integrated all agencies Detection, Analysis and Monitoring (DAM) Strategy. The DAM Strategy will engage agencies that have detection and monitoring capabilities to better understand the current capacity and capability at a State level. The intention of the DAM Strategy is to develop a deployment strategy to achieve the best available collection of data to support decision making and informing community safety. The work being undertaken in developing capability by EPA under Recommendation 5 will also be a key component under the strategy in development.

The existing plume modelling capability, ALOHA, is utilised by both MFB and CFA and when applied, ALOHA supports decision making by scientific officers. The CFA is leading the development of an enhanced emissions modelling tool called ARGOS with the assistance of other agencies. The ARGOS tool has been through an extended developmental phase and is now ready for integration into operations.

ARGOS provides a more accurate prediction of plume behaviour and can rapidly identify affected areas as a plume dispersion display using Australian mapping systems. Further, ARGOS can generate reports with additional information on potentially affected areas including population demographics and housing data, as well as impacted features of interest (e.g. schools, hospitals). This tool will guide decision making and the provision of advice to community to shelter indoors or evacuate.

Further to ARGOS, the IM has been advised that there is a range of tools under development or available that will form the basis of a smoke and emissions predictive suite of tools integrated in a single platform accessible to key decision makers.

The IM notes that a model to predict the smoke from planned burning and bushfires (see Affirmation 25) is also in development under the framework along with ARGOS and ALOHA. While these models all serve specific roles, they all:

> rely on common meteorological and land surface input data

> need to be assessed in terms of how the predicted atmospheric pollutants impact on communities, industries, infrastructure and the environment

> need to be verified using often overlapping forms of intelligence such as social media, situation reports, specialised censors and remote sensing

> need to be hosted on high end computing infrastructure, and

> need to be distributed in a timely way to support community, agency and industry decision making.

The IM notes that both within and across agencies a range of systems have either been developed or are under development to enhance predictive and community messaging capabilities for specific agencies and specific purposes. However, as the above points reflect, these works are inextricably connected on a range of levels and require collective integration so that maximum benefit may be derived. Significant opportunities for efficiency and integration exist through the development of a common state wide strategy and capability framework for smoke and other predictive services.

In the 2015 State Budget, funding was allocated to commence much of the development and support work required. The Emergency Response and Recovery Working Group has engaged a consultant to undertake a further workshop to develop and clarify responsibilities associated with projects to be delivered by agencies related to the State Smoke Framework. This is intended to ensure that expenditure of funding provided can achieve maximum benefit for the State now and into the future in relation to large scale smoke and emission management.

The IM has been provided with evidence that a document titled *Community Smoke, Air Quality and Health Protocol, 29 July 2015* (sub-titled Air Quality assessment, forecasting and health protection messaging for particulate matter) was approved and endorsed by the Acting Chief Health Officer DHHS, the CEO EPA and the EMC.

The IM has also been provided with evidence that a document titled *Standard for Managing Exposure to Significant Carbon Monoxide Emissions, July 2015* was approved and endorsed by the EMC and Acting Chief Health Officer DHHS on 21 July 2015.

These two documents are important inputs to a suite of material being actively developed to meet the State's obligations under actions R9.1 to R9.4 and also Affirmation 24. As the completion of these documents was outside of the evidence timeline established for the completion of this Annual Report, the IM has been unable to analyse the documents but notes the positive progress of these actions.

Finding: The IM considers that R9.1 to R9.4 are progressing satisfactorily and will revisit these actions in the 2016 Annual Report.

A24.1 State Smoke Plan developed

The completion of Affirmation 24 is intrinsic to the activity currently being undertaken to complete R9.1 to R9.4.

Finding: The IM considers that Affirmation 24 is progressing satisfactorily and will revisit this matter in the 2016 Annual Report.

Recommendation 10

The State should continue the long-term health study, and:

> extend the study to at least 20 years;

> appoint an independent board, which includes Latrobe Valley community representatives, to govern the study; and

> direct that the independent board publish regular progress reports.

Implementation Action

Action		Due Date	Status
R10.1	Long Term Health Study – successful tenderer engaged following community consultation	November 2014	Complete
R10.2	Contractor and DH agree on final study design which is to provide for: a. Contractor establishing appropriate clinical governance structures which also incorporate and encourage community engagement and consultation. b. Contractor, during the course of the study, specifying what benefits might be delivered to the community .	July	Ongoing
R10.3	Mortality and allied data provided by DH to contractor for inclusion in the development of the study	July 2015	Ongoing
R10.4	Regular reporting and community engagement requirements fulfilled.	July	Ongoing
R10.5	Publication on DH website of periodic reports from the study supported by a subscribable public mailing list.	July	Ongoing
R10.6	Decision on study conclusion date to be informed by progress and findings of the study.	July	Ongoing

Affirmations Linked to Recommendation 10

Affirmation 25

The State undertake projects to understand the health impacts and predict the movement of smoke from planned burning and bushfires.

Affirmation 28

The State commission a long-term study into the long-term health effects of the smoke from the Hazelwood mine fire.

Implementation Action

Action		Due Date	Status
A25.1	Projects to understand health impacts and to predict the movement of smoke from planned burning and bushfires conducted. Projects underway: a. Smoke – impacts on community health and social perceptions; and b. Smoke – emissions and transportation model.	July	Ongoing
A25.2	Requisite people and systems capacity within agencies to repeatedly and reliably undertake smoke monitoring established.	July	Ongoing
A25.3	Data collection to occur through 2014-15 summer to underpin research.	March 2015	Ongoing
A25.4	Operational predictive model implemented for 2015-16 summer.	December 2015	Ongoing
A25.5	Products from research projects (see A 25.1) made available to assist the development of the State Smoke Framework.	July	Ongoing
A25.6	Relevant learnings from the long term health study (Rec 10) incorporated into the smoke predictive model (see A 25.4).	July	Ongoing
A28.1	Long term health study conducted.	July	Ongoing

Progress

R10.1 Long term health study – successful tenderer engaged following community consultation

On 6 and 7 May 2014 the Chief Health Officer DHHS conducted community consultation sessions in Morwell during which over 100 community members attended, including local residents and health professionals. These sessions provided the opportunity for the community to learn more about the proposed health study and help provide input into its design. A further opportunity for the community to provide feedback was provided through the DHHS website and a total of twenty-three submissions were received. The community consultation process provided residents with the opportunity to express concerns about their health and possible long term effects of the smoke and ash.

The Chief Health Officer also received a petition prepared by the Morwell Neighbourhood House and Learning Centre. Over 25,000 signatures supported the call for the health study.

The concerns raised by the community included respiratory conditions, cancers and psychological impacts of the fire, particularly on children. This feedback informed the design and aims of the study, steering the study to include a focus on:

> any impact of smoke exposure during pregnancy or infancy on the health and development of children

> whether those heavily exposed to smoke from the Hazelwood fire are more likely to have developed heart and lung conditions

> whether those heavily exposed to smoke from the fire have a higher level of psychological distress, and

> whether those heavily exposed to smoke are more likely to develop cancers over a long period of time.

Students seeing on a map how close the mine fire was to their homes and how much smoke covered Morwell (Kurnai Kids Teaching Kids – photo used with permission, Latrobe Valley Express www.lvexpress.com.au)

The Chief Health Officer also recognised the importance of providing continual feedback to the community about the study's progress. Accordingly, this will be a requirement of the contracted researchers to not only provide feedback to DHHS regularly but to also ensure this information is provided to the community and where relevant, to local health services.

On 30 October 2014, following a formal engagement process, a consortium of researchers led by Monash University was appointed as the successful tenderer to undertake the long-term health study. This contract with Monash ensures that appropriate competencies and experience in epidemiology, environmental health risk assessment, air quality and toxicology, infant and child health (University of Tasmania) and community engagement, wellbeing and resilience (Federation University) are applied during the study.

Finding: The IM considers that R10.1 has been implemented satisfactorily.

R10.2 Contractor and DH agree on final study design

As a part of the contractual agreement with the DHHS, Monash University produced a project plan that included a Hazelwood Mine Fire study governance structure that has five key elements:

1. Community Advisory Committee
2. Project Steering Committee
3. Clinical Reference Group
4. Scientific Reference Group, and
5. Management Group.

The Community Advisory Committee is the primary advisory body for the study. This Committee has been established to ensure that the study hears directly from and works in partnership with Latrobe Valley community members, health and community service providers and local government in undertaking the research program and disseminating the findings.

The Clinical Reference Group comprises key clinicians from the local region who will provide advice into the clinical aspects of the research. Additionally, the Scientific Reference Group has been established to oversee and contribute to the methodological framework of the study.

Action R10.2(b) requires that the Contractor, during the course of the study, specify what benefits might be delivered to the community. The IM notes from the tender documents with Monash University that this obligation is to be addressed as required by this Action item.

Finding: The IM considers that R10.2 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

R10.3 Mortality and allied data provided by DH to contractor

DHHS has expressed commitment to supporting the work undertaken by the long-term health study team. DHHS will make available relevant data within its custody to Monash University, as the University requires, such as;

• **Mortality data**

At the time of tender, DHHS referred Monash University to an historical report titled *Death rates in the Latrobe Valley, 1969-83 / M.A. Adena* to assist with determining a baseline of mortality rates in the community. Further, DHHS provided Monash with mortality data received from the Victorian Registry of Births, Deaths and Marriages.

• **Allied data**

DHHS has provided Monash with EPA data regarding air quality and air pollutant levels at the time of the Hazelwood fire to be considered in the development of the study.

Monash University has identified additional datasets held by the DHHS that will assist with the study, including Victorian peri-natal data to investigate any potential change in birth weight before and after the fire. This data will be made available to Monash once a formal application from the University has been received.

Finding: The IM considers that R10.3 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

R10.4 Regular reporting and community engagement requirements fulfilled

The Community Advisory Committee meets on a quarterly basis and includes three members of the local community who were selected as part of an open expression of interest process. These local community members are currently a community science educator, Morwell Neighbourhood House Co-ordinator and a local teacher. The Committee also has organisational representatives from health and community service providers and local government who were nominated by their boards. They include representatives from Latrobe City Council, Federation University, Latrobe Community Health Service Board and the Latrobe Regional Hospital Board. Victoria's Chief Health Officer and a representative from the Gippsland Region, DHHS are also involved with the Committee.

As a part of the reporting requirements under Monash University's contract, an annual community briefing will be prepared and included in an annual report, which is expected in October 2015.

Finding: The IM considers that R10.4 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

R10.5 Publication on DH website of periodic reports from the study supported by a subscribable public mailing list

On 1 June 2015, Monash University launched the Hazelwood Health Study website. The website aims to provide the community with a centralised point of information about the study and includes information on the study timeline and study locations. Members of the public also have the option to subscribe to regular newsletters and receive up to date information.

Refer to http://hazelwoodhealthstudy.org.au/about/

Finding: The IM considers that R10.5 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

R10.6 Decision on study conclusion date to be informed by progress and findings of study

Monash University was engaged to undertake the health study for a three-year period (to end on 30 October 2017), with three two-year options to extend and a further one-year option to extend making an expected initial contract period of ten years to 30 October 2024. The IM is advised that under departmental procurement business rules, ten-year contracts are the maximum allowable term for engagement of contractors. Subject to Monash's satisfactory performance throughout the first period of engagement, the department would re-engage the contractor for a second ten-year period in 2024 with an expected contract completion date of 30 October 2034.

Every year throughout these contract periods, Monash must meet all performance measures stipulated in the contract document before DHHS will pay milestone payments or exercise options to extend the contract. As discussed at R10.2, DHHS has established two bodies to monitor progress of the Hazelwood long-term health study.

Finding: The IM considers that R10.6 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

A25.1 Project to understand health impacts and to predict the movement of smoke from planned burning and bushfires conducted. Projects underway:

a. **smoke impacts on community health and social perceptions;**

b. **smoke emissions and transportation modelling.**

The IM is advised that the wide ranging and integrated approach that these projects entail is ground-breaking. The broad scope of the projects is intended to assist state agencies to better understand human health responses to smoke exposure and to improve the ability to model and predict the spread, accumulation and dissipation of smoke from fire events. The projects involve teams of scientists drawn from the University of Tasmania, Monash University, the BoM, Wollongong University, the Centre for Australian Weather and Climate Research, the CSIRO and the United States Forest Service.

The projects aim to:

> enable agencies to better determine population groups most likely to be vulnerable to the health impacts of smoke

> improve understanding of trigger levels for determining community health impacts associated with changes to ambient air quality

> afford better understanding of the effectiveness of mitigation and communication strategies

> enhance the capability to describe and predict how changes in fuel condition (moisture content and availability) influence fire behaviour (combustion, spread, convection) and smoke production

> improve the capability to describe and predict the distribution accumulation and /or dissipation of smoke in the atmosphere over different time and spatial scales, and

> afford better understandings of community perceptions of bushfire and smoke related risks and the information communities require to make decisions.

The IM is advised that the Impacts on Community Health and Social Perception component has already provided information on:

> community attitudes and perception of smoke and bushfire risk

> the adequacy of current advice provided to vulnerable communities, and

> the impact changes in air quality from major bushfires have on community health responses.

In terms of determining improved triggers, the field collection (smoke event data) component of the clinical research (which looks at individual health impacts) has been delayed due to a range of issues. These are addressed specifically at action A25.3 (which relates specifically to smoke data collection targets).

The IM notes that these projects do not have due dates specified and are intended to be the focus of recurrent reporting. Whilst smoke data collection issues have proven to be problematic (addressed specifically at Action A25.3) alternate means are being developed to gather the necessary data to ensure the projects are progressed and an operational predictive model is established.

Finding: The IM considers that A25.1 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

A25.2 Requisite people and systems capacity within agencies to repeatedly and reliably undertake smoke monitoring established

Action A25.2 does not have a due date specified. Determining the actual people and systems capacity required so that agencies can undertake smoke modelling first requires the establishment of a model that provides for this action to be undertaken. Model development is addressed at Action A25.4.

The IM considers that A25.2 is contingent upon A25.4 (model development) first occurring. The IM notes the progress in implementing the smoke prediction modelling and that a prototype model is anticipated for December 2015. This will then enable scoping of people and system requirements to determine the necessary people and systems capacity.

Finding: The IM will revisit A25.2 in the 2016 Annual Report.

A25.3 Data collection to occur through 2014-15 summer to underpin research

DELWP evidence reflected that over the 2014-15 period, the field data collection component of this research, for both planned burns and bushfires, presented challenges.

Two data collection processes were undertaken via planned burning. The first was for the purpose of providing input to smoke prediction modelling and the second was to determine the impact of smoke on the health of vulnerable communities.

Unfavourable weather conditions afforded limited planned burning opportunities in general and more specifically for those areas the research had been targeting. This meant that the desired health sampling numbers for before, during and after smoke events, could not be achieved. This outcome has highlighted the challenges associated with establishing trials with communities in their home environments and then of having a smoke event occur which impacts on these communities during the course of the trials.

However, two planned burns were sampled and sufficient information was obtained to input into smoke prediction modelling. It is intended that this data will be further supplemented in Spring 2016.

In terms of bushfire smoke data collection, DELWP advise that no data collection occurred for the 2014-15 period. A range of safety conditions were reported as associated to potential monitoring of bushfire smoke, largely due to the random, unpredictable and ad-hoc nature of bushfire events.

However, in acknowledging the importance of this data collection to enable a better understanding of community smoke impacts, DELWP has since allocated further funding to continue this research. DELWP has funded an extension of the critical part of this work through an additional field trial with the provision of an additional $110,000 for the 2015-16 financial year. This extension will be linked to a winter survey program where the impacts of smoke from wood burning heaters will also be assessed to enable the benchmarking of this better understood smoke impact data against new data and information sourced from planned burn or bushfire smoke.

Furthermore, the IM is advised that in learning from the challenges involved with sampling smoke on and around planned burns and bushfires, the research team has adapted their research methods to be more flexible in how they can collect field data through the exploration of new technologies such as drones. Researchers are also using data from historic bushfires to build a number of case studies that the models can be tested against and improved. These adaptations and improvisations will enable the model to be trialled during the 2016 summer and further improved through active adaptation as more information becomes available.

The IM acknowledges the problematic nature of data capture from smoke events (planned burn and bushfire) and notes the allocation of further funding to continue this important research. Then IM also notes the consideration of alternate means for data capture to ensure that these projects progress. The due date for action A25.3 was March 2015. However, it is clear that these works remain ongoing.

Finding: The IM considers that A25.3 is progressing satisfactorily and will be revisited in the 2016 Annual Report.

A25.4 Operational predictive model implemented for 2015-16 summer

DELWP evidence reflects that the development of an operational prototype model that can be trialled in the SCC this summer (December 2015) is on track. It is advised that model development will enable fire agencies to better predict smoke on a regional scale for both short term and longer term applications down to a local scale which covers kilometres and works over a period of hours to days. The model is intended to enable the provision of more appropriate and timely advice to communities and to optimise opportunities for planned burning to reduce the risk of future bushfires. Model development involves integrating a range of existing models including:

> Phoenix RapidFire – which predicts fire behaviour

> CONSUME – a coarse fuel combustion model from the United States of America

> TAPM (the Air Pollution Model) – a regional air shed modelling system, and

> Australian Air Quality Forecasting System, a broader scale model which in turn draws from the BoM ACCESS gridded weather prediction system.

The IM is advised that information for improving understanding of smoke emissions is being gained through the development of models that describe smoke production from heavy fuels and data analysis Pyrotron (fire tunnel) data to better describe planned burn and bushfire smoke constituents. Concurrently, Phoenix Rapid Fire is being adapted to better predict planned burn fire behaviour and to provide inputs into smoke transportation models.

The IM notes the evidence of progress against this action and the assurances that a prototype model will be in place at the SCC for the forthcoming summer.

Finding: The IM will revisit A25.5 in the 2016 Annual Report.

A25.5 Products from research projects (see A25.1) made available to assist the development of the State Smoke Framework

DELWP is an active member of the State Smoke Working Group and this membership provides a mechanism for the DELWP research product to be made available to this Group. The IM has been provided with examples of research outcomes being conveyed by DELWP to this Group for Framework development purposes.

The IM notes that action A25.5 does not have a due date specified. Whilst mechanisms have been established for research outcomes to be made available to support the development of the State Smoke Framework, DELWP led research is to continue and such mechanisms must be sustained.

Finding: The IM will revisit A25.5 in the 2016 Annual Report.

A25.6 Relevant learnings from the long term health study (Rec 10) incorporated into the smoke predictive model (see A 25.4)

In providing evidence against this action, DELWP advised that under the WoVG Intellectual Property Policy Intent and Principles, August 2012, the State grants rights to its intellectual property, as a public asset, in a manner that maximises its impact, value, accessibility and benefit consistent with the public interest. In application this means that, even though the data and information generated by state projects is the property of the State of Victoria, the researchers involved in these projects have full access to the information generated for research and teaching. It was also highlighted that there was considerable overlap between the researchers and institutions undertaking the DELWP research and that associated with the long term health study.

In addition to the default measures highlighted above that serve to enable intellectual property exchange, the IM has sighted further evidence from DELWP intended to positively address this action. This took the form of a letter sent from DELWP to the Acting Chief Health Officer formally requesting provision of appropriate research derived from the Long Term Health that may better inform development of the Smoke Health Impacts and Smoke Transportation Modelling projects.

Finding: The IM considers that A25.6 has been implemented satisfactorily.

A28.1 Long term health study conducted

Under Affirmation 28 the State committed to undertaking a long term study into the long term health effects of the smoke from the Hazelwood Mine Fire. Recommendation 10 sought from the State continuation of the study for at least 20 years, a governance structure that included community representatives and the commitment to publish regular progress reports.

In the conduct of this study, it is vital that independence and probity are demonstrated to ensure the study outcomes can be viewed as independent from Government and robust in terms of the rigour applied.

The IM notes that the reopened Inquiry has two terms of reference that are closely related to Recommendation 10:

6. *Whether the Hazelwood Coal Mine Fire contributed to an increase in deaths, having regard to any relevant evidence for the period 2009 to 2014; and*

7. *Short, medium and long term measures to improve the health of the Latrobe Valley communities having regard to any health impacts identified by the Board as being associated with the Hazelwood Coal Mine Fire.*

The IM also notes these terms of reference will be the subject of a report by the Inquiry by 2 December 2015. The IM will take into consideration all relevant recommendations in the Inquiry's report when reporting on progress of Recommendation 10 and Affirmation 28 in subsequent annual reports.

The obligations relating to this Affirmation will be acquitted by the actions being taken to meet R10.1 to R10.6

Finding: The IM considers that this Affirmation is being progressed satisfactorily by R10.1 to R10.6 and will revisit A28.1 in the 2016 Annual Report.

Recommendation 11

The State review and revise its communication strategy, to:

> ensure all emergency response agencies have, or have access to, the capability and resources needed for effective and rapid public communications during an emergency; and

> ensure, where appropriate, that private operators of essential infrastructure are included in the coordination of public communications during an emergency concerning that infrastructure.

Action		Due Date	Status
R11.1	WoVG communication arrangements for major emergencies reviewed.	December 2014	Ongoing
R11.2	Consultants to identify best practice in emergency communications engaged.	December 2014	Ongoing
R11.3	a. Emergency Management Joint Public Information Committee (EMJPIC) role and function, and links to industry reviewed.	December 2014	Ongoing
	b. crisis communication training undertaken by relevant staff.	December 2014	Ongoing
	c. frameworks to guide and coordinate WoVG emergency communications and engagement developed.	July	Ongoing
R11.4	Stronger capability and governance arrangements for WoVG strategic (emergency) communications established by SCRC.	December 2014	Ongoing

Action		Due Date	Status
R11.5	The scope for the WoVG review of emergency communications arrangements (see 3.114) is to provide for consideration of:	July	Ongoing
	a. The roles and functions of emergency communication committees;		
	b. enhancing specialist crisis communication capability within government;		
	c. developing a model that uses established local networks as a medium for communicating during emergencies;		
	d. additional emergency communications training for government employees; and		
	e. developing a coordinated approach to the use of social media by government during emergencies.		
R11.6	WoVG (emergency communications – see 3.114) Review completed by end of 2014.	December 2014	Ongoing

Affirmations Linked to Recommendation 11

Affirmation 20

EPA review its communications response and implement a structured community engagement process with the Morwell and surrounding communities.

Affirmation 26

The State improve local engagement on health issues.

Implementation Action

Action		Due Date	Status
A20.1	Risk communication seminar conducted for relevant (EPA) staff to attend.	January 2015	Complete
A20.2	EPA to clarify and streamline communications with emergency agencies and broadcasters and to be fully integrated with the State's emergency communications processes.	June 2015	Ongoing
A26.1	Local engagement on health issues improved.	July	Ongoing

Note, the IMP links Affirmation 26 to Recommendation 11, which concerns broader emergency communications strategies and capabilities. However, the actions in the IMP aligned to Affirmation 26 extend beyond communications capabilities to include the development of strategies and provision of funding to support healthier living. Accordingly and in order to avoid duplication, Affirmation 26 is addressed in the Other State Government Affirmations section of this report.

Actions A20.3, A20.4 and A20.5 are reported in the Other State of Victoria Affirmations section of this report.

Recommendation 11 Overview

In the IMP lead agency status for Recommendation 11 is assigned to DPC. In response to the initial (February 2015) IM evidence call, DPC provided the IM with progress evidence concerning to Recommendation 11.

In April 2015, the Reference Group agreed to transfer lead agency responsibility for the implementation of Recommendation 11 from DPC to EMV. The rationale detailed for this was that Recommendation 11 was considered to be inextricably linked to Recommendation 12, for which EMV was also responsible. Recommendation 12 concerns the development of a community consultation model to ensure all state agencies and local government engage with communities and already identified trusted local networks as an integral component of emergency management planning.

The transfer of responsibility for lead agency status for Recommendation 11 was endorsed at the SCRC meeting on 30 April 2015.

The substance of Recommendation 11 requires two actions of the State, namely:

> to review and revise its communications strategy to ensure all emergency response agencies had or had access to the capability and resources needed for effective and rapid public communications during an emergency, and

> to ensure that where appropriate the private operators of essential infrastructure are included in the coordination of public communications during an emergency concerning that infrastructure.

In its IMP the State committed to undertaking various actions towards these requirements. It was indicated that the role and function of Emergency Management Joint Public Information Committee (EMJPIC) and its links to industry had been reviewed. It was also indicated that a review was underway which would consider:

> the roles and functions of emergency communications committees

> enhancing specialist crisis communications capability within government

> developing a model that uses established local networks as a medium for communicating during emergencies

> additional emergency communications training for government employees, and

> developing a coordinated approach to the use of social media by government during emergencies.

In August 2014, consultants, Values Communications, commenced a review of Victoria's crisis communications arrangements (the Values review). The introduction to the Values review describes it as an independent review of Victoria's crisis communication arrangements for major emergencies which also identified practical opportunities to improve the effectiveness of the State's emergency communication arrangements in an all hazards context. It further indicates that the review included best practice and case study examples.

In November 2014, a draft of the Values review was subjected to peer review by Professor Paul 't Hart, a respected academic in the field of emergency management. It is understood that Professor 't Hart's peer review of this draft version was then provided to Values Communications prior to their review being finalised.

The IM has examined the finalised Values review and also the peer review undertaken of a draft of this document by Professor 't Hart.

The Values review details a range of concerns relative to how the State plans and conducts public communication strategies at times of major emergencies. Major issues highlighted included:

> an absence of integrated strategy for large scale emergencies

> a focus on informing and not listening

> obscure authorising environments for strategic communications

> gaps in and a lack of support for regional level mechanisms

> capacity concerns with actual requirements in need of scoping

> knowledge management – a need to develop a central repository of templates, crisis plans, strategies and reference materials, and

> a need for exercising to test revised arrangements.

The Values review details a list of 18 recommendations which are later categorised into short, medium or longer term actions. No evidence has been provided to advise if these recommendations have been formally accepted or if any formal program of related works has been instigated to address such matters.

As indicated earlier, EMV was handed lead agency status for this matter in May 2015. In responding to the June 2015 evidence call EMV advised that due to the belated nature of their becoming lead agency for this matter it was unable to report comprehensively on progress.

EMV acknowledged that securing stronger capability and governance arrangements for WoVG strategic emergency communications remained a work in progress. EMV provided evidence of certain changes that had recently been implemented, however acknowledged that these changes had yet to be stress tested under the duress of a significant summer season or a protracted/complex event.

Evidence was provided by EMV to the effect that:

> EMV took on the chair role for EMJPIC in late 2014 (prior to this EMJPIC was chaired by Victoria Police)

> EMV implemented EMJPIC governance changes which included establishment of an EMJPIC Executive to provide support and strategic leadership to EMJPIC

> EMV drafted revised terms of reference for the operation of EMJPIC and the EMJPIC Executive

> the revised terms of reference were said to afford focus on involving the relevant industry in public communications during an emergency involving that industry

> EMV commissioned consultants, The Agenda Group, to undertake a review of EMJPIC. A report was produced titled 'Responding to Change' (the Agenda review) which detailed a range of observations and suggested improvements

> the Agenda review detailed nine recommendations. An SCRC update report dated 11 June 2015 indicated that the Agenda review has been endorsed in principle by the EMJPIC Executive, and

> a progress report received from EMV on 22 July 2015 relating to the Agenda review indicated that two of these nine recommendations are complete, whilst seven recommendations remained works in progress. No timelines were detailed in regard to acquittal of the matters said to be in progress.

The range of works reported as in progress concern issues such as:

> considering resourcing requirements and mechanisms necessary to support the demands of both WoVG and more localised emergency management communications

> establishing on-going skills development programs to ensure adequate capability and capacity for emergency management communications, and

> establishing procedures and processes to integrate WoVG EM communications with localised and regional communications arrangements.

The EMV evidence details certain other actions that have occurred relative to this recommendation. This includes development of working drafts of a Social Media Strategy and a WoVG Crisis Communications Strategy (template guidelines). Additionally, some related communications training had been provided to personnel from various agencies in the lead up to the 2014-15 summer period.

The HMFIR highlighted the criticality of effective emergency management communications. The Inquiry acknowledged the pressures faced by government agencies during and after the Hazelwood mine fire in ensuring the community received appropriate information about this complex and protracted emergency event. The Inquiry received considerable public feedback about communications provided during this emergency. Instances of communications were described as confusing, conflicting, not being timely or not occurring at all. Some means of communication were described as largely one way with information being transmitted, but not received or understood by the intended recipients.

The IM acknowledges indications that this recommendation remains a work in progress and has considered the range of activities within the evidence provided that have either been undertaken, are in progress or are being contemplated. In balancing such matters against the broad requirements of Recommendation 11, the IM concludes that there remains considerable work to be done before the State can confidently assure that emergency agencies have, or have access to, the capability and resources needed for effective and rapid public communications during an emergency. Furthermore, it is important that revised arrangements will ensure involvement with industry operators where this might be appropriate.

Progress

R11.1 WoVG communication arrangements for major emergencies reviewed.

The IM has received evidence of two separate communications related reviews being undertaken; the Values review and the Agenda review. Although the specific terms of reference for each of these reviews was not included in evidence provided, consideration of the final reports produced reflect a focus on WoVG crisis communications. It would appear that some, but not all, of the concerns identified in the Values review are also acknowledged in the Agenda review. Whilst evidence has been provided of a program of works in progress aligned to the Agenda review, it remains unclear what, if any action may be underway or proposed in regard to the Values review.

Whilst reviews have been conducted, the utility of such undertakings remains contingent on post review activity to address shortcomings and deliver enhancements the review processes served to identify. The IM notes that various activities are occurring in this regard.

Finding: The IM considers R11.1 to be ongoing and it will be revisited in the 2016 Annual Report.

R11.2 Consultants to identify best practice in emergency communications engaged.

The Values review provides some material in regard to best practice for effective crisis communications. However, peer review suggests that further works may be required to develop an optimal way forward for the development of best practice crisis communications capability in Victoria. The IM agrees with this assessment.

Whilst consultants were engaged and the resultant report provided some commentary on best practice, it is arguable if a clear pathway to a best practice model has actually been provided.

As an alternate means of fulfilling this action and consistent with processes utilised elsewhere in the State's Plan (for example, for air quality guidelines) it might be contemplated that expert peer review be undertaken of any crisis communications strategy and model developed to ensure that they reflect best practice.

Finding: The IM considers R11.2 to be ongoing and it will be revisited in the 2016 Annual Report.

R11.3 (a) EMJPIC role and function and links to industry reviewed

As indicated earlier, two separate communications related reviews have taken place, with both affording focus on the role and function of EMJPIC. However, specifics of any linkage to industry is at best fleetingly addressed.

The Values review identifies that within any cross government functional communications structure a stakeholder relations role should exist, with this serving to identify parties, such as industry operators, that may require engagement. Indeed the capacity to do so, to enable collaborative works, is identified as a key to success. This review also proposes that a stakeholder analysis be undertaken to identify industry operators, along with annual forums and training exercises to ensure all intended to be involved are continuously updated and informed of arrangements. It is also suggested that EMV work with regulatory bodies to leverage existing expertise and relationships relating to the business sector and private (industry) operators.

Whilst the capacity to involve industry as a collaborative working partner is identified, this falls well short of any review of what the bounds of that relationship should be, or any considerations to apply to offer guidance in determining when it may or may not be appropriate for involvement. There are a range of complexities that can be envisioned in any state/private collaborative communication activities. Issues such as security considerations, the capacity to share information, regulatory tensions, conflicting agendas, competing priorities, commercial considerations, reputational safeguarding and emergency response impacts on ongoing operations are amongst the potential issues deserving of some consideration to assist in determining appropriateness of, or extent of, involvement.

Similarly, whilst the Agenda review considers the role and function of EMJPIC, it does not does not include any review of the EMJPIC linkage to industry.

The Agenda review advises that the EMJPIC Terms of Reference were updated twice in 2014. Other evidence from EMV reflects a more recent change to these Terms of Reference that remains pending. An SCRC Relief and Recovery briefing paper, dated 11 June 2015, advises that revised EMJPIC Executive/EMJPIC Terms of Reference have been drafted and are awaiting approval. It is indicated that changes include a focus on involvement of the relevant industry in public communications during an emergency.

The IM has reviewed a copy of the draft Terms of Reference provided. The only apparent reference to involvement of industry is contained in one (EMJPIC duty related) dot-point which states:

> To coordinate appropriate stakeholders for each specific event including state, local and federal agencies, businesses and relevant industries, including fostering partnerships with the media.

The IM considers that this falls some way short of the substance of Recommendation 11 being to ensure that private operators of essential infrastructure will, where appropriate, be included in the coordination of public communications during an emergency concerning that infrastructure.

Table 1: Training of agency staff in the lead up to the 2014-15 fire season

Course	Attendees											Total
1 day media refresher	CFA	DELWP	Parks Vic	Melb Water	VICSES							
	11	8	1	1	2							23
1 day media training	CFA	DELWP	EMV	VICSES	DOJR	DPC	DHHS	MFB	OLV			
	11	15	1	3	16	1	5	1	1			54
Social media	CFA	DELWP	EMV	VICSES	DOJR	DPC	DHHS	VicPol	BoM	DEDJTR	Parks Vic	
	8	12	13	7	1	1	3	1	1	3	2	52

The IM considers that whilst the role and function of EMJPIC has been subjected to review, the appropriateness of any linkage to industry has not been adequately reviewed. Industry, amongst others, is simply recognised as a potential stakeholder. Furthermore, the revised EMJPIC Terms of Reference do not clearly address the intent of Recommendation 11, related to ensuring industry involvement where appropriate.

Finding: The IM considers R11.3(a) to be ongoing and will revisit the action in the 2016 Annual Report.

R11.3 (b) Crisis communications training undertaken by relevant staff

EMV evidence reflected a range of communications related training had occurred in the lead up to the 2014-15 fire season. This included 18 communications representatives from across government attending crisis communications training and 64 persons being provided with counter-terrorism media liaison training. In addition to this, the following table sourced from the SCC details other communications related training that occurred prior to the 2014-15 summer.

The IM acknowledges that for fire season preparedness communications related training has been provided to staff from various agencies. However, in the absence of a sustainable communications model that ensures all response agencies have adequate capability and access to resources, the relevance and adequacy of the training provided is unclear. Such foundational requirements are highlighted in both the Values and the Agenda reviews. Recommendations 2, 3 and 9 in particular of the Agenda review concern resourcing and training needs and the IM notes that these are reported as matters 'in progress'.

Finding: The IM considers R11.3(b) to be ongoing and will revisit the action in the 2016 Annual Report.

R11.3 (c) Frameworks to guide and coordinate WoVG emergency communications and engagement developed

The Inquiry heard that in the days following the commencement of the mine fire it was recognised that the fire could burn for up to one month. The Inquiry was informed that at the outset the State did not have an existing communications strategy to apply to the Hazelwood Mine fire and that such a strategy was not developed until one week after the fire had commenced. This strategy was then adopted a further four days later.

The Inquiry concluded that it was unfortunate that the communications strategy had to be written and executed during the crisis. This was said to demonstrate that preparedness in crisis communications fell short and subsequently undermined the ability of government agencies to respond effectively.

The IM has been provided with an undated draft WoVG Crisis Communication Strategy (Template Guidelines). This has been described as a working document designed to support and guide communications staff to apply an integrated, WoVG communications approach. The IM was advised that the strategy has been subjected to some testing, with further testing proposed to determine its rigour and deliverability under duress. The IM was further advised that following this testing the document would be delivered to the EMJPIC Executive for approval.

The IM notes the ongoing nature of works for this action and for supportive actions such as capability and capacity modelling and further testing which remain works in progress.

Finding: The IM considers R11.3(c) to be ongoing and will revisit the action in the 2016 Annual Report.

R11.4 Stronger capability and governance arrangements for WoVG strategic (emergency) communications established by SCRC

Evidence provided to the IM reflects that an EMJPIC Executive has been established and is intended to provide support and strategic leadership for EMJPIC. However aside from this, EMV acknowledge that the management, governance and new processes for EMJPIC remain a work in progress. This appears consistent with the program of intended works stemming from the Agenda review which reflect that issues such as the scoping of actual resourcing requirements and the development of procedures and processes remain works in progress.

Whilst this action item was due for finalisation by December 2014, a significant amount of work remains to be done.

Finding: The IM considers R11.4 to be ongoing and will revisit this matter in the 2016 Annual Report.

R11.5 The scope for the WoVG review of emergency communications arrangements (see R3.14) is to provide for consideration of:

a. the roles and functions of emergency communication committees

The Values review recognised that both EMJPIC and SCRC had communications responsibilities for large scale or complex emergency events, however distinctions in roles and functions, or any potential overlaps, were not explored or addressed.

The Agenda review provides further detail concerning other government committees involved in emergency management communication with communities. This review notes that the status of the SCRC communications working group is unclear due to machinery of government changes from the previous state election still continuing.

The Agenda review also advises of the existence of another communications group, the Victorian Emergency Communication Committee (VECC) which operated in parallel to EMJPIC and the SCRC communications committee. The Agenda review concluded that the main focus of the VECC communications committee was oversight of major information campaigns for events such as fire and flood readiness and to support public information dissemination. The review identified that historically there has been some degree of overlap in the VECC and EMJPIC roles and that both committees shared the same members. Recommendation 7 of the Agenda review suggests that the VECC communications committee be integrated into EMJPIC. Evidence from EMV reflects that all recommendations in the Agenda review have been endorsed in principle by the EMJPIC Executive and the status of Recommendation 7 of the review is indicated as "in progress".

The IM has been provided with terms of reference for EMJPIC and an EMJPIC Executive. Other evidence provided reflects the existence of a communications committee aligned to the SCRC. The status of this committee is unclear due to recent machinery of government changes. It also appears that it is intended for the VECC to be integrated into EMJPIC. The IM notes that these are matters yet to be determined.

On the evidence provided there appears to be a range of works still required to clarify and settle the roles and functions of the various communications committees.

Finding: The IM considers R11.5(a) to be ongoing and will revisit the matter in the 2016 Annual Report.

b. enhancing specialist crisis communications capability within government

Both the Values and Agenda reviews offer broad comment that enhancing specialist crisis communications capability within government is necessary, yet a foundational step will be to first conduct the necessary scoping. The IM notes that such works are reported as in progress.

On the evidence provided there appears to be works progressing to scope the requirements necessary to enhance specialist crisis communications within government.

Finding: The IM considers R11.5(b) to be ongoing and will revisit the matter in the 2016 Annual Report.

c. developing a model that uses established local networks as a medium for communicating during emergencies

Evidence presented by the State to the Inquiry highlighted that community engagement would be enhanced by utilising pre-existing, well established local networks to ensure emergency communications and messaging is being received and understood as intended. Trusted networks were to be established with strong local leaders from a variety of groups.

The Values review provided some brief commentary about encouraging the utilisation of local leaders to provide trusted information to communities who may be less trusting of government sources. However this falls some way short of development of any model to facilitate or implement such a practice.

The Agenda review contains a section entitled connecting with local communities. However, this is more about recognising and nurturing communication capabilities of internal practitioners, rather than utilisation of local leaders.

The draft WoVG Crisis Communications Strategy (Template Guidelines) prompts some thinking about engagement with community leaders and local networks, so that they might be utilised. However this falls some way short of development of a model that uses established local networks as a medium for communicating during emergencies. This action does not appear to have been progressed. Accordingly it will be revisited in the 2016 Annual Report.

Finding: The IM will revisit R11.5(c) in the 2016 Annual Report.

d. additional emergency communications training for government employees;

Note that R11.3(b) also concerns training requirements. The IM understands that foundational steps are being taken to scope training requirements as a component of the Agenda review.

The IM notes the scoping works being undertaken to determine training needs.

Finding: The IM will revisit R11.5(d) in the 2016 Annual Report.

e. developing a coordinated approach to the use of social media by government during emergencies

A working draft *Vic [sic] Emergency Social Media Strategy – May 2015* was provided as evidence to the IM. It is indicated that this strategy will form a part of a broader Victorian Emergency Communications Plan to be compiled by EMV.

The IM acknowledges the progress on this draft Social Media Strategy, noting that it remains incomplete.

Finding: The IM will revisit R11.5(e) in the 2016 Annual Report.

R11.6 WoVG (emergency communications – see R11.1) Review completed by end of 2014

Whilst the Values review was completed by the end of 2014 and the Agenda review was subsequently conducted, neither process has resolved the State's emergency communications arrangements. These matters are addressed more comprehensively in A11.1, A11.2 and A11.5.

Although reviews have been conducted, the utility of such undertakings remains contingent on post review activity to address shortcomings and deliver the enhancements that the review processes identified. The IM notes that various activities are occurring to this regard

Finding: The IM considers R11.6 to be ongoing and will revisit the action in the 2016 Annual Report.

A20.1 Risk communication seminar conducted for relevant (EPA) staff to attend.

Since the Hazelwood Mine Fire, the Program Leader, Communications and the Manager, Marketing and Communications have attended a risk communication seminar in early December 2014. The seminar, entitled 'Alerting, Reassuring and Guiding – Three Paradigms of Risk Communication', was conducted over three days by an expert in international crisis communications.

Finding: The IM considers action A20.1 has been implemented satisfactorily.

A20.2 EPA to clarify and streamline communications with emergency agencies and broadcasters and to be fully integrated with the State's emergency communications processes

The role of the State's emergency management public communications peak body (EMJPIC) includes the provision of relevant, timely, clear, accurate and tailored information based on the best information available at the time, to the public during major emergencies in Victoria. EPA was not an active participant in EMJPIC at the time of the Hazelwood fire but is now an active member. In addition to this role within the emergency management public communications, the EPA is actively represented at all operational communication decision making levels within the State Control Centre (SCC) during all declared Code Red Days. This includes the provision of an Emergency Management Liaison Officer within the SCC and membership at Executive Director level of the State Emergency Management Team. This is in addition to fulfilling the role of coordinating air quality data monitoring and rapid response via implementation of the Community Smoke, Air Quality and Health Protocol.

The EPA and DHHS reviewed the communication protocols for bushfire smoke advisories to the community and the media during 2014-15. The revised Community Smoke, Air Quality and Health Protocol was approved by the EPA CEO and the DHHS Chief Health Officer in January 2015. The protocol includes a revised process for managing communication and media. This is now led by DHHS, removing the previous confusion about who is responsible for issuing health messages and actions during smoke events. The EPA supports DHHS with communication in relation to air quality and relevant data.

The EPA is continuing to develop formal organisational documentation to describe the emergency communications operational process, role and accountability statements to support the revised structure for Class 1 emergencies. For example, EPA emergency communications operational process, role and accountabilities have been developed to support the structure during a Major, Class 1 or Class 2 emergency event. The Emergency Management: EPA Incident Engagement and Communication Protocol provides guidance on how EPA connects into the State emergency management communications structure. It also identifies information products EPA contributes to the communications structure and to the general public and details EPA's internal arrangements for communications and engagement planning and delivery in an emergency. EPA has advised the IM that it will ultimately incorporate the protocol into its new integrated approach to emergency management and response (see Affirmation 16). The protocol will retain its current stand-alone status until it is formally incorporated into the EPA Emergency Management System which is to be finalised by December 2015.

The EPA continues to attend a range of relevant meetings to ensure that its work in relation to communications and engagement is coordinated with other agencies and is aligned with a future state-wide approach to engagement. The IM notes the strengthened integration of EPA within the State's emergency management operational and public communication processes and the improved clarity of responsibilities for public messaging during smoke events.

The IM notes that documentation is still being developed to support the revised arrangements which are yet to be tested under emergency conditions.

Finding: The IM considers action A20.2 is progressing satisfactorily and will revisit A20.2 in the 2016 Annual Report.

Recommendation 12

The State, led by Emergency Management Victoria, develop a community engagement model for emergency management to ensure all State agencies and local government engage with communities and already identified trusted networks as an integral component of emergency management planning.

Implementation Actions

Action		Due Date	Status
R12.1	Bushfire community engagement and planning project broadened to align with intent of recommendation 12 and Harrietville community pilot conducted.	July	Ongoing
R12.2	Principles for community engagement model developed.	July	Ongoing
R12.3	Model for community level planning and engagement, including collaborative problem solving, developed.	June 2015	Ongoing
R12.4	Milestones nominated for community level planning and engagement model as follows:		
	a. concept developed	December 2014	Ongoing
	b. pilot conducted	June 2015	Ongoing
	c. program implemented.	June 2016	Ongoing

Progress

R12.1 Bushfire community engagement and planning project broadened to align with intent of recommendation 12 and Harrietville community pilot conducted

R12.2 Principles for community engagement model developed

R12.3 Model for community level planning and engagement, including collaborative problem solving, developed

R12.4 Milestones nominated for community level planning and engagement model as follows:

a. concept developed

b. pilot conducted

c. program implemented

Recommendation 12 concerns the development of a model that ensures all State agencies and local government engage with communities and already identified trusted networks as an integral component of emergency management planning.

The Inquiry highlighted a variety of concerns across the emergency management planning spectrum. Evidence provided afforded focus on site level planning, integrated fire management planning and broader municipal, regional and state level emergency planning arrangements.

A particular concern to the Inquiry was for EM planning processes at various levels to provide for the active participation of all relevant stakeholders, be they emergency agencies, local government, industry or those in the community who may be affected by an emergency event.

Giving further context to this matter is the following paragraph from page 147 of the Inquiry Report where it states:

The evidence has established that the Hazelwood mine and the mine's regulators are key players currently missing for the integrated fire management planning process. It is crucial that members of the community, government and industry who are responsible for fire risk management and who live within the risk of fire in the Latrobe Valley, play a role in the development and implementation of fire risk management plans…..

In its IMP the State outlined certain actions that would be done in regard to Recommendation 12. Paragraph 3.127 of the Plan advised:

EMV is leading a bushfire community engagement and planning project, which will now be broadened to align to the intent of this recommendation (12). The pilot 'bushfire' community engagement and planning project has been based on the Harrietville community and is a part of the Emergency Management Strategic Action Plan for 2014-15.

The IM was provided with a range of evidence concerning the EMV community engagement and planning project. This project was instigated in August 2013 when an opportunity presented to develop and pilot a community engagement model for the Harrietville township. This project was a priority action for the Fire Services Reform Action Plan 2013-2016 and followed the occurrence of a major fire in the Harrietville area in January 2013 which gave rise to various community concerns.

A Harrietville Community Forum was convened and an experienced facilitator was engaged to guide the development, implementation and ongoing improvement of locally tailored planning and engagement processes. Further sessions occurred and enabled community participants to both learn about and improve how their community could become safer and more resilient. A five step process was utilised:

> identify and understand community leaders and their networks

> use local/expert knowledge to identify what is important to the community

> use local/expert knowledge to identify priority hazards, risks and likely scenarios

> develop acceptance levels and actions, plus a shared responsibility to implement them, and

> share learnings, while monitoring and reviewing in test mode and through emergency events.

Consistent with this five step process, exercises were conducted to map community connections, networks and values which were then overlaid with information identifying what were considered to be priority hazards, risks and scenarios for Harrietville.

The end product of these works was published in a document entitled *The Harrietville Community Emergency Plan.* On 1 October 2014 this document was officially launched by the Harrietville community.

On 1 July 2014, legislative changes and the appointment of the EMC caused the community engagement planning project to be transferred from the Fire Services Reform Action Plan to the Emergency Management Strategic Action Plan. EMV as the owner of the project, developed a project plan titled *Community Based Emergency Management.* A Project Control Group and a Steering Group was established.

The project is described as aligning with one of the over-arching objectives of the Victorian Emergency Management Reform White Paper; to enhance community resilience. It is also described as a process that must be undertaken with a community focus and which is driven by communities. The stated role for emergency management organisations in this process is to support communities to develop their capability and then collaboratively participate in conversations with agreed strategies.

The IM recognises the significance of this project as a step change mechanism in the notion of shared responsibility and in providing avenues for advancing community engagement, understanding and ultimately resilience. The process itself provides for the identification of community leaders so necessary for other aspects of emergency management. The IM is also encouraged to learn that these important works are now progressing in communities other than Harrietville. It is noted that an undertaking in the State's 2014-2015 Emergency Management Strategic Action Plan was for five community emergency management plans to be in place by 30 June 2015.

However, whilst acknowledging these valuable works, the IM has not been provided with evidence to demonstrate the State's undertaking to broaden the intent of the Harrietville pilot to align with the intent of Recommendation 12 has been fulfilled. That is, to broaden these works to provide a model that ensures all state agencies and local government engage with communities and already identified trusted networks as an integral component of emergency management planning. The distinction is that the Community Based Emergency Management project encourages community activity with the objective of stimulating community owned and driven works to enhance community resilience. It does not, per se, ensure community involvement, along with all State agencies and other stakeholders, in all levels of emergency management planning for events that may have implications for, or impact on, that community.

The IM notes that EMV evidence for Recommendation 3 (emergency management planning legislative reform) identifies that a key change necessary is to ensure emergency planning processes facilitate engagement with communities. However such legislative reform deals with arrangements intended for municipal, regional and state levels and omits the critical site level planning arrangements which are arguably the most critical level in this bottom up planning process. Commentary for Affirmation 9 (linked to Recommendation 4) elaborates on this issue.

The Community Based Emergency Management project has to date served to establish mechanisms for community engagement and to determine community networks and leaders. The IM considers that it provides an adaptable foundation for fulfilment of Recommendation 12. However, this project requires broadening, as R12.1 identifies, to provide the required mechanism for ensuring community inclusion along with all other stakeholders in EM planning processes. This broadening, as R12.1 requires, has yet to occur. Actions R12.2, R12.3 and R12.4 are contingent upon action R12.1 first being addressed.

The legislative reform sought (see Recommendation 3) must also support inclusion of all state agencies, local government, along with communities and already identified trusted local networks as integral components of EM planning.

Finding: Given the status of these works the IM intends to revisit all actions within Recommendation 12 in the 2016 Annual Report.

Other State of Victoria Affirmations Not Addressed Elsewhere In This Report

Affirmation 18

EPA to coordinate a meta-analysis, including smoke plume monitoring, of air monitoring data and other relevant information collected during the Hazelwood mine fire to create a body of knowledge of the impacts of extended brown coal fire events.

Affirmation 20

EPA review its communications response and implement a structured community engagement process with the Morwell and surrounding communities.

Affirmation 21

EPA will be monitoring PM$_{2.5}$ at all its fixed automatic air quality monitoring locations by the end of July 2014.#

This date should be July 2015 (as per commitment below). The IMP was not published until October 2014.

Affirmation 26

The state improve local engagement on health issues.

Implementation Actions

Action		Due Date	Status
A18.1	Meta-analysis for air monitoring and other environmental data scoped in consultation with relevant agencies and academic institutions.	April-2015	Complete
A18.2	Meta-analysis conducted and information made available.	December 2016	Ongoing
A20.3	A pilot communication and engagement model developed and implemented for Morwell and surrounding communities.	December 2015	Ongoing
A20.4	Citizen Science program implemented to create community awareness about EPA science activities and how community can be involved in monitoring the environment with the EPA.	October 2015	Ongoing
A20.5	Improved methods for communicating and conveying complex science data and environmental monitoring information introduced.	July 2015	Complete
A21.1	PM$_{2.5}$ monitored at all fixed air quality monitoring stations.	July 2015	Complete*
A26.1	Latrobe City Council (LCC) supported to:		
	a. Develop and implement public health policies	July	Ongoing
	b. Implement its Municipal Public Health & Wellbeing Plan 2013-17.	July	Ongoing
A 26.2	Additional funding provided to LCC as a "Healthy Together Community".	July	Ongoing
A 26.3	"Healthy Together Latrobe" working with local partners to encourage take-up of healthier living initiatives.	July	Ongoing
A 26.4	Opportunities for using local networks, influencers and stakeholder representatives for locally tailored and relevant community (emergency) messaging, investigated.	July	Ongoing
A 26.5	Processes to facilitate engagement with known and trusted local people established.	July	Ongoing
A 26.6	Agencies disseminating DH emergency health risk information fully briefed on the content by DH prior to distribution	July	Ongoing

Note: A20.1 and A20.2 are linked to Recommendation 11 and progress is reported in that section of this report.

Progress

A18.1 Meta-analysis for air monitoring and other environmental data scoped in consultation with relevant agencies and academic institutions

The significant amount of environmental data generated by multiple agencies during the Hazelwood Mine fire provides a unique opportunity to improve the understanding of linkages between operational activities and environmental (i.e. air, water and soil) and health impacts. Conducting a meta-analysis of this data will assist in identifying knowledge gaps between agencies, departments and individuals. The analysis should enable future predictive and operational decision making in relation to the potentially harmful community affects of smoke and ash.

A project brief was developed and the CSIRO was engaged as the delivery partner following a selective tender process conducted during January 2015. The project comprises three parts. The first stage includes reviewing and collating available datasets, the second involves analysing the data and the third and final stage comprises the identification of potential uses for the data. Deliverables include several reports and products drawing on the available data. EPA established a project working group with representatives from CFA, MFB, DHHS, DELWP and EMV to oversee the delivery of this Affirmation. The scope of works for the project was endorsed by the working group by 30 April 2015 as proposed.

Finding: The IM considers A18.1 has been implemented satisfactorily.

A18.2 Meta-analysis conducted and information made available

The EPA proposes to release the complete body of information and knowledge generated from the Hazelwood Mine fire meta-analysis in a comprehensive package by the end of 2016. As various components of the meta-analysis are completed, information is being made available to support other IMP actions and/or published, as appropriate. For example, two meta-analysis information reports were published on EPA's website on 9 June 2015. The first summarises the air monitoring and conditions during the Hazelwood mine fire. While the data collected by EPA during the Hazelwood mine fire has been made available to the public, this report consolidates the measured air quality data and analysis to provide a general summary of the fire's impact on air quality at the time of the fire.

The second report estimates the air quality in the early stages of the fire. This report examines air quality data in order to develop a better understanding of the scientific correction factor that needs to be applied to indicative data generated by rapid response mobile monitoring equipment. Corrected data provides a more accurate estimate of air quality, and understanding such corrections is important for the future use of rapid air monitoring data in emergency events.

On 9 June 2015, the CSIRO submitted its first summary report on the collation of EPA's full data set and schedule of work. This report outlines the EPA data collected during the Hazelwood mine fire (as well as preceding and recovery-phase data), identifies other parties that collected relevant data during the mine fire, highlights additional data needed for modelling requirements and/or exposure assessment analysis and opportunities for further work.

A further two meta-analysis information reports were published on the EPA website on 30 June 2015. They collated and assessed both the air quality from February 2014 to May 2015 and the water, soil and ash over the same period. Refer to Affirmations 20 and 22.

At the time of receipt of final evidence for this report, delivery of the second CSIRO report was imminent. The second report will include discussion of improved and/or new smoke plume models that could be applied in future, options for further knowledge products that could be developed, and potential future research to address knowledge gaps.

The due date for this action is December 2016.

Finding: The IM considers A18.2 is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

A20.3 A pilot communication and engagement model developed and implemented for Morwell and surrounding communities.

Following the Hazelwood Mine Fire it was clear that the community had little confidence in the ability of the State to clearly explain the potential health and environmental impacts of the fire. Latrobe Valley communities were unclear of the EPA's role and what the complex EPA data and information actually meant for their health and environment.

The EPA was a member of the former Hazelwood Mine Fire Community Engagement Recovery sub-committee, chaired by the Latrobe City Council. The sub-committee was established soon after the fire to initially coordinate and manage planning and delivery of all community recovery activities. The EPA has also been an active participant in a range of local community based events such as Latrobe Says Thanks in May 2014, Journey Through the Smoke in July 2014 and Kids Teaching Kids Week in September 2014. These events enabled the EPA to gather valuable feedback and ideas from the community. This included the need for frequent communication via local media about air and water quality and questions about how the EPA intended to improve the provision of scientific information.

The IM is advised that the EPA regularly collect and respond to feedback from key stakeholders groups on perceptions of agency performance. This data is collected as part of EPA's 2011-2016 Outcomes Social Research program. Following the Hazelwood Mine fire, feedback was sought from the Latrobe Valley community in August 2014 as part of the Outcomes Social Research program. The findings confirmed a continuing lack of connection between the EPA and the Morwell community. These results allowed EPA community advisers, regional staff and the marketing and communications team to understand current perceptions and experiences, identify actions to improve communications and engagement activities and establish a baseline for comparison over time.

The learnings resulting from this range of community engagement activities informed the development of a strategic plan, *Reconnecting with Gippsland* in October 2014. This plan coordinates EPA's communication and engagement activities in the broader region with a particular focus on Morwell. The overarching objective of the plan is to build stronger connections, increased trust and confidence in the EPA. The plan includes specific objectives, stakeholder analysis and tactical plans.

The IM accepts EPA's position that *Reconnecting with Gippsland* is a dynamic document that will continue to evolve over time to meet changing community expectations and needs. The plan underwent major revisions in 2015 to determine what components were working and what were not and how to ensure continuous improvement in community engagement. This included incorporating the findings and recommendations from the EMV review of the March 2015 incident in relation to the south Morwell air monitoring station. Content has also been streamlined to incorporate the Citizen Science Program and Science Communications Plan. This should ensure that EPA's communication and engagement activity is better integrated with its main role as environmental monitor through recovery.

The overarching objective of the plan remains the building of stronger connections, increased trust and community confidence in the local environment and in EPA. It continues as a dynamic document and has been retitled *Reconnecting with the Latrobe Valley* to better reflect its present scope. The plan is built around three stages:

1. Hazelwood Recovery (July 2014 – June 2015)

2. Evaluation (July – Sept 2015), and

3. Recovery and beyond (Sept 2015 – June 2018).

The IM has seen evidence that the EPA continues to communicate with Morwell and surrounding communities on its monitoring activity through the Hazelwood Recovery Effort community newsletter, media releases and social media.

Stage 2 of the Reconnecting with the Latrobe Valley Plan has commenced. This stage includes:

> a Social Network Analysis that identifies the type and strength of EPA's stakeholder connections to the Morwell community and where gaps remain for future focus. This is an important part of piloting a different model of engagement with communities and will inform how EPA can improve its accessibility to all parts of the community through better engagement planning. EPA is also committed to contribute the findings of this work to support Recommendations 11 and 12

> formal evaluation of the Citizen Science Program to inform the next phase of this program. Early findings include 100% of participants wanting to continue in the program; 76% of participants reporting a better understanding of EPA's role and 89% of participants reporting a better understanding of science in general

> another round of social research activity to measure against the baseline established in August 2014, and

> developing a Latrobe Valley Strategy which will establish the focus of EPA's presence in the area for the next 3 to 5 years. Communications and engagement activities will be formed around this strategy and will provide the focus for Stage 3 of the Reconnecting with the Latrobe Valley Plan.

The IM understands that stage 3 of the Reconnecting with the Latrobe Valley Plan will fully integrate the plan into the Latrobe Valley Strategy. This should ensure that communications and engagement are integral components of EPA's presence in the Valley, rather than being separate stand-alone activities. This approach also acknowledges the importance of communications and engagement being led locally from EPA's Gippsland office. This has been an important learning for EPA through implementing Affirmation 20 and is recognised as an essential ingredient in building trust with local communities.

The IM believes that a key outcome from this process will be to demonstrate how the communications and engagement model piloted in response to this affirmation can be implemented in other regions across Victoria.

While the due date for this action is December 2015, community engagement is an evolving and ongoing requirement.

Finding: The IM considers A20.3 is progressing satisfactorily and will revisit A20.3 in the 2016 Annual Report.

A20.4 Citizen Science program implemented to create community awareness about EPA science activities and how community can be involved in monitoring the environment with the EPA

The EPA advised the IM that Reconnecting with the Latrobe Valley has two key focus areas to improve EPA communications and community engagement. One is improving the way that the EPA publicly communicates science and environmental monitoring information. The other is to introduce a Citizen Science program. Citizen Science is a relatively recent term which generally describes scientific work conducted by the general public, often in collaboration with professional scientists. In an environmental context, it can provide community members with an opportunity to participate directly in local research, build skills and knowledge of environmental monitoring, better understanding and actively engage with their environment. The approach works best where a local community has a shared concern or problem.

The Hazelwood Recovery Program Citizen Science concept was developed in August 2014. A reference group was established comprising members of the local community to guide the program. A local community leader was recruited to coordinate program delivery which also added credibility. This person left the role in April 2015 for employment elsewhere. EPA continues to provide regular local support to its citizen scientists from Melbourne until a local coordinator can be recruited to run the program.

The Program continues to provide training opportunities for local schools and community groups. On 10 June 2015, EPA hosted members of the Morwell community at a Citizen Science roundtable event to co-interpret the findings of EPA's 12 months of environmental monitoring post the mine fire. At this event, EPA scientists talked one on one with members of the community about the reports and other issues of concern. EPA invited feedback from the group and made changes to the draft scientific reports to include important local context, answer questions and make the presentation of the data clearer. Community comments were incorporated in the appendices of the reports published for air, water and soil monitoring conducted during the previous 12 months.

The IM is advised that the Citizen Science Reference Group continues to provide oversight and direction to the program, meeting in April 2015 and attending the Citizen Science roundtable on 10 June 2015. On 17 June 2015, EPA donated air quality monitoring equipment to the Morwell community and provided training in the use of the equipment, as an extension of the citizen science program. The EPA believes that this will be important in enabling the community to build confidence in understanding the state of the local air quality.

The long term goal for the program is to establish a network of active engaged citizen science volunteers throughout the Latrobe Valley.

The due date for this action is October 2015.

Finding: The IM considers A20.4 is progressing satisfactorily and will revisit this action in the 2016 Annual Report.

A20.5 Improved methods for communicating and conveying complex science data and environmental monitoring information introduced.

During and since the Hazelwood Coal Mine Fire, the EPA made a range of improvements to the way it conveys complex science data and environmental monitoring information on its website. Improvements include enhanced search and discovery functions, subscriptions, feedback options, videos, fact sheets, additional links to relevant sites, a broad range of information in relation to the Citizen Science Program (see above) including an interactive map and regular progress updates on the news and updates page. Development and continuous improvement of the Hazelwood Recovery section of the website occurred throughout 2014-15 with the goal of improving accessibility for community members by communicating complex scientific data in plain English.

In addition to website improvements, the EPA has focussed on increasing its science communications capability. This included employing a science communications specialist from October 2014 to June 2015 to work specifically on communication matters arising from the Hazelwood Mine Fire in the Latrobe Valley. This role proved so successful that in January 2015, the EPA employed a Science Communications specialist to improve science communications across the entire business on an ongoing basis.

The IM notes that the EPA has also developed a comprehensive Science Communications Plan that includes a range of specific deliverables to improve science communication. The Science Communication Plan, like the Citizen Science program plan, is a dynamic document that is evolving overtime. In particular, it was revised and integrated into the Reconnecting With the Latrobe Valley review that was completed in mid-2015.

To complement its communications and engagement activity, EPA has explored ways to better present scientific data and information. More creative ways of providing information to the community have been introduced through the production of short educational videos. Three videos that explain how EPA does air, water and soil monitoring were released on 23 April 2015.

Final improvements to the Hazelwood Recovery section of the website were also completed in June 2015. Key improvements included information on the Citizen Science Program and an event calendar to keep the community informed of opportunities to participate. A news and update section for the Latrobe Valley community and a discovering science area were also added. At the time of receipt of final evidence for this report the IM was advised that a new facility called 'Ask a Scientist' was also planned for release in August 2015. This facility will enable the community to ask questions and receive answers directly from EPA's science staff, not only for the Latrobe Valley community but also the general public.

EPA has also used the experience of improving the Hazelwood microsite to consider what broader changes can be made to the air quality pages of the new main EPA website. In March 2015, EPA ran two focus groups and an on-line survey with members of the community to better understand user preferences. This feedback was incorporated into a business requirements document to guide EPA's air quality website pages development needs. In June 2015, EPA secured a small amount of additional funding to translate this work into detailed functional specifications.

The IM notes that although this redevelopment work is not specifically related to affirmation 20, it demonstrates how the process of improving the communication of science to the Latrobe Valley community is influencing EPA's approach to science communication more broadly. The IM understands that pending funding availability, implementation of the main EPA website changes is planned for 2015-16.

Finding: The IM considers A20.5 has been implemented satisfactorily.

A21.1 PM$_{2.5}$ monitored at all fixed air quality monitoring stations

PM$_{2.5}$ describes particulate matter (a complex mixture of very small particles and aerosols that can combine to make dust, soot and smoke) that is 2.5 micrometres or less in diameter. Exposure to PM$_{2.5}$ has been linked to adverse health effects. The State Environment Protection Policy on ambient air quality provides standards for key pollutants which are used to monitor ambient air quality. There is no national compliance standard for PM$_{2.5}$, only an advisory standard (see discussion on development of national standards at Recommendation 6).

At the time of the Hazelwood Mine Fire, the EPA had an ambient air quality network of 13 fixed automatic air quality monitoring stations across Victoria, (primarily in metropolitan areas) which monitor air pollutants. Since the fire, PM$_{2.5}$ has been monitored extensively in the Latrobe Valley via temporary monitors located at Moe, Churchill, south Morwell and east Morwell. Data from all of these stations is transmitted near real time to the EPA Air Quality website. The IM has inspected the Morwell monitors and observed the capture, delivery and publishing on the internet in near to real time air quality data.

The EPA is in the process of redesigning the ambient air quality network to a mixed network of fixed general conditions stations, local conditions stations and rapid response sites (mobile) that will cover a much larger area of the State. A plan for the redevelopment over the next 18 months has been drafted. The IM has been advised that the EPA will conduct public consultations to understand community expectations and consider suggestions for site locations.

While there will be fewer permanent fixed automatic air quality monitoring stations in the new network, the EPA has committed to having no less than 13 PM$_{2.5}$ monitoring sites in total. The EPA has also committed to incorporate the findings and recommendations from the EMV review of the March 2015 incident in relation to the Morwell air monitoring station into the redesigned network. One issue that the review identified related to the way EPA communicates real or potential issues with the operation of equipment to the community. EPA has now put a protocol in place to ensure that the community and stakeholders are updated when issues arise affecting the collection or reporting of data from our air monitoring equipment.

PM$_{2.5}$ can be monitored using a number of different technologies and EPA has rolled out two different instruments in the ambient air quality network. One is called a Beta Attenuation Monitor (BAM) and in line with transition to the new network, these are installed at the four core monitoring sites at Footscray, Alphington, Traralgon and Geelong. The other instrument is an Area Dust Real Time Monitor (ADR).

Since March 2015, EPA has installed additional PM$_{2.5}$ monitors within the ambient network at Box Hill, Mooroolbark, Altona North, Brighton, Dandenong, Melton, Point Cook, Macleod, Wangaratta and Geelong. This will facilitate the transition to mobile district stations in the new network as they are more portable than BAM monitors.

As mentioned earlier, in addition to the 13 automatic air quality stations monitoring PM$_{2.5}$ in the network described above, the EPA continues to measure PM$_{2.5}$ in the Latrobe Valley at Moe, east Morwell, south Morwell and Churchill. Near to real time monitoring data from all of these instruments has been publically accessible on the EPA website since June 2015. To avoid potential confusion that could arise over the use of two types of technology to monitor PM$_{2.5}$, background information explaining the differences in technologies, how the data from different instrument types is used and escalation procedures is now available on the EPA website.

The IM notes that the redesign of EPA's ambient air quality network will transition in consultation with communities over the next 18 months.

Finding: The IM considers action A21.1 has been implemented satisfactorily and will revisit A21.1 in the 2016 Annual Report.

A 26.1 Latrobe City Council (LCC) supported to:

a. **Develop and implement public health policies**
b. **Implement its Municipal Public Health & Wellbeing Plan 2013-17.**

A 26.2 Additional funding provided to LCC as a "Healthy Together Community"

A 26.3 "Healthy Together Latrobe" working with local partners to encourage take-up of healthier living initiatives.

A 26.4 Opportunities for using local networks, influencers and stakeholder representatives for locally tailored and relevant community (emergency) messaging, investigated.

A 26.5 Processes to facilitate engagement with known and trusted local people established.

A 26.6 Agencies disseminating DH emergency health risk information fully briefed on the content by DH prior to distribution

Progress

DHHS progress evidence reflects that funding has been secured to recruit a community engagement officer for 12 months who will drive local engagement and work together with the Latrobe community to address the actions particularised in Affirmation 26. At the time of receipt of final evidence for this report a recruitment process was underway. DHHS have advised that in the 2014-15 financial year additional funding was provided to the Latrobe City Council for the Healthy Together Latrobe initiative.

Progress evidence from DHHS also reflects that a new equity and participation policy is under development. This policy is to address consumer, carer and community participation, diversity and cultural responsiveness. It is also intended to enhance local engagement on health issues. DHHS evidence also identifies a range of related actions within the IMP linked to Affirmation 26. These include the community education/engagement/communication components for air quality (smoke/PM$_{2.5}$ and carbon monoxide) matters. DHHS is the lead agency for Recommendation 9 (development of the State Smoke Framework) which incorporates specific actions related to community engagement. These works also involve other key agencies through the Emergency Response and Recovery Working Group (alternatively named the State Smoke Working Group) to ensure a coordinated approach to engagement and education programs. These actions are discussed in more detail at Recommendation 9.

The Monash University's long term health study contract (recommendation 10), requires a community briefing to be prepared and included in its Annual Report due in October 2015. A Community Advisory Committee, which included a number of local community members, has been established to support this process. This is discussed in more detail at Recommendation 10.

The IM notes the evidence of progress regarding this affirmation and acknowledges the related matters elsewhere in this report. These include:

> Recommendations 7-9 related to air quality and allied messaging

> Recommendation 10 providing for community representation on the long term health study

> Recommendation 11 concerning the State's emergency public communications strategies, and

> Recommendation 12 concerning utilisation of existing trusted local networks.

This Affirmation does not have a due date specified and it will therefore be the subject of recurrent reporting.

Finding: The IM considers that this Affirmation is progressing satisfactorily and will revisit this matter in the 2016 Annual Report.

2 CHAPTER 2
GDF SUEZ IMPLEMENTATION COMMITMENTS

Recommendation 13

GDF SUEZ revise its Emergency Response Plan, to:

> require an increased state of readiness on days of total fire ban;
> require pre-establishment of an Emergency Command Centre;
> require pre-positioning of an accredited Incident Controller as Emergency Commander; and
> require any person nominated as Emergency Commander to have Incident Controller accreditation and proficiency in the use of the Australasian Inter-service Incident Management System.

Implementation Actions

Action		Due Date	Status
R13	**GDF SUEZ Emergency Response Plan to be revised to:**		
R13.1	Require an increased state of readiness on days of total fire ban.	March 2015	Complete
R13.2	Require pre-establishment of an Emergency Command Centre.	March 2015	Complete
R13.3	Require pre-positioning of an accredited Incident Controller as Emergency Commander.	March 2015	Complete
R13.4	Require any persons nominated as Emergency Commander to have incident controller accreditation and proficiency in the use of the AIIMS.	March 2015	Complete

Affirmations Linked to Recommendation 13

GDF SUEZ Affirmation 1
GDF SUEZ nominate a group of staff to be trained in the Phoenix Rapid-fire modelling tool prior to the 2014-2015 fire season.

GDF SUEZ Affirmation 2
GDF SUEZ offer enhanced training prior to the 2014-2015 fire season and on an ongoing basis, to personnel who are intended to perform a role under the emergency command structure and relevant emergency service agencies.

GDF SUEZ Affirmation 3
GDF SUEZ establish an emergency command structure at the mine to deal with Extreme Fire Danger Days.

GDF SUEZ Affirmation 4
GDF SUEZ notify Country Fire Authority (CFA) of the identity and contact details of those personnel holding those (emergency command) roles.

GDF SUEZ Affirmation 5
On Extreme Fire danger Days, GDF SUEZ ensure more personnel are rostered on and additional contractors are available for dedicated fire protection duties.

GDF SUEZ Affirmation 6
GDF SUEZ upgrade signage within the mine to make orientation easier for non-mine personnel.

GDF SUEZ Affirmation 12
GDF SUEZ nominate a representative to attend the meetings of the Municipal Fire Prevention Committee convened by Latrobe City Council.

GDF SUEZ Affirmation 13
GDF SUEZ nominate designated people to be in attendance at the CFA Incident Control Centre during an emergency which threatens the mine.

Photo (left): Photo used with the permission of CFA.

Implementation Actions

Action		Due Date	Status
GDF A1.1	Personnel nominated by GDF SUEZ to be trained by the CFA in the use of the Phoenix Rapid-fire modelling tool.	March 2015	Complete
GDF A2.1	Staff intended to perform a role under the emergency command structure to receive enhanced emergency management training.	December 2014	Complete
GDF A2.2	GDF SUEZ to invite emergency services agencies to participate in fire / emergency training exercises at the mine.	December 2014	Complete
GDF A3.1	GDF SUEZ to revise its fire and emergency policies and procedures to provide for an emergency command structure to be established on extreme fire danger days.	March 2015	Complete*
GDF A3.2	GDF SUEZ establish an emergency command structure on extreme fire danger days in accordance with its revised fire and emergency policies and procedures	July 2015	Complete*
GDF A4.1	GDF SUEZ to revise its fire and emergency policies and procedures to provide for the CFA to be issued with a copy of documentation on extreme fire danger days identifying designated emergency command personnel and their contact details.	March 2015	Complete*
GDF A4.2	GDF SUEZ to establish an emergency command structure on extreme fire danger days in accordance with its revised procedures.	July	Complete*
GDF A5.1	GDF SUEZ to revise its fire and emergency policies and procedures to provide for more staff and contractors to be available for dedicated fire protection duties.	March 2015	Complete*
GDF A5.2	GDF SUEZ to provide for more staff and contractors on extreme fire danger days, available for dedicated fire protection duties, in accordance with its revised fire and emergency policies and procedures.	July	Complete*
GDF A6.1	Orientation signage in mine upgraded.	March 2015	Complete
GDF A12.1	GDF representative nominated to attend Latrobe City Council Municipal Fire Prevention Committee meetings.	March 2015	Complete
GDF A13.1	GDF SUEZ nominate people to attend a CFA Incident Control Centre during an incident which threatens the mine.	March 2015	Complete*

Progress

R13.1 GDF SUEZ Emergency Response Plans revised to require an increased state of readiness on days of total fire ban (TFB)

R13.2 Require pre-establishment of an Emergency Command Centre

R13.3 Require pre-positioning of an accredited Incident Controller as Emergency Commander

GDF SUEZ's Emergency Response Plan for the Hazelwood Mine was revised in February 2015. The Plan is supported by Fire Instructions which were revised in December 2014 and again in February 2015. During February 2015, GDF SUEZ also produced revised Guidelines for Season and Period Specific Fire Readiness and Mitigation Planning. The Fire Instructions contain specific directions for mine personnel on all forecast days of high, severe or extreme (including TFBs) fire danger.

GDF SUEZ ensures that an increased state of readiness is achieved on TFB's by preparing and distributing a Mine Fire Readiness Plan on the day prior to the TFB in accordance with Appendix 2 of the Mine Guidelines for Season and Periodic Specific Readiness and Mitigation Planning. The IM has inspected evidence of several such plans which were prepared and actioned on severe and extreme fire danger days during the 2014-15 fire season.

On the night prior to TFBs, all 20 series conveyor sprays are activated on an intermittent basis as a risk reduction measure. From 7am until 9pm on the day of the declared TFB, the instructions require significant additional resourcing throughout the mine. This includes the continued spraying of conveyers, extended shift rosters, cancellation of all hot work activities, rostering specialist staff (for example, fire observers), intermittent wetting down of operational, non-operational and worked out areas, mobile patrol crews, plant and equipment checks and patrolling, deploying two operational water tankers and additional mine control centre staffing.

Section 6.4 of the Fire Instructions requires the pre-establishment of a fully operational Emergency Command Centre (ECC) on forecast days of extreme fire risk. The ECC must be attended by the rostered Emergency Commander who is an accredited Incident Controller between the hours of 8am and 7pm. The Emergency Commander in conjunction with the Emergency Services Liaison Officer must ensure that the ECC is open, staffed and fully functional. This includes establishing explicit communication arrangements with the CFA and assigning any additional resources that the services supervisor considers may be required to fire readiness activities.

These requirements are clearly described in a Mine Fire Risk and Readiness matrix which is included as Appendix 4 in the instructions. The instructions include accountability checklists for all emergency management roles with specified responsibilities under high, severe and extreme fire danger days. They also include detailed instructions for all mine staff under such circumstances, not solely designated emergency management personnel.

Finding: The IM considers R13.1, R13.2 and R13.3 have been implemented satisfactorily.

R13.4 Require any persons nominated as Emergency Commander to have incident controller accreditation and proficiency in the use of the AIIMS.

Throughout 2014-15, thirty-five GDF SUEZ employees attended formal Introduction to AIIMS training.

The IM has seen evidence demonstrating that all nominated Emergency Commanders rostered during 2014-15 are accredited Incident Controllers. At the time of publishing this report, twelve GDF SUEZ employees held Australian School of Emergency Management Level 2 Incident Controller accreditation.

Finding: The IM considers R13.4 has been implemented satisfactorily.

GDF A1.1 Personnel nominated by GDF SUEZ to be trained by the CFA in the use of the Phoenix Rapid-fire modelling tool

The Inquiry noted that although the CFA indirectly provided predictive fire mapping information to GDF SUEZ on the evening prior to the outbreak of the Hazelwood Mine fire via the Phoenix Rapid-fire modelling tool, GDF SUEZ personnel were not familiar with the technology. This led GDF SUEZ to make the above commitment which was adopted as an affirmation in the Inquiry Report.

GDF SUEZ nominated 12 personnel to be trained in the use of the Phoenix Rapid-fire modelling tool. The CFA delivered a three hour Introduction to Phoenix Modelling training session for these personnel at Hazelwood on Tuesday 28 October 2014. Two of the personnel were from GDF SUEZ Loy Yang B power station. The session provided a high level overview including practical examples of the products that the tool can produce and how to interpret the information.

Further to the commitment to training, GDF SUEZ has established a group email address for trained staff. This email has been provided to CFA who use this for transmitting all Phoenix Rapid-fire mapping information. This ensures that in future information goes directly to those staff trained in its application.

Finding: The IM considers GDF A1.1 has been implemented satisfactorily.

GDF A2.1 GDF SUEZ staff intended to perform a role under the emergency command structure to receive enhanced emergency management training

GDF A2.2 GDF SUEZ to invite emergency services agencies to participate in fire/emergency training exercises at the mine

In addition to training relevant staff in the use of AIIMS and Phoenix Rapid-Fire modelling tool as described above at R13.4 and A1.1, GDF SUEZ conducted a comprehensive schedule of enhanced training sessions and drills for all staff responsible for performing a senior role under the emergency command structure prior to the 2014-15 fire season. This involved approximately eight exercises and six drills between February and December 2014 covering emergency planning, fire, accident, rescue, counter terrorism and evacuation. This is considerably more than in 2013-14 when five exercises and three drills were conducted.

All activities involved the application of GDF SUEZ's Emergency Response Plan, standard operating procedures and specific skills. Debriefs were conducted after each session and detailed Lessons Learnt Reports were produced that included a list of recommendations prioritised into action items with responsible officers and due dates nominated. Personnel from relevant regional emergency services agencies such as Victoria Police, VicSES, CFA and Ambulance Victoria were all invited to attend theses exercises.

In addition to inviting agency personnel to participate in exercises, GDF SUEZ conducted two familiarisation sessions for local CFA brigade members. On Tuesday 11 November 2014, all CFA brigade members in the Morwell Group that could possibly be turned out to a fire at the mine (23 brigades) were invited to the mine. The evening included an operational overview briefing, guided tour, question and answer session preceded by a BBQ meal. Approximately 50 CFA operational and management brigade members attended the evening. A second similar session was conducted at the mine on 31 March 2015 for CFA Traralgon group brigade members. Approximately 50 CFA members also attended this session. GDF SUEZ also hosted Victoria Police for a site tour familiarisation visit and review of security procedures on Tuesday 7 November 2014.

GDF SUEZ continued to develop and deliver an extensive schedule of emergency exercises and drills throughout 2015, in conjunction with relevant emergency services agencies.

Finding: The IM considers actions GDF A2.1 and GDF A2.2 have been implemented satisfactorily.

GDF A3.1 GDF SUEZ to revise its fire and emergency policies and procedures to provide for an emergency command structure to be established on extreme fire danger days

GDF A3.2 GDF SUEZ establish an emergency command structure on extreme fire danger days in accordance with its revised fire and emergency policies and procedures

As reported above, Recommendation 13 of the HMFIR requires GDF SUEZ to increase its state of readiness on days of TFBs. In evidence to the Inquiry, GDF SUEZ committed to increase its state of readiness on days of extreme fire danger as expressed in a number of affirmations including A3.1 and A3.2. Days of extreme fire danger are not necessarily declared TFB's. The IM is pleased to note that in practice however, to ensure an increased level of readiness, GDF SUEZ has been establishing emergency command structures on days of either severe or extreme fire danger, irrespective of TFB declarations. During the 2014-15 fire season GDF SUEZ issued fire readiness plans for five days. Three of these days were TFB's and two were days of severe fire danger.

Finding: The IM considers GDF A3.1 and GDF A3.2 have largely been acquitted via the actions implemented in response to Recommendation 13 above. As the commitment to establish an emergency command structure on extreme fire danger days is ongoing however, the IM will revisit GDF A3.1 and A3.2 in the 2016 Annual Report.

GDF A4.1 GDF SUEZ to revise its fire and emergency policies and procedures to provide for the CFA to be issued with a copy of documentation on extreme fire danger days identifying designated emergency command personnel and their contact details

GDF A4.2 GDF SUEZ to establish an emergency command structure on extreme fire danger days in accordance with its revised procedures

As reported in relation to Recommendation 3, GDF SUEZ's Emergency Response Plan was revised in February 2015. GDF SUEZ also produced Guidelines for Season and Period Specific Fire Readiness and Mitigation Planning. These guidelines contain specific instructions for the distribution of Mine Fire Readiness Plans on forecast days of extreme fire danger which contain the contact details for the GDF SUEZ nominated Emergency Commander and Emergency Service Liaison Officer. The distribution includes email addresses for both the CFA Regional Control Centre and the CFA District Operations Manager. GDF SUEZ has established a group email address which ensures that Mine Fire Readiness Plans are distributed concurrently to all relevant GDF SUEZ and CFA personnel.

The IM has assessed evidence of the preparation and distribution of Mine Fire Readiness Plans during the 2014-15 fire season in accordance with GDF SUEZ's revised emergency policies and procedures including positive feedback received from the CFA.

Finding: The IM considers GDF A4.1 and A4.2 have been implemented satisfactorily. As indicated under GDF A3.1 and A3.2 above however, the commitment to establish an emergency command structure on extreme fire danger days is ongoing and accordingly the IM will revisit GDF A4.1 and A4.2 in the 2016 Annual Report.

GDF A5.1 GDF SUEZ to revise its fire and emergency policies and procedures to provide for more staff and contractors to be available for dedicated fire protection duties.

GDF A5.2 GDF SUEZ to provide for more staff and contractors on extreme fire danger days, available for dedicated fire protection duties, in accordance with its revised fire and emergency policies and procedures.

As discussed under Recommendation 3, GDF SUEZ's revised fire and emergency policies and procedures (Emergency Response Plan, Fire Instructions and Guidelines for Season and Period Specific Fire Readiness and Mitigation Planning) ensure that more staff and contractors are available for dedicated fire protection duties and that more are rostered on duty on extreme fire danger days.

Specific requirements on extreme fire danger days include extended shift rosters, cancellation of all hot work activities, rostering additional specialist staff including fire observers and mobile patrol crews, more plant and equipment checks, more patrolling, deployment of two operational water tankers and provision of additional mine control centre staffing.

Finding: The IM considers GDF A5.1 and A5.2 have been implemented satisfactorily. As A5.2 is an ongoing commitment however, the IM will revisit this action in the 2016 Annual Report.

GDF A6.1 Orientation signage in the (Hazelwood) mine upgraded.

Rather than simply upgrading existing signage, during 2014-15 GDF SUEZ completely redesigned and reinstalled new signage throughout the mine. The new signage is based upon an alpha numeric grid pattern. Over 100 signs have been erected across the entire site. The IM inspected these signs which in addition to providing a grid reference (eg C-8) are also logically named in terms of direction, elevation and destination. Examples include Three Level North Road, Eastern Overburden Circuit, Drilling Depot Road and Southern Perimeter Road. The signs also indicate routes (numbered) within the mine for specific transport and haulage purposes. Maps showing the new grid references and road signage are now incorporated into GDF SUEZ revised Emergency Response Plan.

Finding: The IM considers GDF A6.1 has been implemented satisfactorily.

New signage erected in the Hazelwood mine (Photo: IM).

GDF A12.1 GDF representative nominated to attend Latrobe City Council Municipal Fire Prevention Committee meetings

On 11 September 2015, two employees were nominated to represent GDF SUEZ on the Latrobe City Council Municipal Fire Management Planning Committee. GDF SUEZ has been actively engaged in the committee attending all meetings since this date. Membership, which is detailed within the committee's Terms of Reference, was formally revised at the 3 March 2015 meeting to include GDF SUEZ and a number of other local essential services provider representatives.

Finding: The IM considers GDF A12.1 has been implemented satisfactorily.

GDF A13.1 GDF SUEZ nominate people to attend a CFA Incident Control Centre (ICC) during an incident which threatens the mine

In August 2014 GDF SUEZ nominated two senior employees who will attend the CFA ICC in Traralgon during an emergency as the senior Hazelwood Liaison and Advisor. There was no relevant CFA ICC established during the 2014-15 fire season as no incidents occurred that threatened the mine.

Finding: The IM considers GDF A13.1 has been implemented satisfactorily. As attendance at the CFA ICC during incidents that threaten the mine is an ongoing requirement the IM will revisit GDF A13.1 in the 2016 Annual Report.

Recommendation 14

GDF SUEZ establish enhanced back-up power supply arrangements that do not depend wholly on mains power, to:

> ensure that the Emergency Command Centre can continue to operate if mains power is lost; and

> ensure that the reticulated fire services water system can operate with minimal disruption if mains power is lost.

Implementation Actions

Action		Due Date	Status
R14	GDF SUEZ establish enhanced back-up power supply arrangements which:		
R14.1	Enables the Emergency Command Centre to continue to operate if mains power is lost.	March 2015	Complete
R14.2	Enables the reticulated fire services water system to operate with minimal disruption if mains power is lost.	June 2015	Complete

Affirmations Linked To Recommendation 14

GDF SUEZ Affirmation 7
GDF SUEZ negotiate with Ausnet Services regarding a feasibility study to upgrade the MHO substation from temporary to permanent standard.

Implementation Action

Action		Due Date	Status
GDF A7.1	Feasibility study to upgrade MHO substation from temporary to permanent standard undertaken.	June 2015	Complete

Progress

R14.1 GDF SUEZ establish enhanced back-up power supply arrangements which enables the Emergency Command Centre to continue to operate if mains power is lost

Generator to provide back up power to the ECC (Photo: IM).

The Hazelwood Mine Emergency Command Centre (ECC 1) is located in building 97, the Mine Training Centre. Power to this building is provided by mains supply. The building relies heavily upon electricity to function effectively as an emergency command facility, especially in terms of communications, computers, lighting and general office activities. In 2014, a back up generator was installed in front of the building to provide alternative power in the event of a mains power supply failure. The generator, which has the capability to supply the building for eight to ten hours on a single tank of fuel, is hard wired into the main switch board with an isolation switch. In the case of loss of mains power, the generator is started manually and the building switched to generator supply.

The IM inspected the generator and noted the simple start up and shut down procedures with photographs and diagrams located with the generator. Twelve staff (six Emergency Commanders and six Emergency Services Liaison Officers) have been trained in the use of the generator and the generator familiarisation is part of all ECC exercises. A regular service schedule has been implemented and inspections and testing occurs monthly.

There is a second Emergency Command Centre for the Hazelwood Mine. The back-up (redundant) centre (ECC2) is located in the 2030 building, approximately 1.5 kilometres south of ECC1. ECC2 is not connected to mains power. Power is supplied directly from the power station itself. The supply comes from station boards that have multiple supply arrangements including the ability to be switched from the 22kV yard. Station boards also have emergency generators connected to them. The IM accepts GDF SUEZ advice therefore that a stand alone back up generator is not required to ensure continuity of power supply to ECC2.

Finding: The IM considers R14.1 has been implemented satisfactorily.

R14.2 GDF SUEZ establish enhanced back-up power supply arrangements which enables the reticulated fire services water system to operate with minimal disruption if mains power is lost.

The IM inspects the pumping station's connections to Hazelwood mine power station's internal power supply via 2 high voltage underground cables (Photo: IM).

Power supply to the Hazelwood Mine reticulated fire services system has been comprehensively redesigned since the 2014 fire. The original star connection of internal power lines between the three Ausnet Services substations supplying power to the mine plant has been upgraded to a ring configuration. This now enables any of the major pumping stations to be supplied from any one of the three substations, significantly enhancing redundancy throughout the reticulated fire services water system. GDF SUEZ replaced all of their damaged timber power line poles with concrete poles. There are still some timber Ausnet Services power line poles within the mine.

Redundancy has been further extended by connecting the two pumping stations on the Hazelwood Pondage (pump houses 50 and 53) to the power station's internal power supplies via two high voltage underground cables. This means that in addition to multiple mains redundancy, the reticulated fire service water system is now connected to an alternative power supply should all mains power be lost.

Finding: The IM notes the substantial investment by GDF SUEZ in establishing comprehensive power redundancy arrangements for the Hazelwood Mine reticulated fire service water system. The IM considers action R14.2 has been implemented satisfactorily.

GDF A7.1 Feasibility study to upgrade MHO substation from temporary to permanent standard undertaken

The advantage of upgrading the MHO substation from temporary to permanent standard would be to enable the provision of power to Hazelwood mine during emergency situations where there is a loss of 66kV power form the Morwell West substation. GDF SUEZ engaged independent consultants Jacobs to conduct the feasibility study in strict accordance with Ausnet Services requirements. This included determining the impact of new customer connections onto the existing distribution network. Jacobs delivered their report to GDF SUEZ on 2 April 2015.

In summary, the report found that the existing distribution network does not have enough spare capacity to accommodate the proposed upgrade. The estimated impact of thermal loading on the network and the MHO substation in particular does not comply with Ausnet Services requirements.

Since the mine fire, GDF SUEZ has completed a range of works to improve power supply and reliability to the mine. These include replacing one of Ausnet Services 66kV feeder supplies with concrete poles and strategically installing isolating structures. The independent consultant's report noted that these works have made the 66kV feeders supplying the mine quite secure. GDF SUEZ has also installed alternative power supplies from the power station to the pump house to further enhance power reliability. In light of the findings of the Jacobs report, in April 2015 GDF SUEZ advised Ausnet Services that it would not proceed with the upgrade of the MHO substation to a permanent standard.

Finding: The IM considers GDF A7.1 has been implemented satisfactorily.

Recommendation 15

GDF SUEZ:

> conduct, assisted by an independent consultant, a risk assessment of the likelihood and consequences of fire in the worked out areas of the Hazelwood mine, and an assessment of the most effective fire protection for the exposed coal surfaces;

> prepare an implementation plan that ensures the most effective and reasonably practicable controls are in place to eliminate or reduce the risk of fire; and

> implement the plan.

Implementation Actions

Action		Due Date	Status
R15.1	Conduct, assisted by an independent consultant, a risk assessment of the likelihood and consequences of fire in the worked out areas of the mine, including an assessment of the most effective fire protection means for exposed coal surfaces.	June 2015	Complete
R15.2	Fire Risk Implementation Plan prepared.	June 2015	Ongoing
R15.3	Plan implemented.	December 2015	Ongoing

Affirmations Linked to Recommendation 15

Note: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 & 16.

Affirmation 8

GDF SUEZ initiate a programme for reducing vegetation in the worked out areas of the northern batters to reduce fire risk commencing in the areas closest to Morwell.

Affirmation 9

GDF SUEZ maintain and continue to use the additional pipe system located in the northern batters which was installed during the 2014 fire and install additional pipework as identified.

Affirmation 10

GDF SUEZ conduct a review of the current pipework and condition in the areas of the mine other than the eastern section of the northern batters.

Affirmation 11

On Extreme Fire Danger days GDF SUEZ instigate wetting down of non-operational areas.

Affirmation 17

GDF SUEZ undertake the rehabilitation set out in Exhibit 88 – Statement of James Faithful, annexure 5 and discuss the appropriate timing of each sequence of rehabilitation with the Department of State Development, Business and Innovation.

Implementation Actions

Action		Due Date	Status
GDF A8.1	Feasibility study to upgrade MHO substation from temporary to permanent standard undertaken.	March 2015	Complete
GDF A9.1	Northern batters pipe system maintained and utilised, and added to as necessary	March 2015	Complete
GDF A10.1	Review of current mine pipework and condition, other than in the eastern section of the northern batters, conducted.	June 2015	Complete
GDF A11.1	GDF SUEZ to revise its fire and emergency policies and procedures to provide for non operational mine areas to be wetted down intermittently on extreme fire danger days.	March 2015	Complete
GDF A11.2	GDF SUEZ to wet down non-operational mine areas on extreme fire danger days ion accordance with its revised fire and emergency policies and procedures.	July	Complete*
GDF A17.1	Rehabilitation works, as set out in Exhibit 88, undertaken.	June 2015	Complete

Progress

R15.1 Conduct, assisted by an independent consultant, a risk assessment of the likelihood and consequences of fire in the worked out areas of the mine, including an assessment of the most effective fire protection means for exposed coal surfaces

GDF SUEZ engaged independent engineering and environment consultants, GHD, in October 2014 to conduct this assessment. GHD delivered the *Hazelwood Mine Fire Preparedness Support Risk Assessment Report* in April 2015. This is a comprehensive report. Each step of the risk assessment process was conducted via independently facilitated multidisciplinary workshops involving engineers, operators and maintenance personnel ensuring the inclusion of local site knowledge and experience.

The scope of this risk assessment was not limited to the worked out areas of the mine. It also included the assessment of the likelihood and consequence of fire in all operating areas, the coal bunker and areas above grass level. The IM notes GDF SUEZ's commitment to attain a comprehensive understanding of fire risk across the entire mine site. The report identified 78 risk reduction actions which, if implemented successfully, will ensure that all six existing critical fire risk controls achieve a rating of satisfactory or high. This would equate to approximately a 34% reduction in coal fire risk level at Hazelwood. The report contains six major recommendations and three additional recommendations. The three additional recommendations relate to recurrent risk assessment and extending risk assessment beyond fire to all major mining hazards applicable to the Hazelwood mine.

The consultant's report also states that risk assessment alone does not manage risk and urges GDF SUEZ to develop an implementation plan containing specific accountabilities, resources and timeframes and to carry out the plan. This advice is entirely consistent with Recommendation 15 that requires the preparation and implementation of a fire risk plan.

GDF SUEZ provided a copy of the consultant's report to WorkSafe for consideration. The IM understands that GDF SUEZ response to this report will be considered by WorkSafe as part of its regulatory responsibility via the verification process which is described more fully at R4.5.

Finding: The IM considers R15.1 has been implemented satisfactorily.

R15.2 Fire Risk Implementation Plan prepared

Following receipt of the Hazelwood Mine Fire Preparedness Support Risk Assessment Report in April 2015, GDF SUEZ further engaged GHD to develop an implementation plan based upon the recommendations contained within the report. The scope of the works is to deliver a plan that ensures the most effective and reasonable practical controls are implemented to reduce or eliminate the risk of fire in the mine. The implementation plan was under development at the time of IM Annual Report.

Finding: The IM considers this matter is progressing satisfactorily and will revisit R15.2 in the 2016 Annual Report.

R15.3 Plan implemented

Finding: This matter cannot proceed until the implementation plan is produced. The IM will revisit R15.3 in the 2016 Annual Report.

GDF A8.1 GDF SUEZ initiate a programme for reducing vegetation in the worked out areas of the northern batters to reduce fire risk commencing in the areas closest to Morwell

Vegetation on the northern batters (i) being cleared (ii) levelled and (iii) planted to pasture (Photos: GDF SUEZ).

GDF SUEZ actively removed vegetation removal throughout 2014 prior to the commencement of the 2014-15 fire season. Vegetation (trees shrubs and grasses) removal commenced in August 2014 in the worked out areas of the northern batters and eastern batters closest to Morwell. Works generally proceeded in an anti-clockwise direction encompassing the north-west batters towards the currently operational West Field. In addition to removing vegetation from the batters, vegetation was also removed from the floor of the mine and on adjoining land above the mine.

The IM reviewed photographic (including aerial) evidence of vegetation before and after the mine fire. Areas cleared of vegetation were also inspected during site visits. The inspection included discussions with the Mine Environmental Rehabilitation Officer regarding works completed and further works planned. Discussions were also conducted with local CFA officers familiar with the mine before and after the fire. The IM was also provided with detailed accounting records substantiating thousands of hours of labour invested into vegetation removal.

The IM notes the substantial commitment of GDF SUEZ to remove potential fire fuel prior to the 2014-15 fire season. Further, the IM notes an ongoing vegetation removal program for small pockets of more difficult to access residual vegetation is well developed and in progress.

Finding: The IM considers GDF A8.1 has been implemented satisfactorily.

GDF A9.1 Northern batters pipe system maintained and utilised, and added to as necessary

Firefighting pipeline , hydrants and sprinklers on the northern batters of the Hazelwood mine (Photo: IM).

During the mine fire on 13 February 2014, the CFA Incident Controller in consultation with GDF SUEZ staff decided that extra pipework was required to effectively suppress the fire. Work commenced on 14 February 2014, ultimately leading to the installation of almost ten kilometres of additional 300 millimetre diameter steel water pipes. The Incident Controller believed that the additional fixed fire fighting infrastructure would make an important ongoing contribution to fire safety in the mine beyond the fire.

In March 2015 the IM visited the mine and inspected the additional pipework installed during the fire which remains in place and operational. In addition the IM inspected an additional six kilometres of pipework installed since the fire which includes operational sprinklers and hydrants at regular intervals. This pipework is consistent with the commitment given in evidence to the Inquiry by GDF SUEZ. Further to this additional 16 kilometres of pipework, improvements to power and pump redundancy as described in Recommendation 14 have significantly enhanced the reliability of fixed fire fighting infrastructure within the mine.

Finding: The IM considers GDF A9.1 has been implemented satisfactorily.

GDF A10.1 Review of current mine pipework and condition, other than in the eastern section of the northern batters, conducted

GDF SUEZ commissioned GHD as independent consultants during 2014 to not only assess and report the current condition of pipework but importantly also to comment on the overall standard of the reticulated fire services network and to propose actions that may be required to improve the network. The consultants adopted a risk based approach classifying pipework defects via a simple (three level) likelihood and consequence matrix.

GHD delivered their report to GDF SUEZ in January 2015. The IM notes the sound methodological approach adopted by GHD which ensured the delivery of a focussed practical report indicating clear priority areas for attention. The report findings, recommendations and priorities are being progressed by GDF SUEZ's Services Superintendent in collaboration with their Civil Asset Engineer.

Finding: The IM considers GDF A10.1 has been implemented satisfactorily.

GDF A11.1 GDF SUEZ to revise its fire and emergency policies and procedures to provide for non operational mine areas to be wetted down intermittently on extreme fire danger days

GDF A11.2 GDF SUEZ to wet down non-operational mine areas on extreme fire danger days in accordance with its revised fire and emergency policies and procedures

GDF SUEZ's Emergency Response Plan and associated Fire Instructions were reviewed before and after the 2014-15 fire season. The current version of the Fire Instructions (27 February 2015) specifically requires Services Supervisors to monitor and record forecast weather conditions on days of severe and extreme fire risk.

Section 6 of the instructions provides a comprehensive set of fire readiness procedures and actions to be implemented, including specifying those areas to be wetted down during forecast periods of high fire risk. Appendix 4 to the instructions provides a clear mine fire risk and readiness matrix indicating those areas are to be wetted down, including non operational areas, under specific conditions.

The Fire Instructions are supported by Guidelines for Season and Period Specific Fire Readiness and Mitigation Planning. Under the instructions, during forecast periods of severe and extreme fire risk, Services Supervisors are required to issue a Mine Fire Readiness Plan (a template for which is provided at Appendix 2 of the Fire Instructions) in accordance with these guidelines. The IM notes the active implementation of these revised procedures including the issuing of Mine Fire Readiness Plans and the wetting down of non operational areas during extreme fire danger periods.

As reported in relation to Recommendation 13, there were five days of severe or extreme fire danger including three TFBs during the 2014-15 fire season. GDF SUEZ issued fire readiness plans for these days consistent with revised fire and emergency policies and procedures. These plans included the allocation of additional resources on the respective days to undertake wetting down activities in non operational areas.

Finding: The IM considers GDF A11.1 and GDF A11.2 have been implemented satisfactorily. As action GDF A11.2 is an ongoing commitment however, the IM will revisit this action in the 2016 Annual Report.

GDF A17.1 Rehabilitation works, as set out in Exhibit 88, undertaken.

Rehabilitation works area C (i) laying back the batters and (ii) covered with topsoil and planted to pasture (Photos: GDF SUEZ)

Substantial progress was made during 2014 in mine rehabilitation as committed to by GDF SUEZ and referred to in the Inquiry Report as Exhibit 88, Annexure 5.

The northern batters rehabilitation plan incorporates three areas comprising nine hectares in total. Area A, closest to Morwell comprised 4.4ha, area B 3.4 ha and area C 1.2ha. Works required to rehabilitate these areas included the removal of all vegetation, significant earthworks to lay back the batters to a 1:3 gradient, clay capping all exposed coal faces, covering clay surfaces with topsoil and then planting to grasses. This approach enables future vegetation (grasses) to be efficiently managed by grazing and /or mechanical means to reduce fuel as a fire risk.

The IM inspected the rehabilitation works in March 2015, noting well established pasture on area A, topsoil ready for planting on area B and works well advanced in spreading topsoil over clay capping in preparation for seeding on area C. Rehabilitation of the northern batters as committed to by GDF SUEZ in evidence to the HMFI (Exhibit 88, annexure 5) is now complete.

An additional 11.6 hectares of land on the southern batters has been rehabilitated since the northern batters were completed. The IM notes that mine rehabilitation is an ongoing requirement of the Hazelwood mine licence. The reopened Inquiry will also inquire into and report on short, medium and long term rehabilitation options for the three Latrobe Valley coal mines, including Hazelwood.

Finding: The IM considers GDF A17.1 has been implemented satisfactorily.

Recommendation 16

GDF SUEZ:

> review its 'Mine Fire Service Policy and Code of Practice' so that it reflects industry best practice and ensures that, by taking a risk management approach, it is suitable for fire prevention, mitigation and suppression in all parts of the Hazelwood mine; and

> incorporate the revised 'Mine Fire Service Policy and Code of Practice' into the approved work plan for the Hazelwood mine.

Implementation Action

Action		Due Date	Status
R16.1	GDF SUEZ reviews its "Mine Fire Service Policy and Code of Practice" so that it reflects industry best practice and ensures that, by taking a risk management approach, it is suitable for fire prevention, mitigation and suppression in all parts of the Hazelwood mine.	September 2015	Ongoing
R16.2	GDF SUEZ to apply to DEDJTR for its revised Mine Fire Service Policy and Code of Practice to be incorporated into the Hazelwood Mine Work plan.	December 2015	Ongoing

Affirmations Linked to Recommendation 16

Note: Affirmations 8, 9, 10 & 11 are linked to both recommendations 15 & 16.

Progress

R16.1 GDF SUEZ reviews its Mine Fire Service Policy and Code of Practice (MFSP&COP) so that it reflects industry best practice and ensures that, by taking a risk management approach, it is suitable for fire prevention, mitigation and suppression in all parts of the Hazelwood mine

GDF SUEZ reviewed its MFSP&COP on several occasions during 2014-15 to ensure that it adopts a fire risk management approach across the entire mine site. The current version (1.18) was issued in May 2015. An independent consultant has also been engaged to critically review the revised document from an industry best practice perspective and to report to GDF SUEZ accordingly. Once this process is complete, GDF SUEZ will seek to have the MFSP&COP incorporated into the Hazelwood Mine Workplan by DEDJTR.

Finding: The IM considers R16.1 is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

R16.2 GDF SUEZ to apply to DEDJTR for its revised Mine Fire Service Policy and Code of Practice to be incorporated into the Hazelwood Mine Work plan

As indicated above, this process will proceed following completion of the independent consultant's assessment of the revised MFSP&COP.

Finding: The due date for R16.2 is December 2015. The IM considers this action is progressing satisfactorily and will revisit the action in the 2016 Annual Report.

Recommendation 17

GDF SUEZ adopt and apply the firefighter carbon monoxide response protocol.

Implementation Action

Action		Due Date	Status
R17.1	Firefighter carbon monoxide response protocol adopted.	September 2015	Complete*

Affirmations Linked to Recommendation 17

GDF SUEZ Affirmation 16
GDF SUEZ develop a Carbon Monoxide management protocol for firefighter and mine employee safety prior to the 2014/2015 fire season, in consultation with WorkSafe and CFA.

Implementation Action

Action		Due Date	Status
GDF A16.1	Firefighter and mine employee Carbon Monoxide management protocol developed.	December 2014	Complete*

Progress

R17.1 Firefighter carbon monoxide response protocol adopted

GDF A16.1 Firefighter and mine employee Carbon Monoxide management protocol developed

As indicated elsewhere in this report, GDF SUEZ revised the Hazelwood Mine Emergency Response Plan and the associated Fire Instructions during 2014-15. The Fire Instructions, which were revised in December 2014 and again in February 2015, contain revised procedures to be adopted by all personnel working within the mine where Carbon Monoxide is likely to be present (s11.7), reflecting CFA policies.

For all fires more than a few minutes duration, the procedures include the distribution of Carbon Monoxide monitors to individuals and workgroups in the fire vicinity, reporting atmospheric concentration levels to respective managers and following manager's instructions in terms of relocation or evacuation as required.

For major fires (those declared a "Full Blown Emergency" under s2.12 of the Mine's Emergency Response Plan), all employees and contractors in the fire's vicinity must follow (with certain exceptions) the CFA District 10 Standard Operating Procedure for Open Cut Coal Mine Fires (DSOP 10.1). DSOP 10. 1, which incorporates a Carbon Monoxide Management Procedure, is Appendix 1 of the Hazelwood Mine Emergency Response Plan.

The exceptions are specified in s11.7 and are because GDF SUEZ are primarily miners not firefighters. It is the view of GDF SUEZ that strict compliance with certain aspects of the CFA procedure could lead to unintended operational consequences for the mine. These concerns have been raised in writing with the CFA District Operations Manger and the ESC by GDF SUEZ on behalf of all Latrobe Valley coal mine operators. The IM understands that the concerns are subject to ongoing consideration by the Latrobe Valley Coal Mine Taskforce.

Finding: The IM notes that GDF SUEZ adopted DSOP 10.1 prior to the 2014-15 fire season as required. Given the matter of certain exceptions for mine personnel remains under discussion however, the IM will revisit GDF A16.1 in the 2016 Annual Report.

Recommendation 18

GDF SUEZ improve its crisis management communication strategy for the Hazelwood mine in line with international best practice.

Implementation Action

Action		Due Date	Status
R18.1	Crisis Management Communication Strategy improved.	March 2015	Complete*

Affirmations Linked to Recommendation 18

GDF SUEZ Affirmation 14
GDF SUEZ review its own communications protocol to ensure that during the response to a fire which is capable of impacting on the community, it is able to communicate messages to the community via any protocol adopted following the (communications) review by all agencies.

Implementation Action

Action		Due Date	Status
GDF A14.1	Communications protocol reviewed to ensure community emergency messaging capability is consistent with that utilised by all other agencies.	March 2015	Complete*

Progress

R18.1 Crisis Management Communication Strategy improved.

GDF A14.1 Communications protocol reviewed to ensure community emergency messaging capability is consistent with that utilised by all other agencies.

Section 9 of the Hazelwood Mine Emergency Response Plan, Communication with Media, Public & Stakeholders was improved as part of the overall review of the plan that occurred during 2014-15. Learnings from the mine fire have been incorporated into section 9, including recognising the need for a broad range of third parties to be advised in a timely way of all major emergencies. The section now also explicitly mentions the need to ensure that all public messaging is consistent with and authorised by the relevant control agency.

In addition to improving crisis management communication within the Emergency Response Plan, prior to the 2014-15 fire season GDF SUEZ revised the 2013 Corporate Affairs Response Procedure. The revised version (October 2014) now includes a set of ten guiding principles which substantially address many of the perceived shortcomings evident at the time of the mine fire in 2014. The procedure also now provides a number of templates to ensure consistency and accountability for all GDF SUEZ crisis communication processes.

Independent communications consultant Hughes Public Relations and Communication Counsel, was also engaged to review the revised procedure in light of the recommendations of the HMFI, including a comparison against international best practice, and the role of social media during crisis management. In summary, the consultant's report indicated that the procedure reflects the fundamentals of current best practice in crisis communication. The consultant did make a number of recommendations, primarily to increase online engagement which have been accepted by GDF SUEZ.

The HMFI also recommended that the State review and revise its communication strategy to ensure private operators of essential infrastructure are included in the coordination of public communications during emergencies. At the time of receipt of final evidence for this report that process was still in progress (see Recommendation 11).

Finding: The IM considers actions R18.1 and A14.1 have been implemented satisfactorily by GDF SUEZ. As the State is yet to complete its communications review however, the IM will revisit these actions in the 2016 Annual Report.

Other GDF SUEZ Affirmations Not Addressed Elsewhere In This Report

GDF SUEZ Affirmation 15
GDF SUEZ work with WorkSafe to review its Safety Assessment and Safety Management System in light of R5.3.21 and R5.3.23 of the Occupational Health and Safety Regulations 2007 (Vic).

Implementation Action

Action		Due Date	Status
GDF A15.1	Giving proper regard to OH&S Regulations, and in consultation with WorkSafe, GDF SUEZ Safety Assessment and Safety Management Systems for mine fire revised.	June 2015	Ongoing

Progress

GDF A15.1 Giving proper regard to OH&S Regulations, and in consultation with WorkSafe, GDF SUEZ Safety Assessment and Safety Management Systems for mine fire revised.

The extensive reviews and revisions of mine emergency management policies procedures and guidelines by GDF SUEZ documented elsewhere in this report (eg affirmation 11 and recommendation 13) contribute in part to improving safety management systems at Hazelwood.

In addition to these initiatives, GDF SUEZ has been working with WorkSafe as the OH&S regulator to review its approach to safety systems with a particular emphasis upon occupational health and safety requirements. WorkSafe provided input, as requested by GDF SUEZ in terms of the outcomes required overall via a comprehensive safety management system cycle that demonstrates controls operate effectively at the required performance standard.

GDF SUEZ conducted several internal review meetings and engaged an independent consultant in December 2014 to review and report on the company's safety management systems. The consultant has produced a number of documents as part of this process. GDF SUEZ Major Mining Hazard Review procedures and Safety Assessment and Safety Management Systems processes have been updated and provided to WorkSafe for consideration. At the time of receipt of final evidence for this report, a number of meetings had been held with WorkSafe to discuss the revised processes and a workshop was planned to demonstrate and analyse the Major Mining Hazard system in full in the near future.

Finding: The IM considers GDF A15.1 to be progressing satisfactorily. The IM will revisit A15.1 in the 2016 Annual Report.

Conclusion

In accordance with the requirements of my role as the HMFIM, this report includes my findings, and the reasons for them, on the progress made by the State and GDF SUEZ on implementing the actions and affirmations committed to by them in response to the recommendations in the report of the HMFI.

Regulatory agencies have made good progress in completing those actions in the IMP that address the need identified by the HMFI for the agencies to be better connected, take a broader interpretation in the application of legislative powers, to increase their regulatory capabilities and to adopt an active approach to the supervision of mine fire risk management.

It is also pleasing to report that GDF SUEZ has completed or made considerable progress in completing those actions for which they are responsible.

My role also obliges me to identify in my Annual Report any actions that I consider the Victorian Government should reasonably take to complete the relevant parts of the IMP. In accordance with this obligation and after broader consideration of my individual findings on implementation actions, I have concluded that there are a number of matters that require more focussed and intensive action by the State.

These matters are evident across a broad range of emergency management related undertakings of the State in the IMP that require:

> effective implementation of emergency management planning

> a joint program to assess prevention and preparedness controls on sites across Victoria

> development of an integrated emergency resource planning framework for the Latrobe Valley

> formalising the inclusion of essential industry providers in emergency management arrangements

> sustainable mechanisms for effective engagement across emergency, regulatory, industry and local government groups

> community engagement and the use of trusted local networks as an integral component of emergency management planning, and

> public emergency communications capabilities.

Reference to these matters can be found at Recommendations 2, 3, 4, 11, 12 and relevant linked affirmations. It is noted that in the IMP some of these commitments have no designated timelines for completion, however, ongoing activity to progress these matters is essential.

Accordingly, in my 2016 and 2017 Annual Reports I will be seeking evidence of significant improvement by the State in progressing relevant implementation actions that are in general terms directly related to ongoing emergency management reform in Victoria.

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Hazelwood Mine Fire Inquiry
Annual Report October 2015
Inspector-General for Emergency Management

Common terms
Common terms used throughout this document

Board of Inquiry	Hazelwood Mine Fire Board of Inquiry
Implementation and Monitoring Plan	*Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan,* October 2014
Inquiry	Hazelwood Mine Fire Inquiry
Inquiry Report	*Hazelwood Mine Fire Inquiry Report*
Second Submission	Hazelwood Coal Mine Fire Inquiry: Second Submission from the Victorian Government, June 2014
Taskforce	Coal Mines Emergency Management Taskforce
White Paper	*Victorian Emergency Management Reform White Paper*, December 2012

Acronyms
The following acronyms are used throughout this document

ABS	Australian Bureau of Statistics
AFAC	Australasian Fire & Emergency Service Authorities Council
AIIMS	Australasian Inter-service Incident Management System
ANZEMC	Australia and New Zealand Emergency Management Committee
CALD	culturally and linguistically diverse
CEMP	Community Emergency Management Plan
CFA	Country Fire Authority
CGEIG	Central Gippsland Essential Industries Group
DEDJTR	Department of Economic Development, Jobs, Transport & Resources
DELWP	Department of Environment, Land, Water & Planning
DHHS	Department of Health & Human Services
DJR	Department of Justice & Regulation
DPC	Department of Premier & Cabinet
EA	Emergency Alert
EMC	Emergency Management Commissioner
EMCOP	Emergency Management Common Operating Picture
EMJPIC	Emergency Management Joint Public Information Committee

EMMV	Emergency Management Manual Victoria
EMV	Emergency Management Victoria
EPA	Environment Protection Authority
GRSFMC	Gippsland Regional Strategic Fire Management Committee
HCMFIRG	Hazelwood Coal Mine Fire Inquiry Reference Group
IGEM	Inspector-General for Emergency Management
IM	Hazelwood Coal Mine Fire Implementation Monitor
IMP	*Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan*, October 2014
IMT	Incident Management Team
LGA	Local Government Area
LGV	Local Government Victoria
MAV	Municipal Association of Victoria
MECC	Municipal Emergency Coordination Centre
MEMEG	Municipal Emergency Management Enhancement Group
MEMP	Municipal Emergency Management Plan
MERP	Municipal Emergency Resourcing Program
MFB	Metropolitan Fire & Emergency Service Board
MOU	Memorandum of Understanding
OHS	Occupational Health and Safety
OMAC	Office of Multicultural Affairs and Citizenship
PHAP	Personal Hardship Assistance Program
REMC	Regional Emergency Management Committee
REMPC	Regional Emergency Management Planning Committee
SAP	Victorian Emergency Management Strategic Action Plan
SCRC	State Crisis and Resilience Council
SEMC	Security and Emergency Management Committee
SERP	State Emergency Response Plan
SOP	Standard Operating Procedure
SRN	Sector Resilience Network
VCF	Volunteer Consultative Forum
VICSES	Victoria State Emergency Service
VMIA	Victorian Managed Insurance Authority
WoVG	Whole of Victorian Government

Contents

Executive summary

On 9 February 2014, a fire began in the Hazelwood coal mine as a result of embers spotting from nearby bushfires. The fire burned for 45 days and was the largest and longest burning mine fire to occur in Victoria's Latrobe Valley. The impact of the fire was significant, in terms of the health of local communities, the economy, the environment and the resources required to contain the fire.

In March 2014, the Victorian Government appointed the Hazelwood Mine Fire Board of Inquiry to investigate the circumstances of the fire, including:

> the origin of the fire

> the firefighting response

> fire prevention and preparedness measures taken by the owner, operator and licensee of the mine and regulatory agencies

> the fire's impacts on the health and well-being of affected communities

> the response to the health emergency.

The Hazelwood Mine Fire Inquiry (the Inquiry) made a total of 18 recommendations for improvement, comprising 12 recommendations directed to the State and six directed to mine operator GDF SUEZ. These recommendations were in addition to the Hazelwood Mine Fire Board of Inquiry's records of affirmations of actions by the Victorian Government and GDF SUEZ that had already been announced or were underway.

The Inspector-General for Emergency Management (IGEM), together with the Hazelwood Mine Fire Inquiry Implementation Monitor (IM), have responsibility for reporting on the implementation progress of recommendations and associated affirmations and actions from the Inquiry.

The *Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan* (the Implementation and Monitoring Plan) (State Government of Victoria 2014a) assigned IGEM with responsibility for monitoring and reporting on the progress of 17 affirmations with a status of 'planned' or 'in progress' that fall within the scope of its role to:

> provide assurance to government and the community in respect of emergency management arrangements in Victoria

> foster continuous improvement of emergency management in Victoria[1].

Overall, IGEM has found that significant progress has been achieved following the Hazelwood mine fire. However, there is much work still to be done and IGEM will expect to see further progress in a number of areas during the next reporting period.

Summary of implementation progress

Affirmation status descriptors

IGEM assigned each affirmation a status based on an assessment of implementation progress. Table i describes each implementation status.

Table i: Implementation status descriptions

Status	Description
Complete	Affirmation has been implemented as planned.
Ongoing	Affirmation is in progress and is to be revisited in the 2016 Annual Report.

Completed affirmations

IGEM found that six of the 17 affirmations for which it has responsibility for monitoring have been implemented as planned (see Table ii).

Table ii: Completed affirmations

No.	Affirmation	Due date	Status	Lead agency
14	The State review emergency management communications arrangements across government commissioned by the State Crisis and Resilience Council, including consideration of: > the roles and functions of emergency communications committees > enhancing specialist crisis communications capability within government > the use of established local networks as a way to communicate during emergencies > additional emergency communications training for government employees > developing a coordinated approach to the use of social media by government during emergencies.	December 2014	Complete	EMV
15	The State conduct a National Review of Warnings and Information.	November 2014	Complete	EMV
27	The State improve communication around psycho-social support to communities affected by emergencies.	Not specified	Complete	DHHS
29	The State review the Personal Hardship Assistance Program and Implementation Guidelines for consistency and clarity of purpose.	July 2015	Complete	DHHS
32	The State improve relief and recovery information available to Culturally and Linguistically Diverse communities.	December 2014	Complete	DHHS
33	The State review relief and recovery communications and community engagement initiatives.	Not specified	Complete	DHHS

Affirmation 14

In December 2014, a review of emergency management communications arrangements across government was completed, therefore implementing this affirmation.

The review made several recommendations, which led to a number of actions including a review of the Emergency Management Joint Public Information Committee's (EMJPIC's) Terms of Reference, and direct reporting of EMJPIC to the State Crisis and Resilience Council (SCRC) through the Emergency Management Commissioner (EMC).

The review also saw the development of the *Whole of Victorian Government (WoVG) Crisis Communications Strategy* and the Social Media Capability Enhancement Pilot that commenced at the State Control Centre during the 2014–15 summer.

Affirmation 14 is linked to Recommendation 11 in the Implementation and Monitoring Plan. Although a review of the State's emergency communication arrangements has been undertaken, Recommendation 11, which is being addressed by the IM, is much more expansive than Affirmation 14.

Progress by the State in addressing Recommendation 11 is reported in detail in Chapter 1 of the IM's 2015 Annual Report.

Affirmation 15

Implementation of Affirmation 15 was achieved in November 2014 with the completion of the National Review of Warnings and Information. The review benchmarked best practice by identifying common challenges, emerging trends, innovation, and gaps in how government provides information to communities during emergencies.

Affirmations 27, 29, 32 and 33

The Department of Health and Human Services (DHHS) has introduced significant improvements to relief and recovery arrangements. Communities are now receiving more support in the form of psycho-social advice, an updated Personal Hardship Assistance Program and the expanded reach of relief and recovery information to culturally and linguistically diverse (CALD) communities.

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1   *Emergency Management Act 2013*, s. 62.

In March 2015, DHHS finalised the *Community Profiling Protocol and Template*, which provides guidance on preparing community profiles that directly support and inform the *WoVG*

Crisis Communications Strategy, which is prepared and enacted in response to a major emergency.

Ongoing affirmations

Eleven of the 17 affirmations remain ongoing (see Table iii).

Table iii: Ongoing affirmations

Ongoing	Affirmation	Due date	Status	Lead agency
6	The State implement actions set out in the White Paper on Emergency Management Reform to improve community awareness and education, and make information available during emergencies.	Not specified	Ongoing	EMV
7	The State strengthen industry engagement with the community.	Not specified	Ongoing	EMV
8	The State improve the State planning framework for emergencies.	Not specified	Ongoing	EMV
10	The State improve integration of industry in the response to an emergency.	Not specified	Ongoing	EMV
11	The State improve training for career and volunteer firefighters to include lessons highlighted by the Hazelwood mine fire.	Not specified	Ongoing	CFA & MFB
12	The State improve OHS in emergency response to include lessons highlighted by the Hazelwood mine fire.	Not specified	Ongoing	CFA & MFB
30	The State implement new technology for recording emergency assistance payments.	1 July 2015	Ongoing	DHHS
31	Local Government Victoria coordinate emergency management officers across local councils.	Not specified	Ongoing	DELWP
36	The State implement the Victorian Critical Infrastructure Resilience Strategy.	Not specified	Ongoing	EMV
37	The State enhance emergency risk mitigation planning.	Not specified	Ongoing	EMV
38	The State review the Latrobe City Municipal Emergency Management Plan.	June 2015	Ongoing	DELWP

Affirmations 6, 7, 8, 10, 36 and 37

The *Victorian Emergency Management Reform White Paper* (the White Paper) (State Government of Victoria 2012a) outlined a broad roadmap for change over a 10-year period, including 25 specific actions for implementation. Some of the reforms require legislative amendment, while others can be implemented through changes to practice or procedure.

The enactment of the *Emergency Management Act 2013* (the Act) in July 2014, was the first of the legislative reforms. The Act focused on establishing appropriate governance arrangements for emergency management and included the establishment of the EMC, Emergency Management Victoria (EMV), and the IGEM. EMV plays a key role in implementing the Victorian Government's emergency management reform agenda and is leading the implementation of eight affirmations, six of which are still ongoing.

It is relevant to note that Affirmations 6, 7, 8, 10, 36 and 37 involve longer term projects and initiatives that align with continuing legislative and non-legislative reform.

Integral to the progress of Affirmations 8 and 37 is the development of emergency management planning legislation, which is part of the Victorian Government's reform of the State's emergency management planning arrangements.

IGEM found that development of the proposed emergency management planning legislation is progressing with the intent that it will enhance emergency management planning at the state, regional and local levels.

EMV's Regional Emergency Risk Project and Regional Risk and Consequence Plans are evidence of progress with the development of a coordinated and collaborative regional approach to broader emergency risk planning in Victoria.

IGEM notes that the IM will report on the roles and the activities of the coal mine operators and regulators in relation to emergency management plans, work plans and fire risk measures adopted by the Victorian coal mining industry under the mine licensing and occupational health and safety regimes. These matters are outside the scope of IGEM's role.

Affirmation 6 is taken directly from the White Paper, and sets out a strategy for improving community awareness and education, and making information available during emergencies. The White Paper includes five actions to help achieve this goal.

IGEM received no evidence to support the reported progress of work undertaken to implement two of the actions and will expect to see significant progress with this affirmation during the next reporting period.

Affirmation 36 relates to the implementation of the *Victorian Critical Infrastructure Resilience Strategy* (the strategy). The strategy was published in July 2015 and works in conjunction with Part 7A of the *Emergency Management Act 2013* to set out the framework to reform Victoria's security and emergency management arrangements for critical infrastructure.

EMV hosted the Security Resilience Network (SRN) 2015 All Sectors Forum on 5 June 2015, with the new critical infrastructure resilience arrangements as its theme. The program included a presentation on the new arrangements, discussion of the transition to the new arrangements and engagement with an expert panel consisting of representatives from: the Department of Economic Development, Jobs, Transport & Resources (DEDJTR), the Department of the Environment, Land, Water & Planning (DELWP), the Department of Premier & Cabinet (DPC), EMV, IGEM, and Victoria Police.

The implementation of Affirmation 36 is still in its early stages and IGEM will continue to monitor its progress.

Affirmation 10 requires the State to improve integration of industry in the response to an emergency. The role of the Coal Mines Emergency Management Taskforce (the Taskforce), chaired by the EMC, and supported by EMV, included leading improved capability and interoperability between the coal mine industry, government agencies and the community.

Although the Taskforce has achieved progress with the integration of the coal mine operators into emergency response, the Implementation and Monitoring Plan called for the establishment of a formal pilot for integrated Incident Management Teams (IMTs) to be conducted for the 2014–15 summer period. This pilot did not occur.

The intent of Affirmation 10 is the improved integration of industry generally in the response to emergencies and the Implementation and Monitoring Plan calls for the integrated IMTs pilot to be progressively expanded to other Victorian essential industry providers. IGEM has received no evidence of progress in that regard and will expect to see significant progress achieved in the next reporting period.

In relation to Affirmation 7, IGEM acknowledges that the Taskforce, which includes the coal mine operators, has undertaken engagement activities with the community but there is no evidence that this engagement has been conducted in accordance with a communications model or plan.

IGEM expects to see significant progress during the next reporting period with the development of a model or plan for industries to engage with surrounding communities about the likely consequences of emergencies and the inherent risks of their facilities.

Affirmations 11 and 12

The Country Fire Authority (CFA) and the Metropolitan Fire & Emergency Services Board (MFB) have joint responsibility for leading the implementation of Affirmations 11 and 12.

In relation to Affirmation 11, IGEM found that the development of a training and exercising package for brown coal mine fires is progressing as planned, but will expect to see significant progress with the participation of the fire services in joint exercises with mine operators and power generators in the next reporting period. IGEM received no evidence of how a package of information developed during the Hazelwood mine fire was provided to CFA, MFB and DELWP as described in the Implementation and Monitoring Plan and will expect to see significant progress with this matter in the next reporting period.

IGEM found that Affirmation 12, also being led by CFA and MFB, is progressing satisfactorily and will be finalised with the completion of an updated version of the CFA's consolidated *Health Management & Decontamination Plan: Latrobe Valley Coal Mines Fires.* The document is expected to be finalised prior to the 2015–16 fire danger period.

Affirmation 30

Affirmation 30: The State implement new technology for recording emergency assistance payments, was scheduled for implementation on 1 July 2015. The project was delayed due to issues associated with the inclusion of an interface with other DHHS financial systems and has been rescheduled for implementation in November 2015.

Affirmations 31 and 38

Affirmations 31 and 38 are related to local government planning and coordination.

IGEM will expect to see significant progress with Affirmation 31 and the development of a framework and work plan during the next reporting period.

Affirmation 38 required a review of the Latrobe City Municipal Emergency Management Plan (MEMP). The MEMP review was completed in December 2014 but an audit by Victoria State Emergency Service (VICSES) in January 2015 identified the need for a number of amendments. DELWP advised IGEM of a delay due to audit rescheduling restrictions and the second audit was scheduled for September 2015.

1. Introduction

On 9 February 2014, a fire began in the Hazelwood coal mine as a result of embers spotting from nearby bushfires. The fire burned for 45 days and was the largest and longest burning mine fire to occur in Victoria's Latrobe Valley.

The impact of the fire was significant, in terms of the health of local communities, the economy, the environment and the resources required to contain the fire.

In March 2014, the Victorian Government appointed the Hazelwood Mine Fire Board of Inquiry to investigate the circumstances of the Hazelwood mine fire. The Hazelwood Mine Fire Inquiry (the Inquiry) made a total of 18 recommendations and adopted a number of actions from a government submission that were already planned as 'affirmations' to improve the emergency management sector's preparation for, response to, and recovery from similar events in the future.

The Victorian Government supported the recommendations directed to it and issued the *Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan* (State Government of Victoria 2014a) that set out how the recommendations and affirmations of government actions would be implemented and monitored.

The government appointed Mr Neil Comrie AO, APM as the Hazelwood Coal Mine Fire Implementation Monitor (IM) and announced that affirmations of government actions that fell within the scope of the role of the Inspector-General for Emergency Management (IGEM) would be monitored by the IGEM, Mr Tony Pearce.

Of the 18 recommendations made by the Inquiry, 12 are directed to the Victorian Government, which are in addition to affirmations of actions made by the Victorian Government.

This report provides an update on the status of the 17 affirmations of actions made by the Victorian Government which the IGEM is responsible for monitoring.

Hazelwood mine fire, February 2014 (Image: MFB)

2. Background

Hazelwood Mine Fire

The Hazelwood mine fire had unique properties that differentiated it from bushfires.

Coal mine fires typically burn slowly due to the presence of deep-seated, compacted fuel over an extended period of time (normally several weeks) rather than quickly and unpredictably like bushfires. Coal mine fires exhibit different challenges to bushfires due to the unique way that coal can burn beneath the surface and the threat of toxic gases present in the pit below ground level.

The fire burned for 45 days, required significant resources to bring it under control and impacted on local communities within the Latrobe Valley, particularly in the town of Morwell. Due to the severity and wide-reaching impacts of the fire, the Hazelwood mine fire therefore constituted two emergencies: a major complex fire emergency and a serious public health emergency.

Hazelwood Mine Fire Inquiry

On 11 March 2014, the Victorian Government announced the establishment of an independent inquiry into the circumstances of the Hazelwood mine fire, the Hazelwood Mine Fire Inquiry (the Inquiry). This was followed by the Governor in Council's appointment of the Hazelwood Mine Fire Board of Inquiry (Board of Inquiry) on 21 March 2014.

The Board of Inquiry was requested to investigate the circumstances of the fire, including:

> the origin of the fire

> the firefighting response

> fire prevention and preparedness measures taken by the owner, operator and licensee of the mine and regulatory agencies

> the fire's impacts on the health and well-being of affected communities

> the response to the health emergency.

The Inquiry included community consultations, public submissions and 14 days of public hearings.

In May 2014, the Victorian Government made an initial submission to the Board of Inquiry[2]. The submission outlined the regulatory framework for the Hazelwood coal mine and emergency response and set out the activities of the Victorian Government in response to the Hazelwood mine fire.

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2   Hazelwood Coal Mine Fire Inquiry: Submission from the Victorian Government, May 2014.

In June 2014, the Victorian Government made a second submission to the Board of Inquiry[3]. The second submission set out actions with respect to the government's regulation of, preparation for, and response to future emergencies.

The actions in the second submission were subsequently adopted by the *Hazelwood Mine Fire Inquiry Report* (the Inquiry Report) as affirmations. The Inquiry Report states that affirmations hold similar weight to, and should be read alongside, the Inquiry Report's recommendations. The Inquiry Report stated that it expects progress on the affirmations to be monitored in the same way as the recommendations.

The Inquiry made a total of 18 recommendations for improvement, comprising 12 recommendations directed to the State and six directed to mine operator GDF SUEZ. These recommendations are in addition to the Board's records of affirmations of actions by the Victorian Government and GDF SUEZ that had already been announced or were underway.

The Inquiry Report was tabled in Parliament and released publicly on 2 September 2014.

Victorian Government Implementation and Monitoring Plan

In October 2014, the Victorian Government released the *Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan* (the Implementation and Monitoring Plan). The Implementation and Monitoring Plan sets out how the recommendations and affirmations of government actions will be implemented and monitored.

Hazelwood Coal Mine Fire Inquiry Reference Group

The State Crisis and Resilience Council (SCRC) Hazelwood Coal Mine Fire Inquiry Reference Group (HCMFIRG) was established by the Victorian Government to oversee the Implementation and Monitoring Plan.

Liaising with the IM (and IGEM as required), the HCMFIRG is responsible for coordinating and monitoring the progress of implementation and identifying any emerging issues. The HCMFIRG is required to provide advice and make recommendations to SCRC.

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3   Hazelwood Coal Mine Fire Inquiry: Second Submission from the Victorian Government, June 2014.

The HCMFIRG's membership comprises senior executives from the following organisations:

> Country Fire Authority (CFA)

> Department of Economic Development, Jobs, Transport & Resources (DEDJTR)

> Department of Environment, Land, Water & Planning (DELWP)

> Department of Health & Human Services (DHHS)

> Department of Premier & Cabinet (DPC), Chair

> Emergency Management Victoria (EMV)

> Environment Protection Authority (EPA)

> Metropolitan Fire & Emergency Services Board (MFB)

> Victorian Managed Insurance Authority (VMIA)

> WorkSafe Victoria (previously the Victorian WorkCover Authority)

> Victoria Police.

To support the HCMFIRG and to oversee specific sections of the Implementation and Monitoring Plan, the HCMFIRG also has three working groups:

> Regulation

> Emergency Response and Recovery

> Communications.

The HCMFIRG (and all working groups) will operate until 30 November 2017, which coincides with the end of the IM's tenure.

3. Implementation monitoring

Implementation Monitor

The government appointed Mr Neil Comrie AO, APM as the IM. The IM is responsible for monitoring and reporting on the implementation of:

> all recommendations directed to the government

> affirmations of government actions where the Implementation and Monitoring Plan identifies the IM as the relevant monitor

> recommendations directed to GDF SUEZ and affirmations of its actions.

The IM will provide annual reports in October 2015, 2016 and 2017.

Inspector-General for Emergency Management

IGEM is a legislated appointment established under the *Emergency Management Act 2013* (the Act) to:

> provide assurance to government and the community in respect to emergency management arrangements in Victoria

> foster continuous improvement of emergency management in Victoria.

IGEM is a business unit of the Regulation Division within the Department of Justice & Regulation (DJR).

IGEM is responsible for monitoring and reporting on the progress of 17 affirmations that fall within the scope of its role.

Departments and agencies with responsibility for implementing these affirmations are:

> CFA

> DELWP

> DHHS

> EMV

> MFB

Affirmations not identified as related to recommendations are considered to be 'stand-alone'. These affirmations are assigned one or more implementation actions in the Implementation and Monitoring Plan.

The Implementation and Monitoring Plan listed a further eight affirmations (1, 2, 3, 4, 5, 22, 34 and 40) as 'implemented', therefore not requiring a monitor. They have been included in IGEM's report for completeness.

Affirmation 22: The State will have an automatic air quality monitoring station in the south of Morwell for the next 12 months [to March 2015] was listed as 'implemented' in the Implementation and Monitoring Plan but has subsequently been re-opened and is being monitored by the IM.

The affirmations for which IGEM is responsible for reporting are listed in Section 6, Table 2.

4. Approach

The IM and IGEM are coordinating their activities so that the annual reports prepared by the IM incorporate the outcomes of monitoring by the IGEM. This enables the reporting on progress for all recommendations and affirmations in a single report.

In preparing this report, IGEM has adopted a monitoring and reporting process that closely aligns with that employed by the IM, in order to minimise the administrative burden on departments and agencies.

IGEM wrote to Chief Executive Officers and heads of departments and agencies in March 2015 and again in June 2015 requesting implementation updates supported by documentary evidence of progress such as policies, procedures, manuals, guides and meeting minutes.

IGEM assessed the updates to determine their status, and met with nominated representatives from departments and agencies to clarify information or request additional documentation.

Table 1 describes the implementation status that IGEM has assigned to each of the affirmations.

Table 1: Implementation status descriptions

Status	Description
Complete	Affirmation has been implemented as planned.
Ongoing	Affirmation is in progress and is to be revisited in the 2016 Annual Report.

IGEM consulted with lead departments and agencies prior to finalisation of the report.

Progress in relation to the ongoing actions is reported for the period up to 10 July 2015.

Acknowledgements

IGEM acknowledges the high level of cooperation and support received from Victorian Government departments and agencies as well as the IM in preparing this report.

5. Reader's Guide

This progress report is IGEM's assessment of the status of each of the affirmations for which IGEM has responsibility for reporting.

Readers wishing to sight the affirmations and their corresponding actions are referred to the Implementation and Monitoring Plan.

6. Status of Affirmations

Table 2 lists the affirmations that were reported in the Implementation and Monitoring Plan as 'planned' or 'in progress' and for which IGEM is responsible for monitoring.

IGEM found that six affirmations have been implemented as planned and 11 remain ongoing.

Table 2: Status of affirmations

No.	Affirmation	Due date	Status	Lead agency
6	The State implement actions set out in the White Paper on Emergency Management Reform to improve community awareness and education, and make information available during emergencies.	Not specified	Ongoing	EMV
7	The State strengthen industry engagement with the community.	Not specified	Ongoing	EMV
8	The State improve the State planning framework for emergencies.	Not specified	Ongoing	EMV
10	The State improve integration of industry in the response to an emergency.	Not specified	Ongoing	EMV
11	The State improve training for career and volunteer firefighters to include lessons highlighted by the Hazelwood mine fire.	Not specified	Ongoing	CFA & MFB
12	The State improve OHS in emergency response to include lessons highlighted by the Hazelwood mine fire.	Not specified	Ongoing	CFA & MFB
14	The State review emergency management communications arrangements across government commissioned by the State Crisis and Resilience Council, including considerations of: > the roles and functions of emergency communications committees > enhancing specialist crisis communications capability within government > the use of established local networks as a way to communicate during emergencies > additional emergency communications training for government employees > developing a coordinated approach to the use of social media by government during emergencies.	December 2014	Complete	EMV*
15	The State conduct a National Review of Warnings and Information.	November 2014	Complete	EMV
27	The State improve communication around psycho-social support to communities affected by emergencies.	Not specified	Complete	DHHS
29	The State review the Personal Hardship Assistance Program and Implementation Guidelines for consistency and clarity of purpose.	July 2015	Complete	DHHS
30	The State implement new technology for recording emergency assistance payments.	1 July 2015	Ongoing	DHHS
31	Local Government Victoria coordinate emergency management officers across local councils.	Not specified	Ongoing	DELWP
32	The State improve relief and recovery information available to Culturally and Linguistically Diverse communities.	December 2014	Complete	DHHS
33	The State review relief and recovery communications and community engagement initiatives.	Not specified	Complete	DHHS
36	The State implement the Victorian Critical Infrastructure Resilience Strategy.	Not specified	Ongoing	EMV
37	The State enhance emergency risk mitigation planning.	Not specified	Ongoing	EMV
38	The State review the Latrobe City Municipal Emergency Management Plan.	June 2015	Ongoing	DELWP

*Previously led by DPC

7. Progress update

Affirmation 6

The State implement actions set out in the White Paper on Emergency Management Reform to improve community awareness and education, and make information available during emergencies

Lead agency: EMV	**Affirmation status:** Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 6. The Implementation and Monitoring Plan relates Affirmation 6 to Recommendation 12, which is being monitored by the IM.

Recommendation related to Affirmation 6
Recommendation 12

The State, led by Emergency Management Victoria, develop a community engagement model for emergency management to ensure all State agencies and local governments engage with communities and already identified trusted networks as an integral component of emergency management planning.

Background

The actions referred to in Affirmation 6 are taken directly from the *Victorian Emergency Management Reform White Paper* (the White Paper) (State Government of Victoria 2012a, p.8).

Implementation Actions

Actions	Due Date
Develop a single emergency management web portal to provide information and advice to help people prepare for, respond to and recover from emergencies	Not specified
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	Not specified
Expand the reach of official emergency broadcasts to include more commercial television and culturally and linguistically diverse media in partnership with emergency broadcasters and in line with the Floods Review recommendations	Not specified
Where possible, Memoranda of Understanding with broadcasters will include provision for broadcast of community meetings and dissemination of warnings across a range of communication channels (such as internet-based media)	Not specified
Develop a single all hazards telephone hotline for the community to access information during emergencies	Not specified

Develop a single emergency management web portal to provide information and advice to help people prepare for, respond to and recover from emergencies

In 2014, the VicEmergency website was launched to provide information and advice to assist people in preparing for, responding to, and recovering from emergencies. VicEmergency is scheduled for an upgrade in three stages during September, October and December 2015.

EMV advised that in May 2015, two Request for Quotations were issued – one for the design and build of the new VicEmergency website, and one for community testing of the new website.

Currently, the FireReady application software (app) is the official Victorian Government app for access to timely, relevant and tailored warnings and information in relation to fire in Victoria. In 2013, the Fire Ready app was rebuilt, and EMV advises that the long-term goal is to transition to a VicEmergency app by the 2016–17 summer.

IGEM will provide a progress update on the VicEmergency upgrade in the next reporting period.

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

EMV advises that an integral component of the next phase of the Emergency Management Common Operating Picture (EMCOP) will be the commencement of work on an all hazards platform to allow all agencies and departments to issue warnings for the emergencies that they control or coordinate in Victoria. EMV completed a pilot of EMCOP between July 2014 and June 2015, which encompassed a number of stages, including hosting on high reliability servers, the development of the concept of operations and business rules and field trials at incident, regional and state levels.

EMV is currently scoping the requirements for the next phase of EMCOP and awaiting confirmation of funding to support the roll-out. The scheduled completion date for this work is November 2015.

IGEM will provide a progress update in the next reporting period.

Expand the reach of official emergency broadcasts to include more commercial television and culturally and linguistically diverse media in partnership with emergency broadcasters and in line with the Floods Review recommendations

Emergency broadcasters play an important role in emergency management by broadcasting warnings and advice, helping to support communities to make informed decisions in planning for, and surviving emergencies.

Victoria has formal arrangements for the broadcast of emergency warnings and information to the community, which include Memoranda of Understanding (MOUs) with a number of broadcasters. MOUs provide media broadcasters with an understanding of how to support the emergency services.

The State has MOUs with ABC Local Radio, Victorian commercial radio broadcasters, Sky News television, UGFM Radio Murrindindi, Plenty Valley FM, Radio Mansfield, Alpine Radio, Stereo 974 FM, KLFM and Eastern FM. These outlets have all agreed to break into programming when necessary to broadcast emergency warning messages[4].

Two community radio stations signed MOUs to become emergency broadcasters in late 2014.

EMV has advised IGEM of work being done with culturally and linguistically diverse (CALD) media outlets to connect them with information for their communities during emergencies – for example, work with the Islamic Council of Victoria to explore capabilities through Islamic radio. IGEM has received no evidence in relation to this work and is unable to comment on its progress.

Following a pilot of CALD media engagement in 2013, 3ZZZ and SBS Radio continue to support dissemination of emergency information but are currently not capable of undertaking the full role of official emergency broadcaster.

ABC TV is developing its emergency broadcaster capability but sees this work as a critical part of its national role and is unlikely to sign individual agreements with single jurisdictions.

EMV advises that commercial television stations show little interest in an official role as emergency broadcasters. Their focus is a news and editorial role and much of their production and scheduling is undertaken from a centralised location (often in Sydney) to provide national coverage.

IGEM will continue to monitor and provide a progress update in the next reporting period.

Where possible, Memoranda of Understanding with broadcasters will include provision for broadcast of community meetings and dissemination of warnings across a range of communication channels (such as internet-based media)

The *Practice Note for Emergency Broadcasting in Victoria* is issued by EMV and outlines the procedures for implementing the MOUs. The Practice Note was updated in late 2014 to include guidance relating to use of social media and other online media.

The Practice Note does not include a provision for the broadcast of community meetings, however EMV reports that emergency broadcasters are supportive of broadcasting community meetings where required and they are arranged locally with the IMT.

Develop a single all hazards telephone hotline for the community to access information during emergencies

EMV reports that a budget bid for the Victorian Emergency Information Line project was unsuccessful.

EMV also reports that work is being undertaken to realign the current call centre arrangements for all agencies and departments, so that the community receives the benefits of one public VicEmergency hotline even while the costing and requirements remain agency-specific. This work is scheduled for completion in July 2016.

IGEM has received no evidence in relation to this work and is unable to comment on its progress.

Finding: IGEM has received no evidence that supports:

> work being undertaken to realign the current call centre arrangements for all agencies and departments

> work being undertaken with CALD media outlets to connect them with information for their communities during emergencies.

IGEM expects to see significant progress with this affirmation during the next reporting period.

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4   Practice Note Emergency Broadcasting in Victoria Version 7, updated November 2014.

Affirmation 7

The State strengthen industry engagement with the community

Lead agency: EMV	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 7. The Implementation and Monitoring Plan relates Affirmation 7 to Recommendation 12, which is being monitored by the IM.

Recommendation related to Affirmation 7
Recommendation 12

The State, led by EMV, develop a community engagement model for emergency management to ensure all State agencies and local governments engage with communities and already identified trusted networks as an integral component of emergency management planning.

Background

The second submission from the Victorian Government states that:

> …the operators of critical infrastructure and major hazard facilities, such as coal mines, working in conjunction with other emergency management stakeholders and local government, be responsible for engaging surrounding communities about the inherent risks of their facility and the likely consequences of related emergencies. The engagement should reinforce that both the industry and all sectors of the surrounding community share the responsibility to plan, prepare and to take action to minimise the impact of potential emergencies (State Government of Victoria 2014b, p19).

The following sections describe reported progress in strengthening industry engagement with the community prior to, and during an emergency.

Coal Mines Emergency Management Taskforce Communications Group

The Coal Mines Emergency Management Taskforce (the Taskforce) was formed on 16 September 2014 as a Victorian Government initiative to implement the improvement plans and recommendations in the Implementation and Monitoring Plan (see *Affirmation 10: The State improve integration of industry in the response to an emergency* for a detailed description of the role of the Taskforce).

In October 2014, the Taskforce formed a communications group, chaired by EMV, to:

> develop an overall approach and direction

> identify key stakeholders for engagement

> manage the development and timing of media releases

> facilitate consistency of messaging and engagement across communities.

In December 2014, the Taskforce reported on the achievements of the group, including[5]:

> issue of a media release prior to the 2014–15 fire season outlining the risks and preparations undertaken by mine operators and agencies

> regular media interviews by the Emergency Management Commissioner (EMC)

> a letter from the EMC to approximately 45 community leaders, Latrobe Valley business networks and media in Morwell detailing the preparations by emergency services, government agencies and mine operators prior to the 2014–15 fire season

> a community information video featuring the EMC outlining the preparations for the 2014–15 fire season

> a briefing to the Community Recovery Committee on the status and activities of the Taskforce

> a community day held by GDF SUEZ in October 2014, to brief the community on the mines fire mitigation program, plans and actions to meet Inquiry outcomes and to provide tours of the Hazelwood mine

> eighteen media articles relating to the 2014–15 fire season, mine fires and preparedness of mines and agencies across the Latrobe Valley, and a number of radio interviews and updates conducted.

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5   Coal Mine Emergency Management Taskforce Status Report, 31 December 2014.

It is evident from the records of Taskforce meetings between April and June 2015 that a communications group continued to be active and facilitated community meetings and workshops. However, it is unclear whether a communications strategy or plan had been developed or whether these activities were conducted on an ad hoc basis. EMV has advised IGEM that a communications strategy is being developed by the Taskforce to provide the community with a detailed assessment of progress and planning for the 2015–16 fire season.

Development of the strategy will include consideration of options for how best to engage with the community, with EMV citing an example of a community workshop held in May 2015, when 36 community members were invited but only eight attended. EMV has noted the challenges associated with community engagement as a 'community' is not a legal entity and it is not possible to place specific legal obligations on a community. Further, communities vary in size, geographic footprint and degrees of engagement[6].

IGEM recognises that the lack of a mandated engagement process provides an inherent challenge to industry engagement with the community and will report progress of the finalised communications strategy during the next reporting period.

IGEM will also report on arrangements put in place by EMV to continue the work of the Taskforce in maintaining industry engagement with the community following cessation of the Taskforce's tenure in December 2015.

Interagency Community Engagement and Communications group

IGEM was provided with draft Terms of Reference for the Interagency Community Engagement and Communications Group. The group was established to support the integration and coordination of a range of community engagement and communications activities in Morwell (and surrounding districts where relevant).

The draft Terms of Reference state that the group is responsible for coordinating the activities as they relate to Inquiry Recommendations 11 and 12 and *Affirmation 26: The State improve local engagement on health issues*[7]. The purpose of the group is to:

> provide integrated and coordinated responses that directly impact the way agencies engage and communicate with the local community of Morwell

> support community planning approaches that build the capacity and resilience of community as it refers to the health, well-being and safety of its residents

> apply these same principles and approaches across the various environments when engaging and communicating with communities, including consistent messaging.

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6   SCRC Agenda Paper: Meeting No. 26, 18 June 2015.

7   The IM is the assigned monitor for Affirmation 26.

Membership of the group includes CFA, DEDJTR, DHHS, EMV, EPA, and Latrobe City Council.

IGEM has no information relating to the activities of the group and is unable to comment further.

Critical Infrastructure Resilience arrangements

Engagement with critical infrastructure owners and operators across Victoria was formerly undertaken through Security and Continuity Networks, chaired by the respective portfolio government departments.

Following introduction of the new critical infrastructure resilience arrangements, the Security and Continuity Networks transitioned to Sector Resilience Networks (SRNs). EMV has advised IGEM that these networks will become the cornerstone for enhanced collaboration and engagement with the private sector on organisational and community resilience that should further support greater integration with the Victorian emergency management system.

IGEM recognises that the new critical infrastructure resilience arrangements only became the responsibility of EMV on 1 July 2015 and will continue to monitor progress.

Finding: IGEM notes the achievements of the Taskforce, which includes the coal mine operators, engaging with the community, however there is no evidence that this engagement has been conducted in accordance with a communications model or plan.

IGEM expects to see significant progress during the next reporting period with the development of a model or plan for industries to engage with surrounding communities about the inherent risks of their facilities and the likely consequences of emergencies.

IGEM will continue to monitor this affirmation and revisit in the next Annual Report.

Affirmation 8

The State improve the State planning framework for emergencies

Lead agency: EMV	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 8. The Implementation and Monitoring Plan relates Affirmation 8 to Recommendation 3, which is being monitored by the IM .

Recommendation related to Affirmation 8
Recommendation 3

The State enact legislation to:

> require integrated Fire Management Planning

> authorise the Emergency Management Commissioner to develop and implement regional and municipal fire management plans.

Background

The White Paper outlined a broad roadmap for change over a 10-year period, including 25 specific actions for implementation. Some of the reforms require legislative amendment, while others can be implemented through changes to practice or procedure.

The second submission from the Victorian Government states that:

… the Victorian Government is currently reforming Victoria's emergency management arrangements, including reforming the arrangements for emergency management planning. The State intends to take the opportunity to achieve an approach to emergency management planning that is consistent across both public and privately owned land… and addresses a broad range of risks and hazards across a particular landscape and extends to include strategies for managing the consequences of emergencies (State Government of Victoria 2014b, p. 19).

This section provides an overview of the proposed emergency management planning legislation and reported progress of enhancements to emergency management planning arrangements in Victoria. It is closely related to, and should be read in conjunction with *Affirmation 37: The State enhance emergency risk mitigation planning*.

IGEM notes that the IM will report on the roles and the activities of the coal mine operators and regulators in relation to emergency management plans, work plans and fire risk measures adopted by the Victorian coal mining industry under the mine licensing and occupational health and safety regimes. These matters are outside the scope of IGEM's role.

Proposed emergency management planning reforms[8]

EMV is leading the development of emergency management planning reforms that are intended to create an integrated emergency management planning framework for Victoria. EMV has advised that the new arrangements will focus on all likely hazards, operate at a state, regional and local government level, and provide for all stages of emergency management.

The proposed legislation is one part of a broader range of improvements to emergency management planning arrangements in Victoria and will play an important role in facilitating the broader reform process.

The Inquiry specifically confirmed the need to introduce new legislation as part of a range of improvements to the emergency management planning system.

Key issues identified with the current approach include planning processes not being integrated, roles and responsibilities not always being clear or reflective of relevant operational changes, and the lack of a formal legal mechanism to bring relevant agencies together to plan at a regional level.

EMV has indicated that significant reforms have already been made to emergency management arrangements in Victoria. Underpinning these reforms is an understanding that governments and agencies must work more collaboratively to facilitate flexible and networked preparations for responding to, and recovering from, emergencies.

The intent of these reforms is to recognise that individuals, communities, emergency service organisations, businesses and industry have shared responsibilities for emergency management. However, more specific reforms are also required to better integrate emergency management planning and implement a planning framework that is collaborative, flexible and based on shared responsibility.

Emergency management planning legislation

The objective of the proposed Emergency Management (Planning) Amendment Bill 2015 is to provide for the wider reform of Victoria's emergency management planning framework that integrates preparation, response and recovery activities.

It is intended that the new legislation will replace the existing planning provisions in the *Emergency Management Act 1986* and the *Emergency Management Act 2013* with an integrated emergency management planning framework as an amendment in the *Emergency Management Act 2013*.

The new emergency management planning legislation aims to establish an enhanced governance structure that facilitates and supports planning arrangements at the state, regional and local level.

The legislation is intended to:

> formally bring agencies together to plan at a regional level

> clarify roles, responsibilities and accountabilities, particularly in relation to the role of local government in emergency management planning

> ensure that planning at each level is customised and acknowledges the diversity in conditions

> focus on all hazards with provision for inter-connected planning for mitigation, preparation, response and recovery at all three tiers

> improve engagement by all agencies, including the not-for-profit and private sectors

> capture community input through emergency management principles that recognise shared responsibility at a community level.

EMV has advised that it will continue to consult with stakeholders, both within and external to government, throughout the development of the planning legislation. EMV plans to consult with emergency management agencies, local government representatives, Victorian Government departments, private operators, not-for-profit agencies and community representatives.

EMV has advised that a range of non-legislative reforms will be progressed to complement the implementation of the new statutory planning framework. This includes work currently underway to refresh and refocus the existing State Emergency Response Plan (SERP).

State Emergency Response Plan[9]

The *Emergency Management Act 1986* and the *Emergency Management Act 2013* provide the legislative basis for the management of emergencies in Victoria and for the preparation and approval of the SERP.

The Victorian Government has other legislation relating to the management of specific hazards. A number of departments and agencies administer this legislation within the context of the arrangements in the SERP.

The SERP forms Part 3 of the *Emergency Management Manual Victoria* (EMMV), which contains policy and planning documents for emergency management in Victoria. The SERP links to Part 4 of the EMMV, which is the State Emergency Relief and Recovery Plan.

EMV is refreshing the SERP to ensure that government, agencies, business and the community receive contemporary and authoritative guidance on the arrangements for responding to major emergencies in Victoria and the roles and responsibilities of specific agencies. The process for refreshing the SERP involves an update to reflect current emergency response arrangements and clearer explanations, rather than a major redesign of the State's emergency management arrangements.

EMV advised that the schedule for refreshing the SERP is as follows:

Develop draft SERP (EMMV, Part 3)	July 2015
Consultation between EMV, departments, agencies	August 2015
Consultation between EMV, departments to form a State view	September 2015
Seek SCRC approval of the SERP (EMMV, Part 3)	October 2015

EMV has advised that the scope of the SERP has been widened to include a focus on achieving safer and more resilient communities, in accordance with the State's vision for emergency management. The updated SERP explains how the planning and preparation undertaken by communities, business, agencies and government can inform their actions before, during, and in the immediate aftermath of an emergency to reduce the effect and consequences of the emergency.

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8   This section is based on SCRC Agenda Paper: Meeting No. 26 – Emergency Management Planning Legislation: Proposed reforms, 18 June 2015. The proposed reforms to emergency management planning legislation and the consultation plan were endorsed in principle.

9   This section is based on EMV Memorandum: Draft refreshed State Emergency Response Plan (SERP) from the Emergency Management Commissioner to all agencies, 6 August 2015.

Previous versions of the SERP focused on the arrangement for managing single hazards, such as flood or fire. However, most of the major emergencies experienced by Victoria this century have involved multiple hazards, multiple consequences and many agencies. The new version of the SERP better describes the arrangements for managing the response to complex major emergencies.

The draft SERP lists the state emergency management priorities, in order to provide guidance to emergency managers facing concurrent or competing risks. The SERP identifies:

> the priority on the primacy of life and issuing warnings and information to assist people make informed decisions about their safety

> the role of emergency management teams in protecting critical infrastructure (including banking and finance, communications, energy, food supply, government, health, transport, and water), in protecting assets supporting individual livelihoods and economic production and in protecting environmental and conservation assets

> the importance of emergency managers engaging with local government, community leaders and business networks during emergencies.

The Emergency Management (Control of Response Activities and Other Matters) Bill 2015 (the Control Bill) is intended to provide for a new requirement to comply with the SERP and make other related changes. These changes will strengthen existing arrangements relating to the SERP ahead of the full implementation of the proposed new planning framework.

EMV has advised that the Control Bill was scheduled for Bill at Cabinet Approval in August 2015. The refresh of the SERP is one of a range of non-legislative reforms being progressed to complement implementation of the Control Bill and the new planning framework.

EMV intends to provide the SERP (EMMV, Part 3) for agency consultation for approximately six months, between October 2015 and April 2016. This will avoid introduction of the new arrangements during the 2015–16 fire season and align with the scheduled implementation of the relevant parts of the new Control Bill.

Regional emergency management planning

EMV describes the regions as a critical nexus between state and municipal level planning but has identified a lack of a formal mechanism to bring relevant agencies together to plan at the regional level. It is the level at which most government agencies and essential service providers allocate resources and plan using a strategic, longer term approach. The practice for emergency management planning at regional level has been to convene separate planning committees for response and recovery. This arrangement is currently under review as part of the emergency management planning reforms.

A number of regions have recently adopted an integrated approach to emergency management planning, combining the response and recovery planning committees into a single Regional Emergency Management Planning Committee (REMPC). The new legislation is intended to establish regional emergency management committees that will be responsible for developing emergency management plans tailored for the regional level. EMV advises that the new requirement to plan on a regional basis, in addition to state and local levels will deliver on priorities in the White Paper to improve coordination, interoperability and the capacity for an integrated response.

EMV is currently developing a discussion paper on regional emergency management planning governance arrangements. EMV advises that the paper will provide an opportunity for key stakeholders to determine the purpose, role, governance, support and accountability model to deliver collaborative regional emergency management planning. The paper is scheduled for completion in September 2015 and will inform the consultation process for the Emergency Management (Planning) Amendment Bill 2015.

EMV has also reported on the Regional Emergency Risk Project and development of Risk and Consequence Plans by Regional Emergency Management Teams as examples of a collaborative regional approach that is being taken to broader emergency risk management planning in Victoria. These are described in *Affirmation 37: The State enhance emergency risk mitigation planning*.

Community Emergency Management Planning

Community Emergency Management Plans (CEMPs) are described by EMV as an example of emergency management planning already taking place at the community level[10].

The CEMP Framework was reported as a key project under the *Interim Emergency Management Strategic Action Plan 2014–15*[11]. The aim of the project was to assess the Harrietville Community Planning Pilot and finalise a framework to facilitate CEMPs.

EMV reports that the project will support collaborative community-based decision-making processes in an emergency management context and help communities and organisations to use this approach to connect and build community safety and resilience.

The intent is that local application of the approach would assist communities to engage and work with key stakeholders from emergency management organisations, state and local governments, business, essential industry providers and other non-government organisations.

EMV reports that five CEMPs are in place and a Community-based Approach Framework is in the final stages of completion. A multi-agency project control group and project steering group – with representatives from CFA, DELWP, EMV, Municipal Association of Victoria (MAV), MFB and Victoria State Emergency Service (VICSES) – have worked with five local communities and supporting organisations to develop and refine the approach and processes for future adoption and use.

EMV has initiated an independent monitoring and evaluation process that will provide key learnings and recommendations for 2015–16. EMV reports this project as closed but states that the work will transition to the overarching Community Resilience Policy Framework, currently under development for the sector in 2015–16. EMV will continue to coordinate the development of the policy framework and work with key communities, emergency management organisations and local government to introduce this integrated approach as part of the broader Victorian emergency management reform program. EMV states that the new legislation will contain a number of measures to facilitate community input, including:

> providing for plans to be based on emergency management principles that recognise the primacy of life, protection of the community and the most efficient use of resources and shared responsibility at state, regional and local and community level

> empowering the EMC to develop community emergency management guidelines

> potentially requiring a municipal planning committee to include a person with experience in community emergency management planning.

EMV describes the existing local community plans as the primary source of information for emergency managers to access information on local community contacts and networks, agreed community values, local vulnerabilities and other local information.

Private infrastructure

The Inquiry Report recognised that it was essential for owners or operators of significant infrastructure to participate in emergency management planning.

EMV describes this as a complex area due to existing regulatory and commercial arrangements and will link to existing obligations rather than impose new requirements. For example, a plan required under regulatory arrangements could also constitute a plan under the planning legislation. EMV plans to consult with relevant departments about including private operators in the new planning processes, particularly at regional and local levels, as part of the scheduled consultation process described earlier.

The new critical infrastructure resilience arrangements, established in July 2015, are intended to complement the new planning legislation by ensuring that the owners and operators of essential industries classed as 'vital' prepare emergency risk management plans in accordance with government guidelines and regulations. Compliance is encouraged for critical infrastructure assessed as 'major' or 'significant', but is not mandatory under legislation. There will be a consistent approach to emergency management planning across both public and privately owned land and risks within a hazardous site and across adjoining land will be mitigated in a coordinated manner.

Further commentary on critical infrastructure reforms may be found in *Affirmation 36: The State implement the Victorian Critical Infrastructure Resilience Strategy*.

IGEM's assurance role

The White Paper (p. 27) stated that the IGEM would "…review and evaluate emergency management planning arrangements…".

IGEM has developed the *Monitoring and Assurance Framework for Emergency Management* (IGEM 2015b), as required by section 64(1)(a) of the *Emergency Management Act 2013*.

The Framework will be implemented progressively, in consultation with the sector, and will include assurance of the State's enhanced emergency management planning arrangements with further clarity to be provided in the new emergency management planning legislation.

Finding: The legislative and non-legislative reforms described in this section are indicative of changes that are being progressively implemented as part of the sector's transition to a new emergency management planning framework.

IGEM finds that:

> the implementation of the proposed emergency management planning legislation is proceeding satisfactorily

> progress is being achieved in relation to enhancing emergency management planning at the state, regional and local levels ahead of the proposed emergency management planning legislation.

IGEM will revisit this affirmation in the next Annual Report.

10   SCRC Agenda Paper: Meeting No. 26, 18 June 2015.

11   The *Interim Emergency Management Strategic Action Plan 2014–15* provided a bridge between the *Fire Services Reform Action Plan* and the implementation of the *Victorian Emergency Management Strategic Action Plan 2015–2018*.

Affirmation 10

The State improve integration of industry in the response to an emergency

Lead agency: EMV	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 10. The Implementation and Monitoring Plan relates Affirmation 10 to Recommendation 2, which is being monitored by the IM.

Recommendation related to Affirmation 10
Recommendation 2

The State establish, for any future incident, integrated incident management teams with GDF SUEZ and other Victorian essential industry providers to:

> require that emergency service personnel work with GDF SUEZ and other appropriate essential industry providers

> implement the Australasian Inter-service Incident Management System (AIIMS).

Background

The second submission from the Victorian Government states that:

During the Hazelwood Coal Mine Fire, better communication between emergency services and the mine operator may have improved the coordination of their activities and ensured the knowledge and expertise of the mine operator contributed to the overall development of the incident strategy.

There is now an opportunity to change incident management systems so that relevant industry bodies, such as mine operators, are formally included in the incident management teams operating under the AIIMS incident management structure. (State Government of Victoria 2014b, p. 21).

The following sections describe activities that have been undertaken within the sector since the Hazelwood mine fire to improve the integration of industry in the response to an emergency.

These include the activities of the Coal Mines Emergency Management Taskforce (the Taskforce), established by the Victorian Government in September 2014 and led by the EMC. A key role of the Taskforce has been leading improved capability and interoperability between the coal mine industry, government agencies and the community.

EMV also reports on progress with the integration of Victorian essential industry providers, including the Latrobe Valley coal mines, into IMTs operating under AIIMS[12].

A newly established CFA District 27 will help strengthen CFA's relationship with industry partners, facilitate a consistent and collaborative approach to managing risks and provide a more effective response to incidents.

The introduction of the new critical infrastructure resilience arrangements in July 2015[13] will also improve communication between the government and the owners and operators of critical infrastructure, including major hazard facilities.

Coal Mines Emergency Management Taskforce

The Taskforce is chaired by the EMC and supported by EMV. Membership consists of:

> **AGL – Loy Yang**
> **Energy Australia – Yallourn**
> **Alcoa – Anglesea**
> **EPA**
> **CFA**
> **GDF SUEZ – Hazelwood**
> **DEDJTR**
> **Latrobe City Council**
> **DELWP**
> **Surf Coast Council**
> **DHHS**
> **WorkSafe Victoria**

The Taskforce structure incorporates both Latrobe Valley and Surf Coast taskforces to ensure a consistent approach from an emergency management perspective in relation to all four operating brown coal mines in Victoria – Hazelwood (GDF SUEZ), Loy Yang (AGL), Yallourn (Energy Australia) and Anglesea (Alcoa).

The Taskforce Terms of Reference are to:

> review the fire and emergency preparedness of the four Victorian brown coal mines

> oversee the implementation of the relevant Hazelwood Mine Inquiry affirmations and improvement plans

> support improved capability and interoperability between the coal mine industry, government agencies and community.

The Taskforce's key priority has been the improvement of preparedness, prevention and response capabilities to reduce the risk of major fires occurring in, or entering the mines, during the 2014–15 and 2015–16 fire seasons. The Taskforce work plan has facilitated the integration of a multi-agency and industry planning and response regime into the mining industry.

EMV notes that the Anglesea mine poses considerably less risk due to:

> the comparative size of the mine, which is approximately five per cent the size of Hazelwood

> the depth of overburden and small coal seam exposure

> the volatility of the coal

> the mining method with minimal mechanical failure threats of fire

> the percentage of the original mine that has been backfilled and replanted.

In May 2015, Alcoa announced that the operation of the Anglesea power station and mine would cease operations as of 31 August 2015. EMV reports that this will change the focus of fire management and the risk profile. The focus of fire mitigation prior to the 2015–16 fire season will be on the heathland that forms part of the mine licence area and may potentially pose a significant fire risk to the Anglesea community in the absence of adequate planning and mitigation works.

Building relationships

The Taskforce has undertaken a number of activities to enhance the relationship between essential industry providers and agencies:

> conducting meetings, workshops and field visits

> representation on the State Smoke Working Group (which is developing the EPA Rapid Air Quality Monitoring protocol), Carbon Monoxide Protocol Working Party and CFA District 27 Project Steering Committee

> briefings provided to the State Emergency Management Team, Latrobe City Council, State Fire Management Planning Committee, Latrobe City Community Recovery Committee and the HCMFIRG.

EMV reports that a verification process in the Latrobe Valley, conducted by WorkSafe working in collaboration with the Taskforce, CFA, DEDJTR and the mines, provided stakeholders with an enhanced understanding of their respective roles in the regulation and emergency response capability of the mine operators and responder agencies.

CFA has met regularly with the Latrobe Valley mine operators to discuss existing and emerging issues relating to fire risks in the mines. Since 2014, a number of initiatives have been undertaken by CFA in partnership with essential industry providers. These include:

> readiness planning by mine operators, in consultation with CFA Duty Officers on days of high fire danger

> development of detailed mapping that forms part of local response planning to assist in creating better understanding of risk and consequence

> establishment of communication protocols between operators and CFA first responders

> formation of the Central Gippsland Essential Industries Group (CGEIG) Standardisation sub-committee.

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12 AIIMS is a system for the management of all incidents, imminent or actual, occurring in the natural or built environment; or for the many other activities that emergency management agencies, and those that support them, may have to deal with (AFAC 2013).

13 See *Affirmation 36: The State implement the Victorian Critical Infrastructure Resilience Strategy.*

The CGEIG meets regularly and has representation from the mines and other major industries, utilities and agencies. It provides a network for industries to support emergency management agencies and each other during an incident. The CGEIG Standardisation sub-committee consists of representatives from the mines, Victoria Police, CFA and the Taskforce Director. The sub-committee aims to introduce improved systems, processes and equipment that will build an aligned, joint capability to respond to, and combat, emergencies in the mines.

In June 2015, CFA convened a working group consisting of mine operators, power generators and Australian Paper (a major hazard facility). This group aims to strengthen existing relationships, avoid unnecessary duplication and achieve better operational outcomes.

IGEM notes that the working group is newly established and will continue to monitor its progress.

Integrated Incident Management Teams

EMV has provided advice of coal mine personnel receiving training in AIIMS at the Hazelwood, Yallourn and Loy Yang mines. This has included:

> Hazelwood – GDF SUEZ
  – Emergency commanders and nominated personnel
> Yallourn – Energy Australia
  – Seven qualified Level 2 Incident Controllers
  – 16 personnel
  – Level 1 Incident Control Centre established for extreme fire danger days
> Loy Yang – AGL
  – Fully established and equipped Incident Control Centre on site
  – Training conducted with CFA regularly
  – 17 nationally accredited Level 2 Incident Controllers on site.

Hazelwood mine personnel were integrated into IMTs by means of:

> attending high fire danger day planning pre-briefings with CFA and the Bureau of Meteorology
> attending the multi-agency Incident Control Centre during incidents that may threaten the Hazelwood mine
> engagement in all relevant Incident Controller and media briefings.

EMV has advised that this approach was taken rather than implementing a formal pilot, which was required under the Implementation and Monitoring Plan. EMV will test efficacy of the approach in a discussion exercise planned prior to the 2015–16 summer season and through any response activity. Taskforce member agencies and essential industry provider personnel will apply the new, integrated approach to emergency management for a major incident in the Latrobe Valley.

The exercise will include all the Latrobe Valley mine personnel and test:

> agency activation in conjunction with industry response and capability
> pre-incident readiness, incident response and management
> detection, analysis and monitoring.

The exercise aims to identify gaps in the system and opportunities for improvement, and will be an element of closure for the Taskforce, which is due to cease in December 2015.

EMV describes the successful integration of IMTs with other essential industries as the important next phase that will require a significant amount of work and resources. EMV believes progress has been limited by the lack of a definition for what constitutes 'essential industry providers'.

EMV also believes that integration will hinge, in part, on the redeveloped AIIMS model. AIIMS is being revised by the Australasian Fire & Emergency Service Authorities Council (AFAC) to specifically include essential industry providers in the AIIMS structure to allow essential industry provider personnel to be brought into a functional IMT role.

IGEM notes that the Implementation and Monitoring Plan requires the formal pilot, referred to earlier, to be progressively expanded to other Victorian essential industry providers by June 2016.

IGEM will provide a further update in the next reporting period.

Establishment of CFA District 27

CFA District 27 became operational on 1 April 2015, bringing together more than 20 brigades in the Latrobe Valley under a single structure.

IGEM is advised that District 27 will:

> provide expertise and advice to essential industry providers on making the best use of technology and resources
> work with essential industry providers to ensure a consistent and collaborative approach to the management of risks in the district
> help brigades to strengthen relationships with industry partners to prevent and respond more effectively to incidents.

EMV has identified a number of infrastructure and resource challenges within the district that may inhibit the progress of the integration of essential industry providers into emergency management.

District 27 is operating from interim headquarters in Morwell, which are not ideal for the integrated management of major incidents by essential industry providers and agencies. A permanent District 27 headquarters is being constructed and is scheduled for completion by early 2016. This will provide capacity for a fully functioning Incident Control Centre suitable for major incidents enabling improved emergency management in the Latrobe Valley. The new premises will also facilitate the integration of essential industry providers with agencies during emergencies and for training and development purposes.

IGEM notes the recent establishment of CFA District 27 and will monitor its progress during the next reporting period.

Critical infrastructure reforms

Victorian critical infrastructure delivers services that are essential to maintain the social and economic well-being of all Victorians. Continuously improving the resilience of critical infrastructure to better ensure the continuity of essential services requires effective partnerships between government and the owners and operators of infrastructure.

The *Victorian Critical Infrastructure Resilience Strategy* and Part 7A of the *Emergency Management Act 2013* (the Act), which came into effect on 1 July 2015, support the management of emergency risks to Victoria's critical infrastructure from natural and human-induced emergencies. The Act mandates requirements and coordination structures that create a strong culture of risk management and collaboration to plan for, respond to and recover from emergency events. This includes mandatory measures for vital infrastructure owners/operators to exercise their planning, preparedness, prevention, response or recovery capability in respect of an emergency every year.

IGEM notes that EMV's responsibilities in relation to critical infrastructure only took effect on 1 July 2015 and will provide a progress update in the next reporting period.

Further commentary on critical infrastructure reforms may be found in *Affirmation 36: The State implement the Victorian Critical Infrastructure Resilience Strategy*.

Finding: IGEM:

> considers that the establishment of the Taskforce has progressed the integration of coal mine operators into the response to emergencies but is unable to comment on progress with the integration of other essential industries
> is unable to comment on the integration of mine personnel into incident management teams in the absence of the formal pilot specified in the Implementation and Monitoring Plan
> has received no evidence of progress with the formal inclusion of other essential industry bodies into incident management teams operating under the AIIMS structure, as specified in the Implementation and Monitoring Plan.

IGEM expects to see significant progress during the next reporting period and will revisit this affirmation in the next Annual Report.

Opening of CFA District 27 interim headquarters in Morwell, 1 April 2015 (photo used with permission, Latrobe Valley Express www.latrobevalleyexpress.com.au)

Affirmation 11

The State improve training for career and volunteer firefighters to include lessons highlighted by the Hazelwood mine fire

Lead agencies: CFA & MFB	Affirmation status: Ongoing

Implementation Actions

Actions		Due Date
IMP 4.9	Lessons highlighted by the experience of the Hazelwood Coal Mine Fire, and resulting from the findings of the Board of Inquiry, will be taken into consideration in future training and preparedness of the fire services.	Not specified
IMP 4.10	The fire services are developing a training and exercising package for brown coal mine fires.	Not specified
IMP 4.11	Joint exercises between fire services and both the mine operators and power generators will be undertaken to support the development of relationships.	Not specified
IMP 4.12	A package of information during the fire will be reviewed and provided across CFA, MFB and DEPI (now DELWP), and to all relevant incident control centres, in December 2014. All CFA stations in the new district will receive the information. The information includes management systems, mapping of the Hazelwood Coal mine, sectoring, hot spot identification, management and tactics.	December 2014
IMP 4.13	The new Latrobe City CFA District will provide a specific focus on training and capability building.	Not specified

The second submission from the Victorian Government states that:

Lessons highlighted by the experience of the Hazelwood Coal Mine Fire, and the findings of the Board of Inquiry, will be taken into consideration in future training and preparedness of the fire services (State Government of Victoria 2014b, p. 27).

Development of a training and exercising package for brown coal mine fires

CFA, in collaboration with MFB and the coal mining industry, is developing a brown coal firefighting training package. The purpose of the training package is to ensure the fire services have the skills, knowledge and experience to respond to fires within a coal mine environment.

The *Training and Development Specification for Coal Mine Firefighting* has been developed, outlining the scope of the training program, learning outcomes, and program content. Training will cover topics such as personal safety, industry awareness, hazards, operational considerations, and strategies and tactics. The specification will inform the development of the delivery and assessment materials.

The training package will then require approval by each fire agency and a pilot will be conducted prior to implementation. CFA anticipates that the training package will be completed by 31 August 2015.

IGEM will provide a progress update in the next reporting period.

CFA has also developed a video, *Coal mine fires – Introduction for emergency services personnel*, to inform firefighters of the specific challenges faced when fighting fires within a coal mine. This video is available on YouTube.

MFB has updated its training program to incorporate lessons identified from the Hazelwood mine fire.

Specialist skills courses have also been updated and include:

> managing atmospheres with higher than normal levels of carbon monoxide

> operation and use of specialised atmospheric monitoring equipment by MFB Scientific Officers

> development of Health Management Plans as part of Incident Management Plans

> personal protective clothing management – cleaning and decontamination

> decontamination procedures for personnel and equipment

> health assessment and health monitoring procedures for incident management personnel

> briefing and induction processes to improve the focus on safety

> incident management arrangements and enhancements to the Incident Control System

> staging area management procedures.

Joint exercises between fire services and both the mine operators and power generators to support the development of relationships

CFA has advised that joint exercises have been undertaken with industry (including the Hazelwood coal mine and the Loy Yang power station) for a number of years. These exercises have been primarily driven by a requirement for power industries to undertake exercises on an annual basis under Part 6 of the *Terrorism (Community Protection) Act 2003*[14].

The Taskforce Workplan has several references to joint training and exercising occurring between CFA and mine operators. CFA has provided IGEM with details of two such exercises:

> 'Wildfire Ready' conducted at Loy Yang (AGL) on 25 February 2015 to test the response to a wildfire encroaching on the open cut mine

> Evacuation drill conducted by GDF SUEZ on 12 March 2015.

IGEM is advised that the Taskforce is planning a discussion exercise that is scheduled for October 2015. The exercise will include all the Latrobe Valley mines and test:

> agency activation in conjunction with industry response and capability

> pre-incident readiness, incident response and management

> detection, analysis and monitoring.

Taskforce member agencies and industry personnel will apply the new, integrated approach to emergency management for a major incident in the Latrobe Valley.

MFB reports that it continues to liaise regularly with CFA senior managers and the CFA Operations Manager, District 27 but has provided no evidence of participating in joint exercises with CFA and the mine operators.

MFB has advised that it is willing and available to participate in joint-agency training exercises at major infrastructure and critical infrastructure facilities across Victoria, including the power stations and coal mines in the Latrobe Valley to develop relationships and enhance interoperability.

IGEM has received no further information from CFA or MFB in relation to the scheduling of joint exercises and is unable to comment further.

Review and provision of a package of information developed during the fire to CFA, MFB, DEPI (now DELWP) and all relevant Incident Control Centres in December 2014, including all CFA stations in the new district

CFA advised IGEM that all of the documentation developed during the Hazelwood mine fire was retained and made available at the Regional Control Centre and Incident Control Centres during the 2014–15 fire season. IGEM has received no evidence of how, or to whom, the documentation was made available or in what format.

MFB reports that it did not receive specific information relating to mapping of the Hazelwood coal mine, sectoring and hot spot identification.

CFA has collated the documentation into a strategic plan that has been sent out for comment. The document is scheduled for finalisation prior to the fire danger period commencing in late 2015.

IGEM has not received a copy of the strategic plan and is unable to comment.

New Latrobe City CFA District to provide a specific focus on training and capability building

CFA District 27 became operational on 1 April 2015, bringing together more than 20 brigades in the Latrobe Valley under a single structure.

The district has acquired two Compressed Air Foam System appliances which are considered best practice for fighting brown coal fires, and training in their use has commenced.

CFA Compressed Air Foam System tanker (photo used with permission, Latrobe Valley Express www.latrobevalleyexpress.com.au)

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14 This has been superseded by Part 7A of the *Emergency Management Act 2013*, which came into effect on 1 July 2015.

District 27 is operating from interim headquarters in Morwell, which are not ideal for the integrated management of major incidents by industry and agencies. A permanent District 27 headquarters is under construction and scheduled for completion by early 2016. This will provide capacity for a fully functioning Incident Control Centre suitable for major incidents and enabling improved emergency management in the Latrobe Valley. The new premises will also facilitate the integration of essential industry providers with agencies during emergencies and for training and development purposes.

IGEM notes the recent establishment of CFA District 27 and the planned relocation to a permanent headquarters and will provide a progress update in the next reporting period.

Finding: IGEM considers that the development of the training and exercising package for brown coal mine fires is progressing satisfactorily.

However, IGEM has received no evidence of:

> scheduling of joint exercises between the fire services, mine operators and power generators other than the discussion exercise planned for October 2015

> MFB participation in joint exercises between the fire services, mine operators and power generators

> information developed during the fire being provided to CFA, MFB and DEPI (now DELWP), and to all relevant Incident Control Centres in December 2014.

IGEM will expect to see significant progress with these matters in the next reporting period.

Affirmation 12

The State improve OHS in emergency response to include lessons highlighted by the Hazelwood mine fire

Lead agencies: CFA & MFB	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 12. The Implementation and Monitoring Plan relates Affirmation 12 to Recommendation 7, which is being monitored by the IM.

Recommendation related to Affirmation 12
Recommendation 7

The State review and revise the community carbon monoxide response protocol and the firefighter carbon monoxide response protocol to:

> ensure both protocols are consistent with each other

> ensure both protocols include assessment methods and trigger points for specific responses

> ensure GDF SUEZ and other appropriate essential industry providers are required to adopt and apply the firefighter carbon monoxide protocol

> inform all firefighters about the dangers of carbon monoxide poisoning, and in particular highlight the increased risks for those with health conditions and those who are pregnant.

Implementation Actions

Actions		Due Date
IMP 4.15	Occupational health and safety (OHS) remains a key consideration of all emergency planning and response arrangements. It is important that all health and safety matters are reported in a consistent way in accordance with incident safety systems so they can be logged and acted on quickly, with reporting up the chain of command where appropriate.	Not specified
IMP 4.16	Lessons from the Hazelwood Coal Mine Fire provide opportunities for the emergency response agencies to further enhance their OHS procedures, including integrating the Health Management and Decontamination Plan into fire services operating procedures.	Not specified
IMP 4.17	The Regional Operating Procedure for Latrobe Valley Open Cut Mines will be reviewed by May 2015 to ensure consistency with the finalised protocols.	May 2015

Consistent reporting of all health and safety matters

CFA and MFB apply a consistent reporting system for health and safety matters.

CFA has existing procedures for Health and Safety Documentation and Records to ensure that OHS information is stored appropriately to support CFA's OHS Policy.

As part of their OHS Policy, CFA personnel report health and safety matters (injuries and hazards) in a prompt and efficient manner in real time through the CFASafe system. On the fireground, multi-agency incident reporting is available through medical units that form part of IMTs. Both CFA and DELWP utilise OHS Incident Report Cards, also known as 'salmon cards'. CFA's incidents are recorded and entered into CFASafe. Depending on the roles filled, the OHS Incident Report Cards are then forwarded via a chain of command that comprises the Medical Unit Leader, the Logistics Officer and the Incident Controller. CFA advised that CFASafe is monitored, with reports produced on a regular basis.

CFA acknowledges that further work is required to ensure IMTs are appropriately resourced to manage this work as part of incident management and operational activity. CFA and DELWP are implementing a project that will provide more training opportunities for Medical Unit Resource Leaders. The project will also provide a broader understanding across agencies of the role that Medical Units play in IMTs. A joint CFA/DELWP OHS Incident and Injuries Register has been developed as part of this project.

MFB uses the same incident reporting system as CFA (MFBSafe) for staff to report all incidents, injuries, near misses and hazards. Ambulance Victoria, DELWP and VICSES also use this system.

During Level 3, and some level 2 incidents, the State Control Centre activates the role of the State Occupational Health and Safety Executive Advisor. This role works in collaboration with all relevant emergency service organisations to improve OHS performance during major emergencies and provides strategic health and safety advice to the EMC, State Response Controller and relevant State Controller.

Joint Standard Operating Procedure (SOP) *J8.01 OH&S Incident Response – Class 1 Emergencies* ensures that fire services personnel involved in response to Class 1 emergencies are aware of their responsibilities in recording, reporting, investigating and evaluating OHS incidents.

Enhancement of OHS procedures

Lessons from the Hazelwood mine fire provided emergency response agencies with opportunities to further enhance their OHS procedures.

MFB continues to actively participate in OHS-related activities for incident management as an outcome of the Hazelwood mine fire. Such activities include:

> working with EMV and other agencies to develop, or refine, OHS incident response procedures and protocols (for example, Fatigue Management, Workplace Health and Safety Incident Management, Personal Protective Equipment and Personal Protective Clothing)

> developing and refining health management and decontamination procedures

> reviewing and refining Dynamic Risk Assessment procedures

> dissemination of Safety Bulletins and Safety Fact Sheets to MFB personnel

> participating in the EMV Common Doctrine Project in relation to OHS integration and management.

MFB advises that it is standard practice for specialised consequence management issues, including health management and decontamination, to be integrated into operating procedures. Health Management and Decontamination Planning is a component of MFB incident action planning.

The *MFB Emergency Response Guidebook* is reviewed annually and the most recent operational learnings (such as those from the Hazelwood After Action Review) are incorporated. The guide is the key source of operational doctrine for staff.

MFB routinely develops Operations Improvement Advisory Notices that are disseminated to the workforce based on After Action Reviews. Such an Advisory Notice was in place at the time of the Hazelwood mine fire and underpinned operational decision-making for MFB.

CFA developed a consolidated *Health Management & Decontamination Plan: Latrobe Valley Coal Mines Fires* during the 2014 Hazelwood mine fire. The document was developed to manage the health and safety of all personnel on the fire ground at the Hazelwood and Yallourn mines. CFA advised that an updated version of the document is expected to be finalised prior to the 2015–16 fire danger period. IGEM will provide a progress update in the next reporting period.

Review of Regional Operating Procedure for Latrobe Valley Open Cut Mines to ensure consistency with finalised carbon monoxide protocol

CFA's *District 10 Standard Operating Procedure (SOP) Open Cut Coal Mines (Brown Coal) – Management of firefighter safety* was aligned to the State's draft carbon monoxide protocol and disseminated to all brigades within Districts 9, 10 and 27.

CFA reports that this SOP was reviewed and the updated procedure *District 27 Operating Procedure: Latrobe Valley Open Cut Coal Mines – Response to fires* is now finalised and aligns to the State's finalised carbon monoxide protocol. The procedure applies to all CFA operational responses to any fire in the three Latrobe Valley open cut coal mines being Yallourn, Morwell and Loy Yang.

MFB continued to work with CFA – in particular, the Assistant Chief Officer responsible for Gippsland and the Operations Manager, District 27 – in the revision of this procedure to ensure that interoperability and alignment are a key focus of agency operational procedures.

Finding: IGEM considers that this affirmation is progressing satisfactorily and will revisit in the next Annual Report.

Affirmation 14

The State review emergency management communications arrangements across government commissioned by the State Crisis and Resilience Council including consideration of:

> the roles and functions of emergency communications committees

> enhancing specialist crisis communications capability within government

> the use of established local networks as a way to communicate during emergencies

> additional emergency communications training for government employees

> developing a coordinated approach to the use of social media by government during emergencies

Lead agency: EMV	**Affirmation status:** Complete

IGEM is responsible for monitoring the implementation of Affirmation 14. The Implementation and Monitoring Plan relates Affirmation 14 to Recommendation 11, which is being monitored by the IM.

Recommendation related to Affirmation 14
Recommendation 11

The State review and revise its communication strategy to:

> ensure all emergency response agencies have, or have access to, the capability and resources needed for effective and rapid public communications during an emergency

> ensure, where appropriate, that private operators of essential infrastructure are included in the coordination of public communications during an emergency concerning that infrastructure.

Background

On 6 June 2015, the Secretary of DPC wrote to the IM to inform him of a decision by the SCRC to transfer lead agency responsibility for implementation of Recommendation 11 of the Inquiry Report from DPC to EMV.

This was due to Recommendations 11 and 12 being "…inextricably linked…" and their implementation being best achieved through one lead agency[15].

Completion of the review

On 18 December 2014, DPC reported to the SCRC that the *Whole of Government Crisis Communications Review*[16] had been completed in accordance with the Implementation and Monitoring Plan.

EMV and Victoria Police had implemented changes to enhance the capability and effectiveness of whole of government communications during an emergency[17].

DPC advised the SCRC that the report:

> identified the roles and functions of committees with emergency communications responsibilities

> considered international best practice in communications

> identified opportunities to enhance specialist crisis communications

> proposed a model for crisis communications governance arrangements across the Victorian Government.

The report contained recommendations in four key areas:

> strategic leadership function

> consistency in communications

> strengthening the emergency communications workforce

> best practice in communications evaluation.

The following sections describe reported progress in relation to each of the matters listed under this affirmation.

Roles and functions of emergency communications committees

In order to enhance the effectiveness of emergency communications, EMV and Victoria Police agreed on a revised communications structure that:

> moved the Secretariat for the Emergency Management Joint Public Information Committee (EMJPIC) from Victoria Police to EMV

> established the EMJPIC Executive to oversee operational and tactical media and communications functions and set communications and engagement priorities across the readiness, response, relief and recovery spectrum.

EMV assumed responsibility for the administration and chairing of EMJPIC in late 2014.

EMJPIC's principle roles include:

> ensuring a coordinated and strategic whole of government contribution to emergency management communication and community engagement in preparedness, response, relief and recovery for a major emergency

> developing or contributing to whole of government public information communications strategies and action plans for major emergencies.

EMJPIC reports to the SCRC, through the EMC and works with the three SCRC sub-committees.

The new EMJPIC Terms of Reference includes:

> a focus on involvement of the relevant industry in public communications during an emergency

> direct reporting of EMJPIC to the SCRC through the EMC.

15   Letter from Secretary of DPC to IM, 6 June 2015.
16   Values Communication 2014, *Whole of Government Crisis Communications Review*, Final Report.
17   SCRC Agenda Paper: Meeting No.23, 18 December 2014.

Enhancing specialist crisis communications capability within government

EMV reports that the *Whole of Victorian Government (WoVG) Crisis Communications Strategy* is being developed to guide and support communication staff in applying an integrated, WoVG communications approach. The strategy supports state and Australian Government emergency management and counter terrorism arrangements.

EMV identifies the strategy as a working document, expressed in the form of a template, with guidelines for the authors of a WoVG crisis communications strategy when responding to a major emergency or crisis. A series of triggers have been identified for the activation of crisis communications arrangements. The strategy will be reviewed following a major emergency and/or every six months in line with any major revisions to the emergency management arrangements.

Risk and consequence have been included in the template to ensure it is factored into the development of any communications strategy. EMV reports the template has been tested in one exercise and will be tested again in another exercise in late 2015. The strategy will then be delivered to the EMJPIC Executive and SCRC for approval.

Use of established local networks as a way to communicate during emergencies

The *Whole of Government Crisis Communications Review* suggested the establishment of a cross-government communications team that includes community engagement and connectedness functions. This would involve devising an overall community engagement approach and identifying local leaders and information conduits for information dissemination and two-way communications.

SCRC was advised that EMV would lead the development of a model that uses established local networks as a communications and engagement medium during emergencies[18].

Additional emergency communications training for government employees

EMV reported specific crisis communications training that was conducted prior to the 2014–15 summer season. Eighteen communications representatives from across government attended crisis communications training, while 64 people undertook counter-terrorism media liaison training.

Personnel from the Bureau of Meteorology, CFA, DEDJTR, DELWP, DHHS, DJR, DPC, EMV, Melbourne Water, MFB, Parks Victoria, Victoria Police, and VICSES also attended one-day media and social media courses.

Coordinated approach to the use of social media by government during emergencies

The Social Media Capability Enhancement Pilot commenced at the State Control Centre during the 2014–15 summer. The pilot aimed to improve community connections and intelligence gathering through social media during emergencies across Victoria. The pilot included:

> research on social media emergency management best practice

> identification and purchase of social media publishing and monitoring software tools

> development of a social media training package delivered across Victorian Government to examine how to manage, monitor and respond to social media issues in an emergency.

EMV has also prepared a draft Social Media Strategy setting out how the VicEmergency website will be expanded to encompass Facebook, Twitter, Instagram and YouTube social media channels to build an all hazards capacity into the social networks. The strategy is intended to form part of the broader VicEmergency Communications Plan being developed by EMV.

Finding: DPC reported to the SCRC in December 2014 that the review of Victorian Government communications arrangements for major emergencies had been completed in accordance with the Implementation and Monitoring Plan.

IGEM considers that Affirmation 14 has been implemented as planned.

Affirmation 14 is linked to Recommendation 11 in the Implementation and Monitoring Plan. Although a review of the State's emergency communication arrangements has been undertaken, Recommendation 11, which is being addressed by the IM, is much more expansive than Affirmation 14.

Progress by the State in addressing Recommendation 11 is reported in detail in Chapter 1 of the IM's 2015 Annual Report.

Affirmation 15

The state conduct a National Review of Warnings and Information

Lead agency: EMV	Affirmation status: Complete

Implementation Actions

Actions	Due Date
IMP 4.20 The Review will: > be informed by a review of international literature and reports written since 2008 and interviews with subject matter experts spanning all jurisdictions > include research into the use of Emergency Alert, the telephone based warning system	Not specified
IMP 4.21 The final report of the Review will be provided to the Australia New Zealand Emergency Management Committee in November 2014. The project is on track and will be completed by 31 October 2014.	November 2014

Led by the EMC, the *National Review of Warnings and Information* was completed in November 2014.

The review benchmarked best practice by identifying common challenges, emerging trends, innovation and gaps in how government provides information to communities during emergencies.

The review spanned a multi-hazard environment and explored emergencies such as bushfire, flood, storm, cyclone and other hazards. It included a literature review that encompassed both Australian and international research on warnings and information during emergencies conducted in the previous five years.

Ninety practitioners and subject matter experts across Australia, representing 35 organisations, were also interviewed. The interviews explored six themes:

> policy and practice

> channels and systems

> construction of warnings

> community response

> workforce capability

> continuous improvement.

The review included research into the use of Emergency Alert (EA) and interviews were conducted with those involved in the decision-making process (such as those who authorise alerts through EA), as well as users of EA and members of the broader community.

The *National Review of Warnings and Information* was completed in November 2014 and provided to the Australia and New Zealand Emergency Management Committee (ANZEMC) in April 2015. It is available on the EMV website.

Finding: IGEM considers that this affirmation has been implemented as planned.

Affirmation 27

The State improve communication around psycho-social support to communities affected by emergencies

Lead agency: DHHS	Affirmation status: Complete

Implementation Actions

Actions		Due Date
IMP 4.55	DHHS is seeking Dr Rob Gordon's advice about strengthening the state's communication around psycho-social support to communities.	Not specified
IMP 4.56	DHHS will continue to engage clinical psychologists to deliver psycho-social recovery training for government and service providers, and to facilitate information sessions for community members.	Not specified
IMP 4.57	DHHS will prepare editorials addressing psycho-social recovery issues for future recovery processes, as required.	Not specified
IMP 4.58	Informed by its psycho-social support reference group, DHHS will finalise any recommended changes or additions to its communication and community engagement processes, so that appropriate psycho-social resources are available by December 2014. This may result in the production of new or updated public information such as brochures, fact sheets, or revised content on the Recovery website.	December 2014

Following the Hazelwood mine fire, the former Department of Human Services (now DHHS) produced a monthly recovery editorial for publication in the *Latrobe Valley Express* between June and November 2014. The editorials were written by disaster trauma and psycho-social recovery clinical psychologist, Dr Rob Gordon, on behalf of DHHS. The editorials discussed local psycho-social recovery issues and provided advice to the community.

Seeking advice from Dr Rob Gordon about strengthening the state's communication around psycho-social support to communities

In November 2014, DHHS sought advice from clinical psychologist Dr Rob Gordon who developed an updated guide for effective psycho-social communications. The guide provides clear directions for community communication during emergencies. The guide, which is available online, was issued to Victorian Government departments, agencies, and key emergency relief partners.

Continuing to engage clinical psychologists to deliver psycho-social recovery training for government and service providers, and facilitate information sessions for community members

DHHS engages clinical psychologists to deliver psycho-social recovery training for government and service providers. Currently, DHHS has two training courses delivered by clinical psychologists which run throughout the year:

> Awareness of Children's Needs in an Emergency

> Understanding the Recovery Cycle – Psychological First Aid.

DHHS also facilitates information sessions for members of the community when needed. These sessions are provided upon request and are funded through specific recovery programs following an emergency. Usually, the request is generated from local government, for example from a recovery worker who is working with a community affected by an emergency. In this instance, the recovery worker and a community representative work with a psychologist to enable the information session to be tailored to the specific needs of the community.

There have been no requests for information sessions since the four sessions that were delivered between May and October 2014 as part of the 2014–15 bushfires recovery program.

Preparation of editorials addressing psycho-social recovery issues for future recovery processes

The editorials that appeared in the *Latrobe Valley Express* were adapted as transcripts for a video series entitled *Travelling the road to recovery with Dr Rob Gordon*. The videos address the emotional stages people generally experience during recovery from an emergency. Most of the videos were prepared for an all hazards environment and are relevant to any emergency. Two of the videos canvas specific emotional concerns with bushfire.

The videos will be heavily promoted in line with the department's relief and recovery communications plan and through EMJPIC, during and after an emergency.

DHHS intends that community members without internet access will be provided access through local community organisations. The videos can be screened in relief centres or other areas, such as a Neighbourhood House, during and after an emergency. The transcripts of the six videos are available on the DHHS website.

Finalisation of any recommended changes or additions to its communication and community engagement processes, so that appropriate psycho-social resources are available by December 2014

Following the 2014–15 bushfires, DHHS established the Emergencies Psycho-social Support Reference Group (the Reference Group) to ensure a comprehensive approach to the coordination of psycho-social support to communities. The Reference Group is made up of representatives from government (including mental health), the Australian Red Cross, the Victorian Council of Churches and clinical psychologists.

The Reference Group provides expert advice to influence emergency psycho-social support policy, research and program development. The first meeting was held in November 2014 and members provided feedback on the department's draft *Psycho-Social support – A Framework for Emergencies*.

This feedback was incorporated into the framework, which was completed and made available online in December 2014. The framework describes the impacts that emergencies can have on psychological and social well-being, and how to plan, provide and strengthen psycho-social support services.

Finding: IGEM considers that this affirmation has been implemented as planned.

Affirmation 29

The State review the Personal Hardship Assistance Program and Implementation Guidelines for consistency and clarity of purpose

Lead agency: DHHS	Affirmation status: Complete

Implementation Actions

Actions		Due Date
IMP 4.60 – 4.61	As part of its review of the Personal Hardship Assistance Program, the department will:	
	> update its policy to allow more flexibility for exceptional circumstances	December 2014
	> update guidelines and case studies to align with the updated policy	December 2014
	> review website information to reflect policy and guideline changes	December 2014
	> strengthen the training program for departmental officers with an emphasis on consistent and compassionate appreciation of the policy.	July 2015
	The review will be completed by July 2015.	July 2015

Update of policy to allow more flexibility for exceptional circumstances and update of guidelines and case studies to align with the updated policy

DHHS has reviewed and updated the policy and guidelines for the Personal Hardship Assistance Program (PHAP). The policy now acknowledges that Victorians may experience exceptional circumstances that result in a need for varying and tailored support, and provides for payments or alternative assistance. Assistance in exceptional circumstances is provided at the discretion of the Director of Health and Human Services Emergency Management.

The guidelines have also been updated and now include additional case studies to provide practical examples of the types of assessments PHAP officers may have to consider.

The new case studies cover:

> separate dwellings on the same property

> shared household with a tenanted relationship

> uninsured household with no identified relief needs

> power outage from a storm

> cleaning and refill of water tank with drinking water.

Review of website information to reflect policy and guideline changes

The Emergency Relief and Recovery Victoria website has been reviewed and updated to reflect the changed PHAP policy and guidelines. The recovery website contains information for accessing financial assistance, including a video about the types of financial assistance available during and after an emergency. The video provides an alternative method of communicating this information to make it easier for individuals to learn more about financial assistance payments.

Strengthening of the training program for departmental officers with an emphasis on consistent and compassionate appreciation of the policy

Following the update of the PHAP guidelines, the training program was redeveloped and delivered during the first week of December 2014. The revised Personal Hardship Assistance Team Member course focuses on consistent messaging and a consistent approval process, with inclusion of new scenarios based on real life examples. The training also includes personal support content to ensure that the guidelines are interpreted and applied in an empathetic way.

Also updated was the Understanding the Recovery Cycle: Psychological First Aid and Early Intervention course, which is a pre-requisite for the Personal Hardship Assistance Team Member course. Delivered by a clinical psychologist, students are supplied with practical resources that summarise techniques for psychological first aid and are provided with general advice about good first aid behaviour and how to recognise the need for specialist attendance.

Finding: IGEM considers that this affirmation has been implemented as planned.

Affirmation 30

The State implement new technology for recording emergency assistance payments

Lead agency: DHHS	Affirmation status: Ongoing

Implementation Actions

Actions		Due Date
IMP 4.64	Development of the new technology for recording emergency assistance payments is well underway. DHHS will implement and trial this new system by 1 July 2015.	1 July 2015

DHHS is introducing new technology to improve the tracking of PHAP payments to eligible Victorians affected by an emergency, such as fire or flood.

Development, implementation and trial of new technology for recording emergency assistance payments

In 2014, DHHS made a commitment to adopt a new emergency management information technology solution to perform a variety of tasks. The new technology contains a financial module to better track emergency assistance payments under the PHAP.

The system will have real-time functionality and will be capable of operating on multiple mobile devices and systems in relief centres or other locations during emergencies. The new system is designed to allow more timely application processing while reducing fraud. The new financial module was expected to be trialled and implemented by 1 July 2015.

Although the first prototype of the finance system was developed in November 2014, the project is currently behind schedule.

DHHS advised that the delay is due to issues associated with the inclusion of an interface with other DHHS financial systems. The new technology for recording emergency assistance payments is now due to be implemented in November 2015.

Finding: IGEM notes that this affirmation is overdue and the new technology for recording emergency assistance payments is now scheduled for implementation in November 2015.

IGEM will revisit this affirmation in the next Annual Report.

Affirmation 31

Local Government Victoria coordinate emergency management officers across local councils

Lead agency: DELWP	Affirmation status: Ongoing

Implementation Actions

Actions		Due Date
IMP 4.68	Local Government Victoria (LGV) has established an emergency management role to develop capability through the Municipal Emergency Resourcing Program emergency management officers. A framework and work plan is being developed. LGV will develop formal and informal networks between emergency management officers which will provide a resource base for the response and recovery phases of future emergencies. In addition, a knowledge management system within these networks will be implemented to share knowledge between councils.	Not specified

The Municipal Emergency Resourcing Program (MERP) was established in 2010 and provides funds for the 64 councils within CFA districts to assist in implementing their emergency management responsibilities.

In February 2014, the Victorian Government announced that it would continue to fund emergency management functions for the councils through the MERP for a further two years.

Until 2013–14, MAV was funded each year to coordinate emergency management officers across councils. When funding concluded at the end of 2013–14, responsibility transferred to LGV (originally within the former Department of Transport, Planning and Local Infrastructure but now within DELWP).

LGV has commissioned an independent evaluation of the effectiveness of the MERP and will seek input from all of the councils funded through the program.

Establishment of an emergency management role to develop capability through the Municipal Emergency Resourcing Program emergency management officers

In August 2014, LGV established the new role of Manager, Emergency Management to provide LGV with the capability and capacity to contribute to state-level, emergency management strategic planning and policy. The position is supported by a Senior Analyst who administers the MERP.

The establishment of the emergency management function within LGV is intended to promote knowledge sharing, collaborative effort and mutual aid protocols between local councils and groups.

Development of a framework and work plan

LGV has been consulting with a range of stakeholders, including EMV, MAV and local councils (both individually and collectively through regional networks), to identify appropriate and effective ways of enhancing coordination and cooperation across councils.

Under the *Victorian Emergency Management Strategic Action Plan 2015–2018* (SAP) and DELWP's work program, two projects have been identified to determine the future role of local governments in emergency management and to determine capability and capacity requirements to undertake the role.

LGV expects the project to provide a framework and high level work plan for LGV that will facilitate the effective coordination of emergency management officers across local councils. LGV is also engaging with working groups seeking to provide input into the project, such as the Future of Municipal Emergency Coordination Centres (MECCs) Working Group[19].

In the interim, LGV continues to regularly engage with Municipal Emergency Management Enhancement Groups (MEMEGs)[20] and collaborative groups across the state to develop the networks through which work programs will be delivered.

IGEM notes the work that LGV is undertaking with stakeholders to enhance coordination and cooperation across councils and will expect to see significant progress with the development of the framework and work plan in the next reporting period.

Development of formal and informal networks between emergency management officers which will provide a resource base for the response and recovery phases of future emergencies

State and regional MEMEGs and collaborative groups are key forums for increasing interoperability and providing extra capability to councils affected by disaster. Collaborative arrangements in the North West Metropolitan Region are an example of this, with 14 councils engaged in resource sharing, standardisation of relief practices and delivery of common training programs. LGV regularly engages with these groups and is seeking to engage with non-member councils in order to increase their collaborative participation.

LGV also engages with key organisations such as EMV, DELWP and DHHS to identify and enhance effective approaches to regional and statewide collaboration between state and local governments. This includes partnering with MAV to review the effectiveness of the cluster council cooperation models concurrently with the MERP review. Outcomes will inform the design of future collaborative networks.

IGEM will continue to monitor the development of formal and informal networks between emergency management officers and provide a progress update in the next reporting period.

Implementation of a knowledge management system within these networks to share knowledge between councils

DELWP advises that a part of its executive support role to the MEMEG will include ensuring that issues identified in regional groups are reported to the State MEMEG. This will assist in gaining an understanding of issues and gaps and identify a process for analysis and treatment. It will also formalise information flow between MEMEG and the regional groups.

DELWP has identified the need for a lessons management system and believes the system being developed by EMV, with a view to implement statewide, could potentially be adopted by local government as one mechanism to improve the information flows and reporting structures within the MEMEGs and other collaborative groups.

Finding: IGEM expects to see significant progress with the development of a framework and work plan, as per the SAP during the next reporting period.

IGEM notes that DELWP will continue to work with EMV on the development of a knowledge management process and will revisit this affirmation in the next Annual Report.

Affirmation 32

The State improve relief and recovery information available to Culturally and Linguistically Diverse communities

Lead agency: DHHS	**Affirmation status:** Complete

Implementation Actions

Actions		Due Date
IMP 4.71	DHHS is currently preparing a new CALD community engagement strategy that outlines aims, audiences, issues, risks, tools and tactics to further engage with CALD communities during emergency relief and recovery activities.	November 2014
	The strategy lists the department's key partners in producing relief and recovery information for CALD communities: Office of Multicultural Affairs and Citizenship (OMAC), the State Library of Victoria, and the Victorian Multicultural Commission. The strategy will be finalised by November 2014.	
IMP 4.72	The CALD strategy will set out the new audio, video and print content that DHHS is producing to expand the existing CALD relief and recovery information on the Emergency Relief and Recovery Victoria website (www.recovery.vic.gov.au).	Not specified
	The department will also produce new print materials for CALD communities in six additional languages of Chaldean, Dinka, Gujarati, Hazaragi, Kurdish and Nuer.	
IMP 4.73	The new print, online, audio and video content will include:	December 2014
	> information that clearly and simply explains how to apply for financial assistance during and after an emergency, including the eligibility criteria for payments > information about what services are available at a typical emergency relief centre.	

Pilot program to produce emergency relief and recovery information for Victoria's major CALD communities and new content for the Emergency Relief and Recovery Victoria website

Since 2013, DHHS has worked with OMAC, the State Library of Victoria and the Victorian Multicultural Commission to develop a pilot program to provide emergency relief and recovery information for CALD communities.

The program focused on producing emergency relief and recovery information in languages other than English. The program design was based on information from OMAC and statistics from the Australian Bureau of Statistics (ABS) in relation to the different types of newly arriving communities and their language barriers.

The pilot involved the development of online and video content for the Emergency Relief and Recovery Victoria website. The website now includes content in 20 languages — Arabic, Assyrian, Auslan (Australian Sign Language), Burmese, Chinese, Croatian, Dari, Dinka, Greek, Gujarati, Hazaragi, Italian, Karen, Khmer, Kurdish Sorani, Macedonian, Nuer, Persian, Turkish and Vietnamese.

The web pages contain generic information about relief and recovery assistance, including financial assistance and what people can expect to find in relief centres.

The online information is supported by a limited number of print publications, which have been produced in a select number of languages. DHHS has advised that, due to the costs associated with print publications, the future focus will be on responding to a particular community's needs in a flexible way, and encouraging leaders in CALD communities to use the information provided on the website as a basis for building awareness in their communities.

As a result of the pilot, it is now routine for relief and recovery information to be provided in various languages.

Preparation of a new CALD community engagement strategy

The CALD community engagement strategy developed by DHHS describes how to engage with CALD communities during emergency relief and recovery. The strategy outlines aims, audiences, issues, risks, tools and tactics to assist engagement activities.

As a result of the CALD community engagement strategy, emergency information in six additional languages (Assyrian, Dinka, Gujarati, Hazaragi, Kurdish Sorani, and Nuer) have been added to the Emergency Relief and Recovery Victoria website.

DHHS has used EMJPIC and an ongoing Twitter campaign to communicate the availability of these new resources.

Finding: IGEM considers that this affirmation has been implemented as planned.

Affirmation 33

The State review relief and recovery communications and community engagement initiatives

Lead agency: DHHS	Affirmation status: Complete

IGEM is responsible for monitoring the implementation of Affirmation 33. The Implementation and Monitoring Plan relates Affirmation 33 to both Recommendation 11 and Recommendation 12, which are being monitored by the IM.

Recommendations related to Affirmation 33
Recommendation 11

The State review and revise its communication strategy, to:

> ensure all emergency response agencies have, or have access to, the capability and resources needed for effective and rapid public communications during an emergency

> ensure, where appropriate, that private operators of essential infrastructure are included in the coordination of public communications during an emergency concerning that infrastructure.

Recommendation 12

The State, led by Emergency Management Victoria, develop a community engagement model for emergency management to ensure all State agencies and local government engage with communities and already identified trusted networks as an integral component of emergency management planning.

Implementation Actions

Actions		Due Date
IMP 4.78	DHS (DHHS) is developing a new process to support the new whole of Victorian Government (WoVG) emergency communications and community engagement strategy.	Not specified
IMP 4.79	Under this process, the department will compile community profiles for all 79 Victorian local government areas, ready for distribution across government during a major emergency. Each municipality profile will capture a mix of data across a range of relevant demographic factors (drawn from Australian Bureau of Statistics' Census 2011 data), together with more current information gathered from local sources in each municipality.	Not specified
IMP 4.80	Such information should better inform all government communications and community engagement, particularly in the immediate relief and longer-term recovery phases of any emergency. The new community profile process (and template) will be finalised by December 2014.	December 2014

Information session held at Morwell Neighbourhood House, 18 February 2014 (Image: Morwell Neighbourhood House)

DHHS is developing a new process to support the new WoVG emergency communications and community engagement strategy

In March 2015, DHHS finalised the *Community Profiling Protocol and Template*, which provides guidance on how to prepare a community profile so that information may be used to directly support and inform a WoVG communications strategy, which is prepared and enacted in response to a major emergency. The protocol provides direction as to how to source and compile a community profile or profiles for a local government area that is affected by an emergency event.

The profiles will capture objective data from the ABS, then combine that data with subjective locally-gathered information, to produce a current profile of a Local Government Area (LGA) or a smaller area/community within that LGA.

The community profile will help build a better picture of an emergency affected community to:

> improve Victorian Government communications and engagement with emergency-affected communities, during and after an incident (including the issuing of emergency information and warnings)

> better inform longer-term emergency relief and recovery policy, planning and implementation

> better inform the state-level common operating picture for all incident reporting purposes.

The appendix to the protocol contains a *Community Profile Template* to support the Protocol, which is to be completed by communications officers from different agencies selected to complete the task as agreed by EMJPIC and EMV.

In March 2015, DHHS participated in an EMJPIC-led working group exercise to test the draft *WoVG Crisis Communications Strategy*, which includes relief and recovery communications. The exercise resulted in a series of actions, including the further development by DHHS of its new *Community Profiling Protocol and Template*.

A new 'Profile of Victorian communities' page has been created on the Emergency Relief and Recovery Victoria website, with downloads and links available from a number of sources such as the ABS and LGV.

DHHS has advised that it is collating departmental statewide information for profiling purposes, however this work is iterative and ongoing.

Finding: IGEM considers that this affirmation has been implemented as planned.

Affirmation 36

The State implement the Victorian Critical Infrastructure Resilience Strategy

Lead agency: EMV	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 36.

The Implementation and Monitoring Plan relates Affirmation 36 to Recommendation 3, which is being monitored by the IM.

Recommendation related to Affirmation 36
Recommendation 3

The State enact legislation to:

> require integrated Fire Management Planning
> authorise the EMC to develop and implement regional and municipal fire management plans.

The Implementation and Monitoring Plan states that the former Department of Sustainable Development, Business and Innovation (now DEDJTR) will work with energy sector critical infrastructure operators to introduce the new arrangements, in consultation with the EMC.

Background

On 1 July 2015, Part 7A of the *Emergency Management Act 2013* came into operation and EMV assumed responsibility for coordination and management of the new critical infrastructure arrangements.

The key features of the new legislation include:

> assessment of 'vital' critical infrastructure through a collaborative process between industry and government using a prescribed methodology
> inclusion of 'vital', 'significant' and 'major' critical infrastructure on a Victorian Critical Infrastructure Register
> nomination of accountable persons within industry and government
> assignment of actions and responsibilities to owners and operators of 'vital' critical infrastructure under a resilience improvement cycle, including the provision of a Statement of Assurance to government, risk management planning and documentation, an exercise and auditing of plans[21].

Critical Infrastructure Resilience Strategy

The Victorian *Critical Infrastructure Resilience Strategy* (the strategy), published in July 2015, works in conjunction with Part 7A of the *Emergency Management Act 2013* to set out the framework to reform Victoria's security and emergency management arrangements for critical infrastructure.

The new arrangements are in line with the White Paper and *A Roadmap for Victorian Critical Infrastructure Resilience* (State Government of Victoria 2012b).

The strategy and associated legislation require that risk management processes are implemented, tested, and quality assured to build the resilience of Victoria's 'vital' critical infrastructure and ensure continuity of supply of essential services to the community.

Critical Infrastructure Resilience Strategy, July 2015 (Image: EMV)

EMV has the lead role in maintaining and coordinating whole of government strategy and policy for critical infrastructure resilience to ensure a consistent approach across government.

EMV's specific responsibilities include:

> developing and supporting effective communication, monitoring and reporting networks to provide assurance on the effective implementation of the strategy
> establishing and maintaining the Victorian Critical Infrastructure Register, containing infrastructure designated as 'significant', 'major' or 'vital'
> disseminating intelligence and information on non-terrorism risks and hazards from relevant sources
> providing advice to the Minister for Emergency Services on critical infrastructure resilience policy and strategy
> liaising with the Australian Government on national critical infrastructure resilience arrangements
> developing the *All Sectors Resilience Plans* based upon the *Sector Resilience Plans* produced by individual portfolio departments
> informing the Security and Emergency Management Committee (SEMC), the SCRC and the Risk and Resilience sub-committee on critical infrastructure resilience matters.

The new arrangements require the assessment and categorisation of Victoria's critical infrastructure as 'local', 'significant', 'major', or 'vital'. Owners and/or operators of infrastructure declared 'vital' have mandatory obligations to undertake a Risk Resilience Improvement Cycle.

Owners and/or operators of infrastructure assessed as 'major' or 'significant' are encouraged to develop emergency risk management strategies and practices based on obligations for 'vital' critical infrastructure. Implementation is phased with assessment for 'vital' infrastructure currently being completed. The next phase will include assessment for non-vital infrastructure.

EMV reports that engagement with critical infrastructure owners and operators across the state – including in the water, energy, liquid fuels, transport, food, banking and finance and telecommunications sectors – has been undertaken through the Security and Continuity Networks chaired by the respective portfolio departments. Following the legislative change on 1 July 2015, the work of the Security and Continuity Networks transitioned to SRNs.

EMV hosted the SRN 2015 All Sectors Forum on 5 June 2015, with the new critical infrastructure resilience arrangements as its theme.

The program included a presentation on the new arrangements, discussion of the transition to the new arrangements and engagement with an expert panel consisting of representatives from EMV, DEDJTR, DELWP, DPC, IGEM, and Victoria Police.

IGEM notes that EMV's responsibilities in relation to critical infrastructure only took effect on 1 July 2015 and will provide a progress update in the next reporting period.

IGEM's assurance role

The amendment[22] to the *Emergency Management Act 2013* on 1 July 2015 vested IGEM with the responsibility to monitor, review and assess critical infrastructure resilience at a system level.

IGEM has developed a *Monitoring and Assurance Framework for Emergency Management* (IGEM 2015b), as required by section 64(1)(a) of the *Emergency Management Act 2013*. The framework will be implemented progressively, in consultation with the sector, and encompass assurance of critical infrastructure resilience at the system level.

Finding: EMV assumed responsibility for implementing the *Critical Infrastructure Resilience Strategy* on 1 July 2015 and implementation is still in its early stages.

IGEM considers that this affirmation is proceeding satisfactorily and will revisit in the next Annual Report.

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21   SCRC Agenda Paper: Meeting No. 25, 30 April 2015.

22   Section 64(1)(ga).

Affirmation 37

The State enhance emergency risk mitigation planning

Lead agency: EMV	Affirmation status: Ongoing

IGEM is responsible for monitoring the implementation of Affirmation 37. The Implementation and Monitoring Plan relates Affirmation 37 to Recommendation 3 and Recommendation 4, which are being monitored by the IM.

Recommendations related to Affirmation 37

Recommendation 3

The State enact legislation to:

> require integrated Fire Management Planning

> authorise the EMC to develop and implement regional and municipal fire management plans.

Recommendation 4

The State:

> bring forward the commencement date of s.16 of the *Mineral Resources (Sustainable Development) Amendment Act 2014* (Vic), to facilitate the requirement that approved work plans specifically address fire prevention, mitigation and suppression; and

> acquire the expertise necessary to monitor and enforce compliance with fire risk measures adopted by the Victorian coal mining industry under both the mine licensing and occupational health and safety regimes.

Emergency risk mitigation planning

The second submission from the Victorian Government states that:

A collaborative risk assessment approach fits neatly with current reforms to emergency management that introduce an 'all hazards' (both natural and man-made) approach to emergency management.

As part of the reforms, emergency risk mitigation planning arrangements will be examined with a view to make them more holistic and coordinated, and allocate specific accountabilities for risk management and mitigation in relation to particular hazards.

It is important that the relevant regulators of sites that pose significant risks are part of regional and local emergency risk assessment and planning. This will enable a collaborative and aligned risk assessment process and recognise that the regulatory tools administered by the regulators are likely to be the best mechanism for mitigating certain risks (State Government of Victoria 2014b, p. 48).

IGEM notes that the IM will report on the roles and the activities of the coal mine operators and the regulators in relation to emergency management plans, work plans and fire risk measures adopted by the Victorian coal mining industry under the mine licensing and occupational health and safety regimes. These matters lie outside the scope of IGEM's role.

The legislative reforms that will underpin the proposed new emergency risk mitigation planning arrangements are described under *Affirmation 8: The State improve the State planning framework for emergencies*.

The following sections provide an overview of projects and activities reported to IGEM in relation to the enhancement of emergency risk mitigation planning.

Regional Emergency Risk Project

EMV implemented the Regional Emergency Risk Project in 2014–15 to conduct a broader-hazard emergency-risk assessment for each of the eight State Government regions[23]. The project was a key element of the *Interim Emergency Management Strategic Action Plan 2014–15*. As part of the project, EMV facilitated 17 risk workshops across Victoria with more than 200 participants, including stakeholders across government, agencies, business and universities.

EMV's evaluation of the workshops found an increased level of knowledge and experience for the participants in relation to collaborative emergency management planning, emergency risk activities or processes, regional emergency management risk characteristics and emergency management legislation or planning arrangements.

The project applied a risk assessment methodology based on principles of the international standard ISO 31000:2009. The methodology was informed by the *National Emergency Risk Assessment Guidelines* and other risk assessments previously conducted in Victoria, at state and municipal level.

EMV has advised that the project was designed to support the development of a coordinated and collaborative regional approach to broader emergency risk management planning in Victoria. EMV anticipates that the project will contribute to the development and understanding of regional broader hazard emergency management planning capabilities, and subsequently increase disaster resilience levels at the regional and state level.

EMV stated that the project did not allow an opportunity to conduct a comprehensive emergency risk assessment for all identified risks in a region but provided the basis for more comprehensive emergency risk assessments and treatment plans for the selected risks. It will identify potential regional emergency management governance arrangements and allow a regional comparison to identify best practice approaches.

The emergency risk assessments will support the identification of emergency risk management gaps and potential within participating agencies and organisations. This, in turn, will provide improved organisational emergency risk management strategies.

EMV reported that the project delivered three key components:

Emergency risk profiles for each of the eight emergency planning regions to improve understanding of the unique features of each region, such as assets, values, vulnerabilities and previous emergencies. The profiles link to existing sources of information regarding social demographics, key economic drivers, changing land use, topography and climate, to inform future strategic implications for risk and consequence management.

The profiles will be used for a range of activities including general mitigation planning, exercise and training design, and as an information source for operational readiness and response consequence planning.

Regional Emergency Risk Reports to establish emergency risk priority areas of interest, identify and assess the confidence levels in existing risk reduction treatments for those risks and analyse risk scenarios based on their impact on people, infrastructure, public administration, the environment, the economy and social setting.

State-level Report summarising the regional processes and results and identifying key recommendations for future projects and emergency management planning considerations.

EMV reports that the project achieved an enhanced understanding of:

> overall regional emergency management planning arrangements and capabilities

> roles, responsibilities and risk treatments for selected emergency scenarios

> underlying regional vulnerability and resilience influencing the selected risks

> regional emergency management risks and their implications for state emergency resilience.

The project benefits will be tracked and reviewed by EMV in contributing to:

> regional emergency management planning arrangements

> strategic risk and consequence planning at the regional and state level

> 2016–17 state emergency risk assessment

> municipal emergency risk assessments

> emergency sector capability – building emergency management knowledge

> building understanding of responsibility for risks and their management

> emergency risk assessments for specific hazards – for example, floods and storms.

The final state summary and individual regional reports are scheduled for release in September 2015.

EMV is preparing a plan to utilise the outputs from this project for the benefit of future risk assessment and risk management projects.

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23   Barwon South West, Grampians, Loddon Mallee, Hume, Gippsland, North and West Metropolitan Region, Eastern Metropolitan Region, Southern Metropolitan Region.

Regional risk and consequence plans

Another key project outlined in the *Interim Emergency Management Strategic Action Plan 2014–15* was the completion of Risk and Consequence Plans by Regional Emergency Management Teams to manage the impact of emergency events. EMV reports the plans as being established in October 2014.

The plans consider regional implications and identify risk owners and regional strategies. They aim to ensure that integrated planning occurs between the relevant primary risk owners, agencies and organisations.

The outcomes of risk and consequence planning will be monitored and reviewed as part of CFA's seasonal preparations, post-incident analyses and annual planning.

Fire management planning

There is currently a strategic and integrated approach to fire management planning that brings together all relevant agencies to plan for, and manage, fire at the state, regional and local levels.

The *Strategic Directions for Fire Planning in Victoria 2013* was approved by the State Fire Management Planning Committee in October 2013 and provides high-level strategic direction for fire planning while the new emergency management reforms are being established.

EMV developed the *Action Plan 2014–15*, a revised version of the previous year's plan, to complement the Strategic Directions document. The Action Plan can be modified to reflect changes brought about by emergency management reform.

EMV reports that the Action Plan provides clear direction for State and Regional Fire Management Planning Committees to continue fire-specific planning and to transition to all hazards.

The State Fire Management Planning Committee is currently revising a concept brief for a State Fire Management Strategy. The brief will be informed by the outcomes from the *Review of Performance Targets for Bushfire Fuel Management on Public Land* (IGEM 2015a). The strategy is scheduled for completion in June 2016.

IGEM notes that the State, Regional and Municipal Fire Management Committees that exist under the current emergency management governance and planning arrangements are under review as part of the emergency management planning reforms.

Modelling bushfire risk

The State's second submission noted that improving the State planning framework for emergencies presented an opportunity to assess the scope of Phoenix Rapidfire modelling. Phoenix Rapidfire is sophisticated software developed by DELWP that models bushfire risk by identifying likely ignition points, spread paths and impact zones. Through such risk modelling, various bushfire scenarios and their consequences can be assessed.

The use of Phoenix Rapidfire for mitigation planning has been restricted to public land and not privately held land or assets. EMV reports that training has been conducted for technical personnel at the mines using fire protection tools such as Phoenix Rapidfire, which has assisted in developing incident management capability and the ability to use predictive mapping.

Finding: IGEM considers that the Regional Emergency Risk Project and Regional Risk and Consequence Plans are evidence of progress with the development of a coordinated and collaborative regional approach to broader emergency risk planning in Victoria.

IGEM notes that the development of risk mitigation planning will be underpinned by the implementation of emergency management planning legislation.

IGEM considers that this affirmation is progressing satisfactorily and will revisit in the next Annual Report.

Affirmation 38

The State review the Latrobe City Municipal Emergency Management Plan

Lead agency: DELWP	Affirmation status: Ongoing

Implementation Actions

Actions		Due Date
IMP 4.89	The Latrobe City Municipal Emergency Management Plan is currently being reviewed as part of the rolling three year audit cycle required by legislation. The review will be completed by December 2014.	December 2014
	The Regional Emergency Management Committee will oversee the review having regard to the hazards and risks identified by the Inquiry Report.	
IMP 4.90	DELWP (previously the Department of Transport, Planning and Local Infrastructure) to work with Latrobe City Council to submit a revised plan to the SES for a statutory audit by June 2015.	June 2015

The Latrobe City Municipal Emergency Management Planning Committee completed a review of its Municipal Emergency Management Plan (MEMP) in December 2014 and submitted it for audit by VICSES in January 2015.

The VICSES audit found that the MEMP needed amendments to meet audit requirements. Latrobe City Council is working with VICSES and partner agencies to complete these amendments.

DELWP advised IGEM of a delay due to audit rescheduling restrictions and the audit was anticipated to occur in September 2015.

The Implementation and Monitoring plan stated that the Regional Emergency Management Committee (REMC) would oversee the review of the MEMP in relation to hazards and risks. However, this work is outside the scope of the REMC, and the work was undertaken by the Gippsland Regional Strategic Fire Management Committee (GRSFMC).

The GRSFMC updated the *Gippsland Regional Strategic Fire Management Plan 2014–2024*, to reflect recommendations from the Inquiry Report. The regional plan informs risk identification and planning at the municipal level for the MEMP.

DELWP also advised that a Gippsland Regional Risk Working Group was undertaking a regional risk assessment based on consequence, and that DELWP expects mine and power industry risks to be included in this assessment.

IGEM will provide a progress update of the finalised MEMP in the next reporting period.

Finding: Although this affirmation is overdue, IGEM considers it is progressing satisfactorily and will revisit in the next Annual Report.

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8. Affirmations previously reported as 'implemented'

The Implementation and Monitoring Plan listed the following affirmations as 'implemented', therefore not requiring a monitor. They are included in IGEM's report for completeness.

Affirmation 22: The State will have an automatic air quality monitoring station in the south of Morwell for the next 12 months [to March 2015] was listed as 'implemented' in the Implementation and Monitoring Plan but has subsequently been re-opened and is being monitored by the IM.

Affirmation 1

The State develop a Strategic Action Plan to improve and strengthen Victoria's emergency management capability

Lead agency: EMV	Affirmation status: Implemented

As required under the *Emergency Management Act 2013*, the SCRC has developed a three-year rolling Strategic Action Plan for the emergency management sector.

The *Victorian Emergency Management Strategic Action Plan 2015–2018* (SAP) is available on the EMV website.

The purpose of the SAP is to guide all hazards, all agencies reform for the next three years by outlining statewide strategic priorities and actions to support Victoria in achieving its vision of 'safer and more resilient communities'.

The reforms within the SAP are grouped into four themes:

> Communities and Business
> People and Culture
> Governance
> Services and Systems.

The four themes are underpinned by eight priority areas of reform, comprised of specific actions to be undertaken by the emergency management sector.

The SAP will drive the Victorian Government's emergency management reform agenda, set priorities, and assist in determining investment decisions.

As a rolling plan, it will be reviewed annually.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

Affirmation 2

The State establish Emergency Management Victoria as the new overarching body for emergency management in Victoria

Lead agency: EMV	Affirmation status: Implemented

On 1 July 2014, EMV was established as the new overarching body for emergency management in Victoria.

The key statutory functions of EMV are to:

> act as the agency responsible for the coordination of the development of the whole of government policy for emergency management in Victoria

> provide policy advice to the Minister in relation to emergency management

> implement emergency management reform initiatives given to EMV by the Minister

> liaise with the Commonwealth Government on emergency management

> provide support to the EMC to enable the EMC to perform statutory functions.

In performing its functions, EMV is required to:

> have regard to decisions made by SCRC

> collaborate and consult with the emergency management sector

> have regard to the fundamental importance of the role that volunteers play in the performance of emergency management functions in Victoria.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

Affirmation 3

The State establish an Emergency Management Commissioner to ensure that control arrangements are in place, and coordinate the response roles of relevant agencies' resources

Lead agency: EMV	Affirmation status: Implemented

The *Emergency Management Act 2013* establishes the role of the EMC. Appointed by the Governor in Council, Mr Craig Lapsley began his term as the EMC on 1 July 2014.

The role of the EMC subsumes the former role of the Fire Services Commissioner; however, has a broader all hazards focus for all major emergencies.

In general terms, the EMC is responsible for:

> coordinating the response roles of relevant agencies in relation to Class 1 and Class 2 emergencies

> ensuring that control arrangements are in place for Class 1 and Class 2 emergencies.

The EMC's role differs, depending on the type of emergency.

A Class 1 emergency is a major fire, or a major emergency for which the CFA, MFB, or VICSES are the control agency under the State Emergency Response Plan (for example, major floods).

Class 2 emergencies are all other emergencies (for example, a flu pandemic), with the exception of acts of terrorism, a hi-jack, siege, warlike acts or riots, for which Victoria Police retains control.

In a Class 1 emergency, in addition to coordinating the response roles, the EMC is required to appoint a State Response Controller and direct that person to exercise specific response activities or override specified response activities.

In a Class 2 emergency, the responsibilities of relevant agencies will continue to be determined by the State Emergency Response Plan. In the event of any confusion as to the responsibilities in an anticipated or actual Class 2 emergency, the EMC may request the relevant senior officers to determine the priority of responsibilities between their agencies or, if agreement cannot be reached, determine those priorities.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

Affirmation 4

The State establish an Inspector-General for Emergency Management as the assurance authority for Victoria's emergency management arrangements

Lead agency: EMV	Affirmation status: Implemented

On 1 July 2014, the *Emergency Management Act 2013* established the IGEM as the assurance authority for Victoria's emergency management arrangements. The IGEM's statutory functions include:

> developing and maintaining a monitoring and assurance framework for emergency management, against which the capacity, capability and performance of the emergency management sector is to be assessed

> undertaking system-wide reviews, including reviewing the emergency management functions of responder agencies and departments in relation to the monitoring and assurance framework

> at the request of the Minister, provide advice to, or prepare a report for, the Minister on any matter relating to the functions of the IGEM

> evaluate statewide training and exercising arrangements to maintain and strengthen emergency management capability

> monitor and investigate the (non-financial) performance of the Emergency Services Telecommunications Authority

> make recommendations to the Minister about matters arising from any monitoring or investigation of the Emergency Services Telecommunications Authority.

Effective 1 July 2015, IGEM also has responsibility for monitoring, reviewing and assessing critical infrastructure resilience at a system level[24].

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

Affirmation 5

The State establish a Volunteer Consultative Forum for the government to consult with volunteers and ensure their views are heard

Lead agency: EMV	Affirmation status: Implemented

The Victorian Government established the Volunteer Consultative Forum (VCF) to recognise the importance of volunteers in Victoria's emergency management arrangements.

The EMC chairs the VCF. Membership, as listed in the EMMV, comprises emergency management volunteers and agency nominees from Ambulance Victoria, Australian Volunteer Coast Guard, CFA, Life Saving Victoria, Red Cross, Salvation Army, St John Ambulance, VICSES, Victoria Emergency Service Association, Victorian Council of Churches, and the Volunteer Fire Brigades Victoria.

A key aim of the VCF is to give emergency management volunteers a conduit to government on volunteer-related issues and the broader emergency management reform agenda. It facilitates the government's commitment to consult and engage with emergency management volunteers and their representative bodies on matters that affect them.

The VCF discusses issues concerning the culture of volunteerism in Victoria, how best to monitor the health and well-being of volunteers, and how to improve volunteer recruitment, retention, capacity and training.

The first meeting of the VCF was held on 18 November 2013. Members of the VCF meet a minimum of four times in a calendar year. EMV provides secretariat and administrative support for the VCF.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

24   Refer to section 64(1)(ga) of the *Emergency Management Act 2013*.

Affirmation 34

The State prepare Regional Growth Plans

Lead agency: DELWP	Affirmation status: Implemented

Regional Growth Plans were prepared for Victoria's eight regional areas to provide direction for accommodating growth and development across regions, protecting key regional economic and environmental assets, as well as providing high level planning frameworks for key regional centres. DELWP is responsible for Regional Growth Plans.

The plans are a mitigation measure against future inappropriate land uses close to population centres and can assist in managing the risks associated with current uses.

The plans have been developed in a partnership between local government and state agencies and authorities through consultation with the community and key stakeholders.

As an ongoing part of Victoria's planning system, regional growth plans will be reviewed every four to six years.

The plans are available online and have been developed for the following regions:

> Central Highlands
> G21 – Geelong Region Alliance
> Gippsland
> Great South Coast
> Hume
> Loddon Mallee North
> Loddon Mallee South
> Wimmera Southern Mallee.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

Affirmation 40

The State establish an appropriate mechanism to monitor implementation of the actions set out in its submission and the government's response to the Board of Inquiry's recommendations

Lead agency: DPC	Affirmation status: Implemented

Recommendation related to Affirmation 40
Recommendation 1

The State empower and require the Auditor-General or another appropriate agency to:

> oversee the implementation of these recommendations and the commitments made by the State and GDF SUEZ during this Inquiry

> report publicly every year for the next three years on the progress made in implementing recommendations and commitments.

The Implementation and Monitoring Plan sets out how the recommendations and affirmations of government actions will be implemented and monitored. The Hazelwood Coal Mine Fire Inquiry Reference Group was also established to provide internal governance oversight of implementation of the Plan. The Reference Group is chaired by DPC and reports to SCRC.

Implementation monitoring of the recommendations and associated affirmations and actions from the Inquiry is the responsibility of both the IM, Mr Neil Comrie AO, APM, and the IGEM, Mr Tony Pearce.

The IM is responsible for reporting on all Inquiry recommendations and will provide annual reports in October 2015, 2016, and 2017.

IGEM is responsible for reporting on the affirmations of government actions that fall within the scope of its role.

Finding: The Implementation and Monitoring Plan reported this affirmation as 'implemented'.

9. Concluding remarks

In preparing this first report on the implementation progress of affirmations relating to the Hazelwood Mine Fire Inquiry, the Inspector-General considers that significant progress has been made by the emergency management sector.

The Inspector-General is pleased to report that at the conclusion of the reporting period, 10 July 2015, six of the 17 affirmations for which IGEM has responsibility for monitoring have been implemented as planned.

There are 11 affirmations still ongoing, many of them long-term projects and initiatives that align with continuing legislative and non-legislative reform.

IGEM will continue to monitor the remaining affirmations in a robust and transparent manner until their completion.

10. References

Australasian Fire and Emergency Service Authorities Council (AFAC) 2013, *The Australasian Inter-Service Incident Management System*, 4th Edition

Inspector-General for Emergency Management (IGEM) 2015a, *Review of Performance Targets for Bushfire Fuel Management on Public Land*

Inspector-General for Emergency Management (IGEM) 2015b, *Monitoring and Assurance Framework for Emergency Management*

Municipal Association of Victoria (MAV) 2015, Future of MECCs Working Group, 27 March 2015, viewed 13 August 2015, **www.mav.asn.au/news/Pages/ future-of-meccs-working-group-27mar15.aspx**

State Government of Victoria 2012a, *Victorian Emergency Management Reform White Paper*, December 2012

State Government of Victoria 2012b, *A Roadmap for Victorian Critical Infrastructure Resilience*, December 2012

State Government of Victoria 2014a, *Hazelwood Mine Fire Inquiry Report: Victorian Government Implementation and Monitoring Plan*, October 2014

State Government of Victoria 2014b, Hazelwood Coal Mine Fire Inquiry: Second Submission from the Victorian Government, June 2014