# BUSHFIRES REVIEW
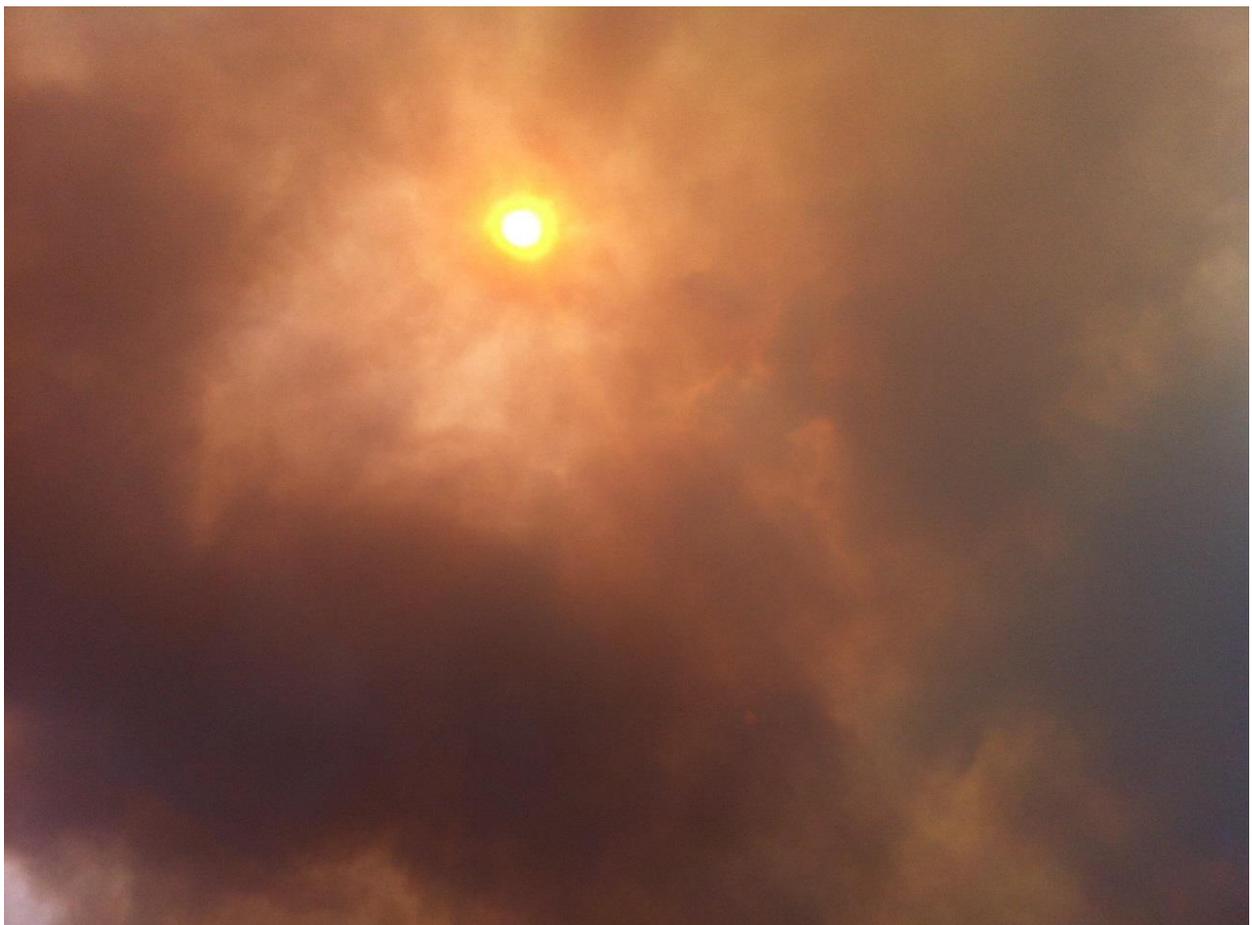
# 2015

# O'SULLIVAN AND LOWER HOTHAM

# O'SULLIVAN AND LOWER HOTHAM BUSHFIRE REVIEW

# 1 INTRODUCTION

## 1.1 The events

During the 2014–15 summer period, Western Australia experienced one of its worst bushfire seasons. More than 4000 fires were recorded and over 1400 warnings were issued. A succession of fires threatened homes and forced evacuations, particularly in the south west quarter of the state. These fires considerably stretched both firefighting and community welfare resources. Among these events was the O'Sullivan fire, which commenced on 30 January 2015. It was one of many fires sparked by lightning strikes during this period, it took hold in the dense, heavily wooded Shannon National Park in the vicinity of the south west town of Northcliffe. While fire crews were battling the blaze at Northcliffe, firefighters were also battling a 10km-long fire front in the locality of Lower Hotham near Boddington.

Both the O'Sullivan and Lower Hotham fires had the potential to cause serious harm and loss on a large scale. Through an extraordinary effort by Western Australian combat agency and volunteer firefighters, their interstate peers, and state and local government workers who provided essential support away from the front lines, a very bad outcome was averted.

This review found that a large number of things had worked well, as was expected, and it is clear overall that the progress achieved in interagency collaboration, interoperability and coordination in recent years is becoming well established. There is no going back on the many improvements that have been made. Inevitably however some deficits were also noted and some of these are issues that have come to attention in previous reviews.

Some of the improvements proposed in this and previous reviews are inherently difficult to achieve, not least because they require the participation and cooperation of parties other than the two principal state fire combat agencies, DFES and the Department of Parks and Wildlife. It is not a matter of just directing the parties to adopt particular systems or processes or to work in particular ways. Complex issues of organisational remit and culture have also to be confronted. Resource limitation, geographic and demographic realities are enduring challenges. Flexibility, openness and mutual respect are the attributes that must be cultivated.

This review discovered positive developments at both state and national level and at local level, including by local government and the private sector.

At a state level many of the challenges identified are being addressed through the work of the Interagency Bushfire Management Committee, including through the ongoing monitoring of the implementation of previous review findings. This work however needs to be more strongly supported.

Western Australia is not alone in experiencing some of these challenges. The application of incident management systems above the local incident level, which is a significant issue identified in this review, is a challenge that has arisen elsewhere in Australia and is being addressed at a national level. The need for integrated

resource management systems is another area where experience and 'learnings' from incidents in other states or territories will be relevant. Many issues of this kind are being progressed through the Australasian Fire and Emergency Service Authorities Council.

As with previous reviews, the long term management of bushfire risk has been an important consideration in this review. Issues of organisational culture, training and experience in determining the effectiveness of bushfire response continues to be an important consideration in how to learn from events such as the O'Sullivan and Lower Hotham events.

Another important feature of these two events was the level of assistance provided by the Commonwealth Government. This was manifested in two main ways: the construction by the ADF of the 'tent city' to house volunteers in Manjimup and the use of RAAF Pearce as a staging post for aerial assets and other resources from the eastern states.

The deployment of interstate firefighting crews to Western Australia was a unique feature of these bushfires. The Emergency Management Australia Arrangements for Interstate Assistance were tested for the first time in Western Australia and on the whole worked effectively with relatively minor amendments required as a result of being put to a practical test. The finance and administration provisions of the Arrangements could be made more efficient by the development of a standardised costing model to assist in the delineation of cost sharing and cost recovery items.

The cooperation of the Newmont mine at Boddington in providing accommodation for a large number of emergency workers during the Lower Hotham incident was also notable and provides a reminder of the importance of an inclusive approach to the involvement of industry in local and district level emergency management planning throughout the state. The generosity of local businesses in providing goods and services to support the accommodation of displaced people and animals was also noted.

Finally the review also noted the important role of local government in supporting the operational response to the fires through the deployment of volunteer bushfire brigades; in providing for the welfare of community members displaced by the fires; managing road access and in initiating and sustaining the process of recovery and restoration. The review also highlighted the key role of local government in risk assessment, planning and fire hazard mitigation and the importance of this ongoing work through the Bushfire Risk Management Planning program being adequately resourced.

## 1.2   The review

At its March 2015 meeting the State Emergency Management Committee (SEMC) endorsed a proposal to undertake a review of the O'Sullivan and Lower Hotham fires. On 15 May 2015 the SEMC Secretariat announced that it would undertake the review and that a review steering committee consisting of the SEMC Chair, Fire and Emergency Services Commissioner and Director-General of the Department of

Parks and Wildlife would be established. It was stated that the review would be arranged around three themes:

- operational vertical communications
- interagency collaboration
- interstate resource deployment.

Each of the themes was considered by independent reviewers.

To a considerable extent, these three themes are intertwined in this report because of the common thread provided by the theme of interagency collaboration, which is a strong feature of both vertical communications and the interstate deployment experience, as well as a major area of interest in its own right.

The operational vertical communications topic was assigned to DFES, which provided in response some of the findings of a comprehensive major incident review of the two events undertaken on its behalf by the Nous Group in the period July to November 2015.

The Australasian Fire and Emergency Service Authorities Council (AFAC) undertook, on behalf of the SEMC, to assess the interstate resource deployment in conjunction with the participating agencies and through discussion with its Commissioners' and Chief Officers' Strategic Committee. A high level assessment of the operation of the Arrangements for Interstate Assistance provided to the review by AFAC was supplemented by reflections from DFES, Parks and Wildlife and the interstate deploying agencies.

The interagency collaboration aspect of the review was undertaken by Gary Morgan AFSM for the Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC), on behalf of SEMC, generally following the approach taken in the 2014 Parkerville Stoneville Mt Helena Bushfire Review.

The BNHCRC interviews were structured around the following key questions:

a)      What worked well for your agency?

b)      What did each of the other agencies do well for you?

c)      What could your agency have done better for each of the other agencies?

d)      What could each of the other agencies have done better for your agency?

e)      What do you think the public/ media thought of your organisation?

f)      How well did the legislation assist meeting the fire suppression objectives during the incidents and management of the State's fire risk?

Due to the comprehensive nature of the major incident review conducted by the Nous Group, it contains observations and findings on a wide range of matters related to these events. Only those that relate specifically to operational vertical communications are reproduced here. It is noted in passing however that the Nous

findings and recommendations concerning interagency cooperation and integrated resource management are generally consistent with the BNHCRC findings.

Throughout the review SEMC Secretariat maintained contact with the three independent reviewers and provided briefings to the review steering committee. SEMC Secretariat joined the weekly updates held by Nous and participated in the Nous workshop. In addition to seeking reflections from the interstate agencies to supplement the information provided by AFAC, SEMC Secretariat also provided support for the interagency collaboration theme, in particular the logistical, writing and interviewing support to BNHCRC.

Collectively the three themes of the Lower Hotham and O'Sullivan Bushfires Review were explored with the aim of understanding those aspects of the events that worked well and could be built upon, in addition to highlighting opportunities for improvement.

Contributors to the review included representatives of State and Commonwealth agencies; the two local governments most directly affected by the events; and volunteer groups and non-government organisations that were directly involved in the fire suppression effort and the operation of evacuation centres. The organisations and individuals that contributed to the interagency collaboration and interstate deployment aspects of the review are listed in Appendix 2.

In general, the review has not challenged the interpretation of events provided in submissions or at interview, unless contradictory or dissenting views were offered by other informants. This is consistent with the general intention to identify opportunities for improvement in policy and practice rather than to question individual actions or attribute blame.

As part of the interagency collaboration component, SEMC Secretariat met with senior corporate executive members of both DFES and Parks and Wildlife to discuss key issues which arose from the interviews. This provided an opportunity to identify any misinterpretations and to reflect on the reasonableness of preliminary findings. A similar function was provided by meetings of the review steering committee.

The Chair of the SEMC wrote to both DFES and Parks and Wildlife in October 2015 in order to convey some of the preliminary findings of the review. This was to enable, where possible, the implementation of any improvements proposed by the review in advance of the 2016 summer southern bushfire season.

The review also provided a number of 'learnings' that will enable SEMC to enhance the collegial independent review style initiated by the 2014 Parkerville Stoneville Mt Helena bushfire review led by SEMC. As noted in the Parkerville review it is an approach that:

- enables open sharing of information
- facilitates open discussions and increases understanding
- reduces defensiveness and prepares stakeholders for greater acceptance of recommendations

- obviates the need for the controlling agency to undertake a separate major incident review.

## 1.3   Continuous improvement

There have been a number of reviews and inquiries following bushfire events in Western Australia in the last five years. A list of the reports consulted for this review is at Appendix 3. These reviews have resulted in major reforms in emergency management governance and policy settings and a large number of improvements in operational practice and procedure.

This review does not attempt to track the progress of all of these improvements. However, it notes that submissions and interviews undertaken for the review generally reflect a view across the emergency management sector in Western Australia that advances have been made in coordination, collaboration and interoperability, especially between the major fire response agencies DFES and Parks and Wildlife, and between the career and volunteer sub-sectors.

In relation to interagency collaboration, four main areas previously identified as issues also came to the fore in this review[1]. These are:

- the use of pre-formed incident management teams
- design and use of incident management systems
- clarity of roles and expectations
- interoperability of systems and equipment

The review theme that focussed on operational vertical communication identified the need to develop an integrated inter-agency resource management system.

The component of the review that dealt with the interstate deployment noted the following needs:

- greater rigour and streamlined processes around requests for interstate assistance
- preparedness for future incoming deployments, including through the identification of a pre-formed Interstate Liaison Unit
- the development of Common Use Agreements to facilitate the provision of air travel, ground transportation and accommodation for interstate staff deployed
- greater compatibility of administrative systems and processes between the principal fire combat agencies DFES and Parks and Wildlife.

In addition, the review noted aspects of the two bushfire events that concerned community welfare and safety during the fires including the operation of evacuation centres; recovery planning; and the initiation of recovery. In the Recovery section are

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[1] Specific opportunities for improvement are noted at the end of each section.

noted various opportunities for improved communication, documentation and role definition.

Each of these issues is considered in greater detail in subsequent sections. However, as it is clear that these issues are interlinked, the review also seeks to identify how to treat these issues holistically and from a continuous improvement standpoint.

## 2 KEY FINDINGS

### 2.1 Things that went well

Things that went well or which reflect positively on progress towards implementation of previous review and inquiry findings are noted in the sections which follow. In summary these include:

- there is general agreement amongst informants that there has been a significant improvement in interagency collaboration in the last 4-5 years;
- initiatives are underway that will require and promote greater interagency collaboration, for example, the Bushfire Risk Management Program;
- the Interagency Bushfire Management Committee (IBMC) is already addressing a range of issues concerning interoperability, common standards and joint processes which, when fully implemented, will entrench collaboration and continuous improvement;
- a high level of cooperation between agencies was reported at the State Emergency Coordination Group level;
- good cooperation was reported by all parties engaged at the State Operations Centre;
- the AFAC sponsored Arrangements for Interstate Assistance, invoked for the first time in Western Australia, were generally effective;
- cooperation provided under Defence Aid to the Civil Community (DACC) was generally effective, particularly in relation to the use of Commonwealth facilities at RAAF Pearce and in the construction of a tent city at Manjimup;
- good cooperation was reported between the agencies and local government, including in relation to the use of local government facilities and equipment.

Mostly positive reports were received about the activation and operation of the evacuation centre established in Pemberton for the O'Sullivan bushfire. These reports include in particular the role of the DFES Community Liaison Unit in addressing community information needs and the response of the Department of Agriculture and Food (DAFWA) to animal welfare issues.

Also noted in this report are a number of areas where progress has been made since the O'Sullivan and Lower Hotham fires to address opportunities for improvement

identified by the review. These include revision by the SEMC of Traffic Management Guidelines in Emergencies and further progress on the implementation of the interim Westplan – Recovery Coordination, particularly in relation to impact assessments, by the State Recovery Coordinator.

## 2.2    Opportunities for improvement

Following is a summary of the opportunities for improvement identified in the course of the review. Supporting arguments for the recognition of each of these opportunities appear in greater detail in the relevant sections of this report.

### 2.2.1        Use of pre-formed incident management teams (IMT)

PFT.1        While recognising that workforce management, resourcing and geographical constraints present significant challenges, DFES and Parks and Wildlife should consider alternative approaches to determine how they will establish flexible multi-agency pre-formed IMTs, at both Levels 2 and 3, to be prepared for forecast levels of bushfire risk.

PFT.2        The process developed by the IBMC for joint accreditation of Level 3 personnel should be further developed, including by extending the current arrangements to Level 2.

PFT.3        The Fire and Emergency Services Commissioner and Parks and Wildlife Director General should jointly review the list of accredited Level 2 and 3 Incident Controllers, on an annual basis, to ensure that those listed are competent and current in their skill and knowledge.

PFT.4        More use should be made of non-DFES and non-Parks and Wildlife personnel in IMTs where available, such as local government communications and mapping specialists.

PFT.5        The IBMC should consider the benefits of using a flexible AIIMS format for multi-agency training purposes during prescribed burning operations.

### 2.2.2        Incident management systems and incident support

IMS.1        A common understanding of the implementation of AIIMS should be agreed upon and followed by DFES and Parks and Wildlife. Inherently inefficient departures from AIIMS principles (such as to have more than one logistics unit) should be addressed immediately. Any residual differences in approach between the agencies should be made explicit.

IMS.2        As part of a shared understanding of the implementation of AIIMS, DFES and Parks and Wildlife should agree on the role and function of the Incident Controller. The agencies should reach agreement on the minimum duration that Incident Controllers will serve at future incidents.

IMS.3    SEMC should review supra-coordination arrangements between all emergency response and support organisations operating above the IMT level and clarify each organisation's legal, administrative and financial responsibilities.

### 2.2.3    Interoperability of systems and equipment

ISE.1    DFES and Parks and Wildlife should jointly undertake a review of available resource management systems which could be readily integrated into their current human resources, vehicle and equipment systems.

ISE.2    The IBMC should develop an agreed plan covering technologies and systems of work to achieve interoperability, with timelines that recognise operational and financial constraints of each participating agency.

ISE.3    Bushfire response and support organisations should investigate the type of radio system best suited to WA bushfire situations for multi-agency operability.

ISE.4    Prescribed burning operations in a flexible AIIMS format could provide an opportunity to enhance interoperability through systems and processes training.

ISE.5    At multi-agency bushfires there should be agreement on the minimum shift length that all firefighters operate to during the emergency situation.

ISE.6    During incidents when heavy plant is involved in fire suppression activities, DFES and Parks and Wildlife should require the IMT to have a Plant Operations Manager to enhance the effectiveness and efficiency of plant management.

### 2.2.4    Recovery improvements

R.1    An assurance process should be developed to ensure that amended Westplans have been fully reticulated and absorbed.

R.2    A template style approach to impact assessment that meets the needs of interim Westplan – Recovery Coordination should be finalised.

R.3    A specific role definition for SEMC Secretariat Community Emergency Management Officers should be adopted in order to make clear that they can advise Incident and Operational Area Support Groups and act as advisor to local government at the commencement of incident recovery.

R.4    Standardised guidance on the management of common hazards to emerge in the wake of a bushfire, in particular asbestos exposed in

premises damaged or destroyed by fire, should be developed and made widely available.

R.5        Networked agreements between neighbouring local governments should be encouraged in order to provide better support for council officers affected by emergency incidents, including for the purposes of fatigue management.

### 2.2.5        Interstate deployment improvements

ID.1        DFES and Parks and Wildlife should confer on what amendments to the AIA may be necessary to address the gaps identified by AFAC in relation to the implementation of the AIA in its first year of operation; greater compatibility of administrative systems and processes should also be pursued between DFES and Parks and Wildlife.

ID.2        Common Use Agreements to facilitate the provision of air travel, ground transportation and accommodation should be developed to cover the specific circumstances of interstate deployments.

ID.3        Consideration could be given to the identification of a pre-formed Interstate Liaison Unit to enhance preparedness for future incoming deployments and to provide a basis for network building with counterpart groups in other jurisdictions.

ID.4        Briefings for incoming crews should be rationalised and opportunities taken to provide general briefings during the transportation phase with more detailed briefings conducted in the area of operations; use of charter flights for incoming crews could assist in the provision of advance briefings. Consideration could be given to specific briefings for local personnel on interstate deployments arrangements.

# 3    PREPAREDNESS

Although submissions and statements provided to this review largely concentrated on operational vertical integration and interagency collaboration during the fire suppression/ response phase of the two events, issues relating to interagency cooperation in bushfire preparedness also emerged.

## 3.1   Bushfire Risk Management Program

The WA Local Government Association (WALGA) identified the need for some local governments to adopt a more realistic and systematic approach to identifying and managing bushfire risk. The Bushfire Risk Management Planning (BRMP) program, devised and administered by DFES and currently being rolled out by that agency across bushfire-prone local government areas was identified by WALGA as a significant initiative. State Emergency Management Policy 2.9 requires local governments to maintain emergency risk management plans for all relevant hazards, including bushfire. The BRMP program is designed to enable local governments to

meet those requirements of SEMP 2.9 that relate specifically to bushfire risk. The success of BRMP will depend on close and ongoing cooperation between local governments, fire management agencies, infrastructure owners and operators, land owners and land managers. It will also depend on adequate funding being made available to enable local governments to undertake BRMP requirements. Both the Shires of Manjimup and Boddington, which were the local government areas most directly affected by the O'Sullivan and Lower Hotham fires, are engaged with the BRMP process.

The review identified the BRMP program as an important means by which interagency collaboration will be sustained in the future.

## 3.2    Pre-formed multi-agency incident management teams

The opportunity for greater use of pre-formed incident management teams (IMT), including the creation of multi-agency IMT, arose frequently in interviews, submissions and the Nous workshop. The potential benefits of direct interagency cooperation in such teams were first identified in the 2010 Ferguson Review. The two Keelty Special Inquiries of 2011 and the 2014 Parkerville Stoneville Mt Helena Bushfire Review also noted the potential benefit associated with pre-formed teams.

During the course of the review, both DFES and Parks and Wildlife confirmed that each agency wishes to progress the development of multi-agency pre-formed IMTs. However, conflicting accounts of the actual commitment to inter-agency pre-formed teams emerged.

The review noted that under current inter-agency arrangements across the state, Level 2 multi-agency teams are formed in anticipation of fire danger conditions rated severe or above being experienced. These teams may be formed at relatively short notice and each agency determines which, and how many, of its staff will be contributed to each team. Local governments may also be included in these arrangements. Because these teams are formed *ad hoc* they do not necessarily have the benefit of the team members having worked together extensively, or at all, on previous occasions. This diminishes some of the benefit that might otherwise be associated with a pre-formed team.

The review also learned that for a period, which ended about three years ago, a small number of DFES staff were also rostered onto Parks and Wildlife pre-formed teams in some regions. This arrangement was discontinued by DFES management because of concerns that its staff were in effect self-mobilising to incidents without DFES approval and therefore without proper regard for fatigue management or other issues that might arise as a consequence of being on more than one roster.

Parks and Wildlife nevertheless believes that this arrangement had been – and could continue to be – beneficial. In these circumstances it is telling that the agencies were not able to negotiate a solution that would have preserved the benefits of the arrangement, rather than simply curtailing it. Agency officers continue to report that the pre-formed arrangements for Level 2 are beneficial. Working within Level 2 multi-agency teams provides an experience that enhances collaboration when working at more complex bushfires, as part of Level 3 IMTs.

It is clear that challenges exist in preparing, exercising and deploying multi-agency pre-formed teams due to the rostering and deployment complexities that arise when fire combat agencies are dealing simultaneously with multiple events. It was noted that the most skilled bushfire management staff in the two major combat agencies, DFES and Parks and Wildlife, are separated geographically to a considerable extent (Parks and Wildlife in the regions, DFES largely though not exclusively in the metropolitan area). Other factors such as differences in work practices and conditions; award conditions (including remuneration) and interoperability of systems and equipment also present challenges.

It was noted during the Review that the potential of pre-formed teams is not limited to bushfire response but could be applied to other forms of emergency response such as storms, floods and cyclones. This would require an even greater level of cooperation and coordination between state agencies (that is, in addition to DFES and Parks and Wildlife). A successful working model that involved the principal fire combat agencies in the first instance might provide a basis for the future development of such teams.

Without diminishing the practical constraints, it nevertheless appeared to the review that a lack of trust between individuals in the two agencies is the principal factor preventing the adoption of a multi-agency pre-formed team approach. If the officers of each agency trusted the other, individual agency identity would matter less: Teams would be formed and would work in a collective spirit. While there is an apparent willingness on the part of the corporate executive level of the two organisations to make inter-agency pre-formed teams a reality, there may be opportunities for improvement that will ensure that other individuals within the two organisations adopt a more trusting and respectful approach to their peers and counterparts in the other agency.

The development of trust however relies on the existence of confidence. Disparaging comments were made to the review to the effect that not all Level 3 personnel were competent for the fire situation they faced during these incidents and that not everyone had adequately grasped the magnitude of the events or their potential consequences. The review did not consider the competence of any individuals for their assigned roles. From a confidence building perspective, it would however be prudent to ensure that there is a rigorous ongoing process for the evaluation of individuals' performance within an IMT, including a mechanism to identify re-training requirements for personnel that do not meet specified performance standards.

If the two agencies agreed upon the credentials required to fulfil roles within an IMT, and followed this standard when accrediting their people, they may be able more readily to fill multi-agency pre-formed IMT with people that other IMT members are comfortable to work with, regardless of the employing organisation.

It was reported that the Interagency Bushfire Management Committee (IBMC) has developed arrangements to enable joint Level 3 accreditation but given the reported experience at the O'Sullivan and Lower Hotham fires these arrangements may need further attention and development.

Possible misconceptions about the rigidity of structure and size of a multi-agency pre-formed team appear to be obstacles to the creation of multi-agency teams. It is accepted that the State does not have the luxury of quarantining people in Level 3 multi-agency pre-formed teams from attending level 1 or 2 bushfires. It is desirable from a skills currency perspective that all Level 3 firefighters maintain their skills through involvement at lower level incidents. However, the person responsible for overseeing the preparedness resources required to meet the level of bushfire risk should consider whether or not it is necessary to backfill the multi-agency pre-formed IMT when a vacancy is created due to a person being sent to a 'going' bushfire.

The review was advised that a rostered IMT consists of 50 people in Parks and Wildlife and 12 in DFES, with no flexibility to allow for changes in predicted bushfire risk. This approach is inconsistent with managing for risk (following AS/NZS ISO 31000 principles) or for achieving a cost effective approach.

The principles which underpin the Australasian Inter-service Incident Management System (AIIMS), the incident management system used in Western Australia, include flexibility and functionality (see Section 5 below for a more detailed discussion of AIIMS). AIIMS is designed to allow the scaling up of resources to meet incident requirements, not to be rigid in applying a set number. The numbers rostered for a multi-agency pre-formed IMT should reflect the forecast bushfire risk applying to the geographical area for the forecast period. This may be achieved by scaling up or down the number of people required to be on roster, to meet the anticipated needs based upon the weather forecasts and fire risks. In other words the teams become *flexible* multi-agency pre-formed IMT.

The review concludes that the potential benefits of flexible, multi-agency pre-formed IMT warrant the work being undertaken to resolve the difficulties outlined above.

The suggestion was made to the review that greater use could be made of non-DFES and non-Parks and Wildlife personnel in pre-formed multi-agency IMT, such as local government communications and mapping specialists. Parks and Wildlife report that both volunteers and local government personnel are included in some of its pre-formed teams. This approach is strongly supported as one means of providing more skilled resources within the IMTs and building Western Australia's bushfire response capacity.

The review was advised that considerable work has been undertaken through the IBMC towards interoperability of systems. However, concern was raised that this work is yet to achieve the desired level of output for successful collaboration during emergencies. Noting that this and other important issues such as joint accreditation and training are also before the IBMC, it is important that this committee has appropriate resources to progress the matters before it and that there is a corresponding emphasis on accountability. It is suggested that the arrangements under which the IBMC is chaired by the Executive Director of the SEMC Secretariat be formalised by the SEMC, on an ongoing basis, and that there is a requirement for the Executive Director to report periodically on committee outcomes to an oversight group consisting of appropriate representatives of the corporate executive teams of both DFES and Parks and Wildlife. This group will also be responsible for identifying and recommending to the respective chief executive officers the required changes to

policy and procedures, work practices and resource allocation to give effect to such needs identified by the IBMC.

It was stated that significant issues remain around developing or adopting procedures and technologies that are suited to both the operational requirements and budgets of the 'full-time' (DFES) and 'part-time' (Parks and Wildlife, local government and volunteer) emergency management organisations. If it is desired to have full interoperability then an agreed plan with timelines recognising each organisation's operational and financial constraints is required.

It should be acknowledged that interoperability will only be achieved if:

- the technologies (systems, tools and communications either analog or digital) permit multi-agency use to fulfil both the needs of each individual organisation *and* the collective multi-agency effort; and

- the agreed multi-agency system of work (rules, manner or culture) is conducive to a collaborative approach to a common goal.

Full interoperability between agencies is fundamental to achieving effective interagency collaboration and incident management. However, interoperability will not happen unless there is a sound process in place and a willingness to assist all cooperating organisations to meet the desire outcome. As the hazard management agency (HMA) for fire, DFES should lead this process and encourage collaboration.

Once an interoperability plan has been agreed upon it is expected that the IBMC would oversee its implementation. Included in this phase is training in systems and processes.

It was suggested to the review that one way to promote collaboration would be to have organisations use the AIIMS format, for interagency training purposes, during prescribed burning operations conducted by Parks and Wildlife. It was suggested that if all participating agencies met their own costs (by treating their participation as training expenditure, if necessary), the use of the AIIMS format would not significantly increase Parks and Wildlife's costs for the operation. It would not be necessary to deploy a full pre-formed team. Rather, the object would be to fill the *functions* required by the AIIMS format using risk management, rather than a non-flexible 'standing orders' approach.

| 3.2.1 | Opportunities for improvement – pre-formed incident management teams |
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| PFT.1 | While recognising that workforce management, resourcing and geographical constraints present challenges, DFES and Parks and Wildlife should consider alternative approaches to determine how they will establish flexible multi-agency pre-formed IMTs, at both Levels 2 and 3, to be prepared for forecast levels of bushfire risk. |
| PFT.2 | The process developed by the IBMC for joint accreditation of Level 3 personnel should be further developed, including by extending the current arrangements to Level 2. |

| PFT.3 | The Fire and Emergency Services Commissioner and Parks and Wildlife Director General should jointly review the list of accredited Level 2 and 3 Incident Controllers, on an annual basis, to ensure that those listed are competent and current in their skill and knowledge to perform all tasks expected of them. |
| --- | --- |
| PFT.4 | More use should be made of non-DFES and Parks and Wildlife personnel in IMTs, such as local government communications and mapping specialists. |
| PFT.5 | The IBMC should consider the benefits of using the AIIMS format for multi-agency training purposes during prescribed burning operations. |

# 4 RESPONSE

## 4.1 Incident management and incident support

Western Australian fire agencies use the Australasian Inter-service Incident Management System (AIIMS)[2] to assign roles and responsibilities, specify reporting arrangements, determine resource allocation priorities and provide a foundation for decision making during an incident. AIIMS is based on clearly defined management principles and functions. AIIMS was developed by AFAC in the mid 1980's and is based on the United States' National Interagency Incident Management System (NIIMS).

The universal application of AIIMS by Australian fire services is fundamental to establishing a common system of work which facilitates and encourages interagency collaboration at the IMT level, including where collaboration between jurisdictions is required.

While AIIMS has proven to be a very effective system, this review has identified a gap between the use of AIIMS at IMT level and the command-chain based arrangements which govern the strategic direction and deployment of fire agency resources at the State or regional level.

### 4.1.1 AIIMS at the IMT level

When implemented in accordance with the AFAC manual, AIIMS provides unified operational management to meet agreed objectives. It also provides for collaboration between emergency and non-emergency organisations; agencies that have roles and responsibilities beyond bushfire management; and agencies with different jurisdictional powers and priorities.

AIIMS has, for a long time, been agreed upon as the common system of work by combat and support agencies involved in bushfire suppression. It also provides a

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[2] 2013 AFAC *The Australasian Inter-service Incident Management System, Fourth edition*

basis on which to develop effective protocols for collaboration around other bushfire associated activities, both before and after the fire event.

By formalising the system of work at the IMT level, AIIMS provides a common language and understanding that assists emergency management arrangements and protocols at the State level, where supra-coordination arrangements occur. However, AFAC has not yet endorsed a common approach to implementation of AIIMS principles above the IMT level. Consequently, supra-coordination arrangements currently vary between jurisdictions. This is an area of active research by the Bushfire and Natural Hazards CRC and AFAC.

The United States experience in this area is relevant, given the origins of AIIMS and the increasing direct involvement of Australian emergency services personnel, including personnel from DFES and Parks and Wildlife, in firefighting activities in North America.

Under the United States' NIIMS, Unified Command is implemented when more than one agency has incident jurisdiction. As bushfires cross jurisdictional boundaries, agencies provide designated members for the Unified Command. Their role is to establish a common set of objectives and strategies.

The Homeland Security[3] manual for NIIMS notes that Unified Command should develop synergies based on the significant capabilities that are brought to the command structure by the various agency representatives. The approach implies that there should be personal acknowledgement of each representative's unique capabilities; a shared understanding of the situation and agreement on the common objectives. Different perspectives are welcomed within a Unified Command structure with a view to finding the best way forward and addressing problems and issues swiftly, through senior officers focussing on the primary objectives: the preservation of life, assets and the environment. Under Unified Command, failure to provide clear objectives for the next operational period is viewed as a failure in the command function.

Although Westplan Fire provides some guidance in relation to supra-coordination arrangements between agencies and organisations above the IMT level, some interviewees expressed concern regarding ambiguity or lack of clarity around legal, administrative and financial responsibilities, particularly in relation to disaster events on Crown lands.

### 4.1.2    Implementation of AIIMS: Role of the Incident Controller

Under AIIMS the appointed Incident Controller is responsible for all functions of control, planning, intelligence, public information, operations, investigation, logistics and finance. The Incident Controller is expected to resource each of these functions to the extent necessary to minimise the impact of an event on the community and environment; provide for the welfare of people involved in controlling the bushfire;

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[3] 2011 FEMA NIMS, *ICS-400: Advanced ICS*

effectively and efficiently control the incident; and provide a safe working environment.

AIIMS principles include that Incident Controllers manage by objective, which is a consultative process within the IMT, to determine the most realistic achievable outcomes. The set of objectives to meet this strategy is communicated to all involved and a common Incident Action Plan is widely distributed to explain how the strategy will be implemented, including the proposed allocation of resources, and how communications with key stakeholders will be managed.

Research conducted by the former Bushfire Cooperative Research Centre reveals that good Incident Controllers anticipate what will happen next during the bushfire. They are aware of the realities and prepare to deal with complexities that they perceive may arise from their previous experience. Importantly, they sort out the priorities after considering the possibilities, then communicate and guide the IMT in the delivery of the common goal.

Geographically there may be several IMTs operating for different emergency incidents, each with their own strategies. They may have different issues to deal with during their emergency response effort and they may compete for available resources within the jurisdiction. Therefore, above the IMT level most state and territory combat agencies provide logistical support to each of the IMTs but focus jurisdictional decision making on the most effective strategic allocation of scarce resources, having regard also to long term risk management planning to meet jurisdictional legal responsibilities.

Both DFES and Parks and Wildlife have stated that they are committed to AIIMS and that they work in accordance with AIIMS principles. However, this review found that the two organisations had fundamental differences in their application of AIIMS during the O'Sullivan and Lower Hotham events, especially in relation to the role of the Incident Controller and the IMT *vis á vis* that of the State Operations Centre (SOC) and Regional Operational Centres (ROC). These differences appear to constrain collaboration between the two agencies.

Although there were considerable differences between the overall management of the two bushfires, it is apparent that there was tension between DFES and Parks and Wildlife in the management of both the O'Sullivan and Lower Hotham fires. This may be a result of the difference in the manner in which each agency expects to operate, as explained to the review, and that the two agencies in some circumstances appear not to recognise or respect each other's strengths. Information provided to the review allows for some general conclusions to be drawn about the operating style and organisational culture of the two agencies.

DFES has a centralised, paramilitary style of operation with a well-practiced command style in which lower ranked officers defer to higher ranked officers. DFES has multi-hazard responsibilities which are coordinated centrally. When involved with fires, urban and rural, DFES has a strong fire suppression focus. DFES believes that this makes for a safer environment during emergencies.

Parks and Wildlife is primarily a decentralised land and water management organisation, with associated fire management responsibilities. Decision making is delegated as far down the command chain as possible to the least centralised and most appropriately aligned position at the local level. To achieve Parks and Wildlife's overall objectives collaboration is encouraged among staff at all levels; this involves the questioning and elucidation of decisions. This collaboration also frequently involves consultation with affected communities. Fire is used as a management tool to achieve land management outcomes. Parks and Wildlife believes that this provides its staff with good opportunities to understand and appreciate bushfire behaviour and the experience to effectively combat destructive wildfires.

In evidence given to the Victorian Bushfires Royal Commission Major General (Rtd) Jim Molan made some pertinent comments about the nature of bushfire firefighting. Molan suggested:

> '…If there are a vast number of fires on a particular day, the best people to handle it and the way they know to handle it is through a decentralised system within an overall general guidance from the top ... being command centric doesn't mean the whole organisation is centralised and only ever one person makes a decision. It means that the commander at each level is the boss and he has as many obligations going up as he has going down…'

The Canadian Fire Officer's Guide to Emergency Management, edited by Ron Kuban (1996) reports that many researchers (Auf der Heide, 1989; Drabek, 1981, 1987; Drabek and Hoetmer 1991, Dyes 1970; Quarantelli, 1985) have noted that the paramilitary structure, with its centralised command system, is not practical as the primary system by which to manage peace time municipal disasters.

It appears that tension arose during these bushfires as it was perceived by Parks and Wildlife officers that decisions taken in the SOC had the effect of usurping the role of the Incident Controller.

During the review, two views emerged on the level of authority that should be provided to the Incident Controller by the controlling agency. DFES take a position that the Incident Controller is not ultimately the person accountable, rather that accountability rests with a person of a higher rank in the agency, that is, the Commissioner or his delegate, working within the SOC. Parks and Wildlife on the other hand view the Incident Controller as the person responsible for managing the bushfire and that the role of the agency at regional or State level is to provide support to the Incident Controller through strategic resource allocation.

The DFES view is contrary to that provided by Coroner Doogan in her inquest into the deaths of four Canberra citizens as a result of the January 2003 Canberra bushfires. Doogan provided findings against the senior personnel of the Emergency Services Bureau (ESB) on the basis that they had allocated IMT roles to personnel

based on seniority / rank and not experience and expertise[4]. The Coroner acknowledged that the ESB personnel had received training and experience in the concepts and practices of incident management. However, it was the Coroner's view, in the Canberra situation, that sufficient experience in and knowledge of fire behaviour and fire suppression tactics were lacking in these people, to satisfy the requirements of the role. The Coroner provided suggestions of personnel from other organisations who could have done the role better because of their experience and expertise.

In Western Australia, different operating styles for the organisations may be inevitable and even necessary but should not provide an excuse for not achieving full interagency cooperation when this is required. The Australian armed forces provide an appropriate example. The Navy, Air Force and Army each have different roles, functions, capabilities and chains of command but they are coordinated as one force by a leader of the partnership in Joint Command. This concept is also akin to the NIIMS Unified Command approach to managing above the local or IMT level.

To change the style of leadership and management within the two agencies may be a big task. However, acknowledging that the agencies are different, respecting each other's differences and building upon the skills and abilities in each agency may lead to better outcomes. This will require the building of trust in each other, in order for better outcomes to result from collaboration during bushfires.

Recently published Bushfire CRC research[5] shows that the challenges facing emergency managers working at the strategic level, above the IMT, are different in both content and context from the challenges facing personnel working at local level.

Researchers found that at a strategic level, managers are typically engaged in incidents that have high potential consequences, are non-routine and have significant political involvement. These managers were found to be concerned with the overall response efforts and the longer-term issues relating to post-incident support, such as community wellbeing and recovery.

The review heard that there were conflicts in decision making between the IMT and the SOC and at other times long delays in reaching a decision because the Incident Controller felt the need to seek direction from the SOC.

Incident Controllers deferring operational decision making to the SOC carries with it a higher risk of things going wrong. While the DFES Commissioner is accountable as the hazard management agency, such a process nevertheless effectively places one person in *operational* control of a huge land mass, approximately one third of Australia or 2.5 million sq. km. and perhaps with a higher degree of personal accountability than similar roles in other Australian jurisdictions.

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[4] The Canberra Firestorm: Inquests and Inquiries into the four deaths and four fires between 8 and 18 January 2003, Vol 11, page 30.

[5] 2014. Owen, C, Bhandari, R, Bearman, C, Abbasi, A, Brooks, B Organising for Effective Incident Management Final Report

It is hard to imagine how any one person can effectively and efficiently cover not only the strategic direction but also the operational emergency aspects over such a large, diverse area where it is possible to have a number of Level 3 emergencies occurring simultaneously, involving a range of complex and distinctly different hazards such as bushfires, floods and cyclones.

In New South Wales, the state with the largest number of bushfire firefighters and approximately one third the size of Western Australia, legal responsibility for major bushfires rest with the Rural Fire Services Commissioner. This is a similar legal situation to that of the DFES Commissioner. However, the operating arrangements are different. In New South Wales the operational decision making is undertaken at the IMT level and the strategic oversight and coordination of resources is undertaken centrally.

As a culmination of the review process conducted in Western Australia over the last five years, and in conjunction with the current review of emergency services legislation, it may now be appropriate to rethink and reframe the process of fire management, including suppression, and the legal and social accountabilities of each agency involved, whether in a combat or supporting role.

For the safety of firefighters and the benefit of the community, an agreed manner for the implementation of AIIMS, within Western Australia, must be agreed between DFES and Parks and Wildlife. The two agencies need to consider whether current steps in the process add value to decision making or whether the current process leads to unnecessary time delays, inhibits the exercise of judgement and decision making in the field or leads to the avoidance of decision making.

### 4.1.3 Incident management: Confidence in the Incident Controller

The Parkerville Stoneville Mt Helena Bushfire Review noted that the IMT in that incident was established in accordance with AIIMS principles. It observed that the use of AIIMS reflected recent improvements in bushfire management in Western Australia and that its use was also a measure of the appreciation by officers of the need for a structured management approach. However, that review also noted that there were reports of reversion to a rank structure in some situations.

A tendency to revert to rank rather than following AIIMS may reflect a common tendency to revert to normal, well-practised behaviour in times of stress or difficulty. Reversion to rank might also reflect disregard or a lack of confidence in the people undertaking roles within an IMT in any one instance. It is important therefore that only competent and current people are appointed to roles in an IMT, rather than having people selected on the basis of seniority.

In major situations, the selection of Incident Controllers is critical. The Incident Controller is pivotal to successful outcomes of the fire suppression effort. Therefore the selection of people undertaking this role should be taken with the utmost care by the organisation for which they are engaged. Those selected should be well qualified for the position and the agencies' leadership at the highest level, Commissioner and Director-General, should have full confidence in their abilities under pressure.

### 4.1.4 Incident management: Continuity in the Incident Controller position

It was suggested to the review that there were times during the O'Sullivan event when the short duration in which Incident Controllers remained in position reduced the effectiveness of the IMT, the Incident Support Group (ISG) and the confidence of the community in the fire suppression effort. When the Incident Controller changed regularly a negative effect was felt. It is very likely that lack of continuity in the Incident Controller role will have a negative impact on interagency cooperation throughout the incident response phase.

The loss of confidence was exacerbated, it was reported, when Incident Controllers left the IMT at the end of their shift, regardless of the fire situation and without adequate briefing of an incoming Incident Controller. Volunteers particularly felt aggrieved in such circumstances as by definition they provide their services in their own time for the good of the community.

Reflecting similar concerns, the 2014 Parkerville Stoneville Mt Helena Bushfire Review raised the need to limit the number of Incident Controllers to the minimum number possible to enhance continuity. Clearly, to comply with occupational safety and health requirements, especially in relation to sleep and rest, it is not possible to have only one person nominated as the Incident Controller. However, the duration of these bushfires was not excessive and a well-managed response should not have required so many changes in this position. A well-coordinated day and night time team of Incident Controllers could have operated for at least half the duration of these events before changing to a new team.

### 4.1.5 Incident management: Shift lengths

In Western Australia, firefighters operate under a variety of shift lengths. The review was advised that DFES and Parks and Wildlife personnel work to different basic shift lengths and that different provisions apply to maximum work duration. A difference in basic shift length not only makes resourcing very difficult, it also increases the down time within a 24 hour period. Each time there is a shift changeover, it is essential that the incoming person is adequately briefed by the outgoing person. The new person then spends a period familiarising themselves with the situation that has been handed to them. During this period of familiarisation, the fire continues burning and the risk of something going wrong increases.

Work safety is just as important in fire suppression as in other work environments. Bushfire CRC research has revealed much for fire agencies on the need to adequately manage nutrition, hydration and fatigue. While firefighters have been found to pace themselves well on physical tasks maintaining effective manual fire suppression activities, fatigue has been found to have a significant negative impact on firefighters' cognitive or decision making capacity.

Having too many shift change overs within a 24 hour period and not having a common shift length places extreme pressure on resource management planning. Such a situation increases the number of Incident Action Plans, with their resource deployment orders, which need to be delivered and communicated on the fire line.

Extra debriefings and briefings are required on the fire line, within the IMT and to the ROC, SOC and ISG. It increases the risk of mistakes occurring and decreases fire line efficiency, effectiveness and safety. This tendency is exacerbated during highly dynamic bushfires.

The review was told that some shift handovers, at the team leader level, took up to an hour as the briefings were unstructured. This is a considerable period of down time for firefighters to be away from the fire suppression effort.

In some jurisdictions, the agencies all operate with 12 hour shift change overs. In these locations everyone begins a shift at the same time. Some IMTs have Planning begin a shift which is offset 1-2 hours behind the general shift change. The Planners remain on duty throughout the changeovers and as they are fully cognisant of the resource deployment orders they know how best to meet any altered operational requirements. They are readily able to work with Operations to modify resource deployments to meet the changed fire line requirements. This is particularly useful during extreme fire behaviour or changing weather conditions.

Across Australia, circumstances have led to the development of different operating shift lengths for different organisations. This may be tolerable for normal non-emergency operations. However, during an emergency it seems reasonable that firefighters or organisations could operate under arrangements which provide for the highest level of safety for the firefighters and the communities they are there to protect.

When firefighters operate interstate or in other countries, it is the norm for the receiving state / country to determine the shift length for fire suppression and for the interstate / country resources to cooperate and work to this shift length. During the O'Sullivan and Lower Hotham fires it is understood that the interstate crews deployed to the fires worked to a 12 hour shift length as requested by the IMT.

It seems reasonable for the community to expect DFES and Parks and Wildlife to have an agreed minimum shift length for bushfire emergencies and for standard shifts to be followed by all firefighters.

### 4.1.6    Incident management: Resource management

Resource management is a function of the Planning section within an IMT established on AIIMS principles. During the early stages of both the O'Sullivan and Lower Hotham incidents the planning function was reported to have been seriously inadequate. The review was told that as a consequence, a significant near miss event happened. Thirty firefighters were reported to have been unaccounted for on the Lower Hotham fire line.

Resource management, competently undertaken, will provide effective and safe incident management. However, it requires people to be adequately trained in resource management processes, with an attention to detail and the right attitude for firefighter safety, as well as good systems to support a complex and dynamic task.

The area of resource management has been viewed, over the past thirty years, as an area where well-constructed systems can provide great advantages in effective and safe resource planning. As a consequence, many fire agencies and private companies have invested large amounts of money and effort to develop resource tracking and management systems.

During the review it was reported that the T- card system used for tracking resources on the fire ground was not always effective due to the scale of the incidents and that the system was not able to take into account changes on the fire line during deployments.

If communications of fire line changes are provided and the T-card system kept up to date, an accurate picture of where resources are at any moment can be provided. This manual system is used successfully by operations personnel in many organisations. It has the acknowledged limitation of not allowing resource allocation to be reviewed at a later stage. Some organisations use computer systems for the same purpose which similarly can be kept up to date, if the fire line communicates such changes, but also provide records over the extent of the fire operations.

Currently a wide range of off-the-shelf electronic tools is available to assist the resource unit to track in detail the location of resources, the skills and experience available, and assist in determining how best to meet the Operation Officer's resourcing requirements, both during the fluid flow of the fire and in planning for the subsequent shifts.

To establish which system would best meet the State's needs, Western Australia could benefit from a review of the systems currently available and the ease with which they could be incorporated into DFES' and Parks and Wildlife's human resources, vehicles and equipment systems.

### 4.1.7 Incident management: Logistics function

One agency submission to the Review indicated that two separate logistics teams had initially been established at the O'Sullivan fire and that this situation was only rectified when interstate resources took a leadership role. There is not complete agreement on this matter between the relevant agencies, DFES and Parks and Wildlife. However, it is clear to the Review that at the very least there was some duplication in logistics management in the early stages, which resulted in the inefficient use of resources.

Strict adherence to AIIMS should preclude such duplication. Under AIIMS it is within the Resources unit, of the Planning section, where management of resources are deployed based upon requests from the Operations section. It is when the demands exceed availability of resources at the incident that the securing of additional resources is processed by the Logistics section.

If as reported there were in effect two logistics teams, for any period, it reveals a breakdown of collaboration within the IMT. To the IC and the SOC, this should have been seen as an indication of the lack of an integrated approach and a lack of trust of each agency in the other to adequately provide logistics to the fire line.

Duplication of effort in this situation would not just have been wasteful of funds and energy. There is also the possibility of one Logistic Unit thinking that the other Logistic Unit is handling a request when it is not. If this happened then the fire suppression effort could at best be seriously compromised.

The agencies may find benefit in firstly, establishing the specific requirements that each believes they may require for services and materials; the contracts and systems that will be used; and the contact arrangements for activation; and secondly, participating in annual, joint training and accreditation. Joint training with response and support organisations on an annual basis would improve collaboration and prime people for the coming fire season with updated resources information and contacts.

A Logistics Unit which is organised, adequately resourced with individually skilled personnel will be prepared for possible urgent demands from the operations personnel, as the fire behaviour or assets at risk alter.

### 4.1.8     Incident management: Logistics, transport and accommodation

Given the extent of the aerial campaign undertaken for the two bushfires, it is significant that the review received very positive accounts of interagency cooperation regarding air transportation. These largely related to coordination regarding the use of RAAF Pearce, a Commonwealth facility, to provide logistical support for the staging, refuelling and accommodation of crews for interstate aircraft engaged in the aerial campaign. This included the hosting of two large air tankers and one air attack supervisor aircraft. Also significant was the use of RAAF Pearce for receiving 44 tonnes of fire suppressant urgently sourced from the eastern states.

Two positive aspects of this cooperation stood out for the review. Firstly, the use of RAAF Pearce was made possible by an MOU between RAAF and Parks and Wildlife which was invoked for the first time in connection with these events and has been used subsequently. Secondly it was reported that the management of matters concerning aerial support and transport was expedited by the presence of an Emergency Management Australia representative in the SOC to facilitate communication with Commonwealth authorities. In addition to the cooperation between State and Commonwealth agencies, it was also reported that given the almost unprecedented use of aircraft in these incidents, there was exceptional collaboration in the use of state agency assets and resources to optimise the use of staff and equipment.

Both the O'Sullivan and Lower Hotham fires also provided examples of interagency management of accommodation requirements during the response phase.

In the O'Sullivan fire the biggest single accommodation issue was the involvement of the Australian Defence Force in the construction of a 200 bed 'tent city' to accommodate volunteers and emergency workers brought to Western Australia under Defence Aid to the Civil Community (DACC) arrangements. Although the 'tent city' was regarded as a valuable adjunct to other accommodation options, it was reported to the review that there were delays and lack of clarity in decision-making regarding possible locations, capacity, duration of need and in the consideration of

alternative existing facilities. It is possible that these delays and lack of clarity reflect a lack of harmony and coordination between decision making at the IMT and State levels discussed in Section 5.1.2 above.

The review also became aware of other issues that have a bearing on cooperation between the ADF and State authorities. In Western Australia there is a heavier reliance than elsewhere in Australia on reservists to provide the labour force and on contractors to provide equipment and services. It was reported that this can mean that correspondingly longer lead times are required to assemble human and material resources for civil emergency support. It was explained to the review that ADF logistics and civil emergency support structures are also in different chains of command. The ADF reported that the first indication of a possible need for support with the O'Sullivan and Lower Hotham bushfire events came in the form of an 'unofficial' notification from a DFES officer before there was a request through the official chain; the 'tip off' enabled pre-planning to happen, an important consideration in the context of the reservist base in WA.

In interviews with ADF officers it was further apparent that there are opportunities to enhance cooperation under DACC arrangements so as to streamline the request and support timelines for ADF to support fire or other emergency response operations.

The ADF experience of the Lower Hotham and O'Sullivan fires also indicated difficulty in obtaining a common operating picture between agencies which limited ADF capacity to plan. This point is relevant to general issues concerning interoperability dealt with elsewhere in this report. The ADF also noted that it was fortunate that these two events took place in relatively well serviced areas; other parts of the State would be much more difficult to support. This may indicate the need to allocate more resources, particularly in the bushfire prone south western part of the State, for depot and staging facilities. It was argued by the ADF that provision of such facilities should be factored into planning for new communities in the same manner as other essential services.

The ADF also reflected that during their involvement they witnessed less than ideal command of resources and lack of effective objective setting by the IMT. The ADF offered to assist the fire agencies to improve in this crucial area of fire suppression management through participation in ADF-conducted command post exercises. This training is aimed at minimising administrative demands so as to achieve 'a minimalist footprint with maximum impact'. The ADF noted that such scenario based exercises would also provide good network building opportunities and improve collaboration.

In the Lower Hotham fire the big accommodation issue was the fortuitous availability of accommodation and other facilities at the worker village associated with the Newmont gold and copper mine 16 km from Boddington. Up to 400 emergency workers were accommodated at the village at any one time during the Lower Hotham event. During the period 4 – 8 February, for example, Newmont estimates that it provided the equivalent of 1164 days accommodation, including meals. Newmont representatives estimated that the ability of the village to absorb these metropolitan-based workers saved the equivalent of 4656 hours of travel, equating to approximately 300 individual shifts.

Mine representatives also reported however that the inability of the combat agencies to provide accurate estimates of the numbers of emergency workers requiring accommodation at any one time placed village operations under considerable stress, not only in relation to the provision of housekeeping services and meals, but also the observance of security, occupational health and safety protocols. The comments in section 4.1.7 above about logistics management are also relevant here. The review noted that the mine has MOUs in place with both DFES and Parks and Wildlife that cover mutual aid arrangements. While managing demand for Newmont mine services in connection with future events should be dealt with under the respective MOUs, this example also provides a lesson that would apply to many other mine sites around Western Australia. It reinforces the need for mines to be active partners in emergency management planning through engagement with the local and district emergency management committees established under the *Emergency Management Act 2005*.

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### 4.1.9        Opportunities for improvement –incident management

IMS.1        A common understanding of the implementation of AIIMS should be agreed upon and followed by DFES and Parks and Wildlife. Inherently inefficient departures from AIIMS principles (such as to have more than one logistics unit) should be addressed immediately). Any residual differences in approach between the agencies should be made explicit.

IMS.2        As part of a shared understanding of the implementation of AIIMS, DFES and Parks and Wildlife should agree on the role and function of the Incident Controller. The agencies should reach agreement on the minimum duration that Incident Controllers will serve at future incidents.

IMS.3        SEMC should review supra-coordination arrangements between all bushfire response and support organisations operating above the IMT level and clarify each organisation's legal, administrative and financial responsibilities.

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## 4.2    Interoperability of systems and equipment

### 4.2.1        Fire ground communications

Operational response at bushfires requires good communication for strongly coordinated, efficient and safe fire suppression. Without good communications the operational effort is reduced to guerrilla tactics which are doomed to failure and risk firefighter lives. Similarly, good communications between the fire line and the Incident Control Centre is essential for supportive fire line management by the IMT. There can be no effective fire suppression management, community information and warnings or forward planning on any issue if there is poor communication between the fire ground and the IMT.

Poor radio communications, particularly for volunteers, was raised during the review. It was reported that a variety of bands are currently in use and that current hardware

does not allow communication on frequencies used by all agencies attending the bushfires, inevitably limiting effective collaboration.

Western Australia is not the only state to have radio communications issues. Although deficiencies can be expensive to rectify the benefits from investment in good radio communications far outweigh the future fire suppression, community and environmental costs. Multi-channel high frequency radios were recommended to the review as the preferred type of radio to enable multi-agency communications on the fire ground.

No matter how desirable it is to have a future situation of full interoperability between agencies engaged in emergency incidents, for practical and financial reasons it will not be available in the near future. However, the management of different frequencies in a well-coordinated plan can be achieved through the Communications Planning Unit in the IMT. It will not solve all the issues of fire line radio communications but the plan should enable fire crews and support agencies to operate through a networked approach. It should be stressed that, even in circumstances of full inter-operability there is a need for planning and preparation in relation to communications needs in advance of each fire season.

### 4.2.2        Aerial operations

The review noted the unprecedented extent of the aerial fire suppression campaign conducted for these two events. Aspects of the successful interagency cooperation associated with the use of aircraft and the Commonwealth facility RAAF Pearce has also been noted in Section 4.1.8 above. However it was also noted by the review that the State Operations Air Desk, which commenced operations in November 2013 and which is jointly managed by DFES and Parks and Wildlife, worked very effectively to coordinate and prioritise the use of aircraft and the provision of support services.

### 4.2.3        Heavy plant

Some contributors to the review commented on the perceived inefficient use of heavy plant in the Lower Hotham fire including over-supply/ under-utilisation of machinery and fuel shortages. Coordination of these resources was also reported to have been poor.

It is noted that the 2014 Parkerville Stoneville Mt Helena Bushfire review recommended that DFES and Parks and Wildlife explore avenues for joint negotiation of contracted machinery to streamline mobilisation and use in a manner similar to the joint air desk. The Parkerville Review also recommended that the agencies identify opportunities to conduct joint training to increase the number and availability of machinery supervisors and to include a Plant Manager position within the AIIMS structure. It was reported to this review that the use of heavy plant in the Lower Hotham fire improved significantly after responsibility for coordination was assumed by an employee deployed from interstate.

It should be of concern to Incident Controllers if, as reported, operators of some machines were left to their own devices with no instruction or back up fuel supplies

and that others were present but not used. Inadequate plant management is not only inefficient it also carries with it disease risks in forest settings. It also opens the way for malpractice. Without adequate management on targeted fire suppression activities the overall fire response may have been extended, costing the community more in financial, social and environmental costs.

During large scale incidents, AIIMS clearly provides for the inclusion of a Plant Operations Manager, reporting to the Operations Officer. The role is responsible for setting priorities and tasks for plant and major equipment deployed at the incident, and providing the plant operations portion of the Incident Action Plan.

### 4.2.4        Operational vertical communications

The Major Incident Review (MIR) undertaken by the Nous Group identified breakdowns in key systems, processes and policies that were among the key determinants of the effectiveness of the agency response to the Lower Hotham and O'Sullivan incidents. Vertical communication of information is identified in the MIR as one of three areas of break down.

The following summarises some of the principal observations contained in the Nous MIR in relation to these events.

The vertical communications procedures between the IMT, ROC and SOC allow for requests to be made by the IMT to the ROC for resources if they are not available locally. The ROC then coordinates and prioritises all regional resource requests to support the resourcing of each incident. Where resources are unable to be sourced from the region, the ROC may request the SOC to assist with the supply of resources. The SOC will coordinate and prioritise all resources across the state, and if required interstate and internationally, to ensure all regions and incidents have sufficient resources.

While the structure of the ROC and SOC align with AIIMS functions, they do not command or control individual incidents. The AIIMS structure described by AIIMS 4 is currently limited to the operation of the IMT, with no guidance on levels above the IMT. As a result, the operations of the ROC and SOC and their interactions with the IMT lack clarity. This exacerbates break downs in the vertical communications of resource requests. The Australasian Fire Authorities Council (AFAC) is currently undertaking work to clarify this.

The process for vertical communication of resource requests broke down in three ways:

- instances of resource requests being made by the IMT to the ROC and not being acknowledged or followed up

- instances of resource requests being made directly from personnel at the incident to the SOC, bypassing the ROC

- instances of the SOC deploying resources without the knowledge of the IC or IMT

Requests for additional resources are made from the ROC to the SOC through the Requests Log on WebEOC. However, WebEOC is primarily a tool for recording and communicating information and requests. The process to track requests from the initial request to completion has limitations, as updates must be made manually in WebEOC and can only be seen within the detail of the relevant log. This was a source of frustration for some stakeholders who were not sure if resource requests had been received and were being addressed. This was exacerbated where IMT personnel did not have access to WebEOC, which was normally the case for P&W personnel.

Members of the IMT observed that the ROC was sometimes bypassed in communication of resource requirements, with personnel on the incident ground directly requesting resources. In most cases, this would be the result of the vertical communications process not being followed properly. There was also one case identified where the break down in the vertical communication of resource requirements resulted from misalignment between this and other operational processes. Under the DFES Ops Directive for air operations, the Duty Air Operations Officer fulfils the Aircraft Officer role on the IMT and is required to have continuous liaison with the State Duty Air Coordinator. The State Duty Air Coordinator then prioritises tasking and advises on release of aircraft. This presents a potential break down in the vertical communications to deploy air operations, as information and requests may flow directly between the Aircraft Officer in the IMT and the SOC, thereby bypassing the IC and ROC.

Reflecting this, there were reports of air attack supervisors in the IMT arranging deployments directly through the State Air Desk without consulting the IMT.

The process to request the deployment of aerial suppression resources to support an incident is also inconsistent with the vertical communications process. DFES and P&W have established joint procedures for deployment of aerial suppression operations. Under these procedures, requests for aerial suppression resources to support an incident are made through each fire agency's routine reporting lines. Under the DFES Ops Directives, the requests are made by the IC or ROC to the DFES Communication Centre (COMCEN), which then notifies the State Operations Air Desk. The Air Desk then undertakes tasking of the aerial suppression assets and then notifies COMCEN. Request logs from WebEOC show that the requests for aerial suppression resources to be deployed to the incidents were made through WebEOC, which is line with the vertical communications of resource needs outlined in the WAFES manual but not fully aligned to the process under the joint aerial fire suppression operating procedures. Air operations personnel reported that this presented a break down in the request process to the Air Desk, because it does not monitor WebEOC for requests under the established joint DFES / P&W procedures. This presented a risk of delays in processing requests for aerial suppression resources to support the incidents. However, in practice WebEOC documentation indicates that requests for aerial support made through WebEOC were acted on promptly within a few hours. This was enabled by the SOC Duty Aircraft Coordinator having access to WebEOC.

The vertical communications process for resource requests sometimes broke down with the SOC sometimes deploying resources on its own initiative, without a request from the IMT through the ROC.

This was regularly observed by the IMT. Deployment of resources without the knowledge of the IMT is inconsistent with AIIMS. Under the AIIMS principle of functional management the IC is accountable for all functions carried out by the IMT. The IC will have oversight of the resources in use, resources required, resources requested, resources being deployed and resources being re-deployed or demobilised. This was not the case when resources were being deployed without the knowledge of the IMT. Consistent deployment of resources by the SOC outside of the AIIMS structure indicates that there is insufficient clarity on the role of the SOC and an inadequate knowledge of AIIMS and its implications on the role of the ROC and SOC in supporting the IMT to manage incidents.

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| **4.2.5** | ***Opportunities for improvement: Interoperability of systems and equipment*** |
| ISE.1 | DFES and Parks and Wildlife should jointly undertake a review of available resource management systems which could be readily integrated into their current human resources, vehicle and equipment systems. (BNHCRC) |
| | Develop an integrated inter-agency resource management system. An integrated system will improve the response to fire by supporting agencies to identify potential resources, track resources and plan deployments more effectively. Incidents will be sufficiently resourced and deployed resources will be utilised appropriately while minimising risk. (Nous) |
| ISE.2 | The IBMC should develop an agreed plan covering technologies and systems of work to achieve interoperability, with timelines that recognise operational and financial constraints of each participating agency. |
| ISE.3 | Bushfire response and support organisations should investigate the type of radio system best suited to WA bushfire situations for multi-agency operability and each future incident should have a Communications Plan. |
| ISE.4 | Prescribed burning operations in AIIMS format should provide an opportunity to enhance interoperability through systems and processes training. |
| ISE.5 | At multi-agency bushfires there should be agreement on minimum shift length that all firefighters operate to during the emergency situation. |

| ISE.6 | During incidents when heavy plant is involved in fire suppression activities, DFES and Parks and Wildlife should require the IMT to have a Plant Operations Manager to enhance the effectiveness and efficiency of plant management. |
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## 4.3   Interstate deployment

As the potential extent and impact of the fires became apparent, with attendant concerns about fatigue management for both combat agency and volunteer fire crews, the Fire and Emergency Services Commissioner invoked the Arrangements for Interstate Assistance (Fire and Emergency Services) (AIA) to request operational support from interstate. The initial request made on 2 February 2015 resulted in the deployment of a multi-agency contingent from Victoria, ultimately consisting of 147 people who engaged directly with the fires under the direction of the respective IMTs or who provided liaison and support. The main body of the Victorian contingent arrived on 3 February and remained for approximately seven days.

On 5 February 2015 a further request was made under the AIA for which the NSW Rural Fire Service coordinated a response that included personnel from various NSW, Australian Capital Territory and Northern Territory agencies. This deployment consisted of 161 people, the bulk of whom arrived on 7 February 2015 and also remained approximately seven days.

On 10 February 2015 a third request was made for resources from Queensland. This third contingent consisted of 60 personnel; it arrived on 13 February and departed on 20 February 2015.

Fire behaviour and control specialists from the eastern states have previously travelled to Western Australia to offer specialist input and advice when major fires have been underway. This has occurred under the auspices of the Forest Fire Management Group, which represents the cadre of bushfire management expertise within the conservation, forestry and land management agencies across Australia. However, the interstate deployments to the O'Sullivan and Lower Hotham fires are the first known deployments of firefighting crews to Western Australia and occurred barely three months after the AIA was adopted by Australian fire and emergency services authorities.

The general view of the O'Sullivan/ Lower Hotham deployment given by contributors to the review is encapsulated in the comment from Parks and Wildlife that 'interstate contingents contributed very strongly to the suppression effort, with fewer issues arising than may have been expected given that this was the first instance of interstate fire suppression assistance to Western Australia'.

The review noted some qualified responses to the deployment, including criticism that firefighters had been brought in from interstate while volunteers from within WA had been under-utilised. It was also suggested that interstate staff were not always well integrated with other firefighters.

In contrast, instances were cited where the arrival of interstate personnel specifically improved an aspect of the firefighting operations, for example, the rationalisation of heavy plant deployment at Lower Hotham (see Section 4.2.3).

While there were two incidents involving minor injury, a 'near-miss' and some illness, the experience of the deploying agencies was overwhelmingly positive and may be summed up by a comment from Emergency Management Victoria: 'Overall, the personnel deployed to Western Australia found the deployment a great learning experience and appreciated the opportunity to work with the Western Australian agencies and their skilled personnel.' The Victorians also noted that Western Australian firefighters and locals were 'friendly, welcoming and willing to help'.

### 4.3.1 Arrangements for Interstate Assistance (AIA)

While the Australian states and territories have agreements in place to provide for everyday cross-border operations and support to neighbouring jurisdictions, the recently developed AIA provides a common basis for cooperation and capability exchange across Australia during major emergency events. The AIA was adopted by the Commissioners and Chief Officers of the Australian fire and emergency services agencies on 30 October 2014.   The Victorian, NSW and Queensland-led deployments to Western Australia in February 2015 were among the earliest tests of the AIA in practice.

While the use of the AIA was generally regarded as successful, its initial use for the Western Australian deployments revealed procedural gaps and weaknesses, some of which mirror problems experienced elsewhere in Australia. The review concludes that it would be fair to describe these as teething problems.

There were for example 'unauthorised' variations to the initial request for assistance, which resulted in unanticipated personnel movements. One example was the unexpected deployment of a number of paramedics with the New South Wales contingent. While the need for paramedics was not specified in the initial request from the Fire and Emergency Services Commissioner, their inclusion conformed with the deploying agency's standard practice, reflecting its corporate commitment to the health and safety of its employees. Now that this is understood, this requirement can be factored into future interstate deployment planning.

A somewhat different situation arose when other personnel, including machine operators, arrived as part of both the NSW and Victorian contingents. These were interstate agency staff deployed to fill positions that had not been nominated in the original or amended requests. It was suggested that this situation arose because of 'back-channel' communications directly with eastern states agencies or the interstate deploying agencies anticipating or 'second-guessing' the need for particular capabilities in addition to what was specified by the requesting agency.

As well as unexpected or hard to predict costs, 'unauthorised' variations to requests created practical difficulties in the initial planning phase because of the implications for transportation and accommodation arrangements.

The process of deciding on the composition of interstate contingents is necessarily complex and requires care. It requires close collaboration between the combat agencies involved (in this case DFES and Parks and Wildlife). It also occurs under considerable pressure. Clearly there is a need to ensure that all requests are agreed to prior to final approval and to ensure that any variations to the initial resource request are approved by the Commissioner or delegate. However this is not just an issue of greater procedural stringency. There may be different views regarding the optimal process for determining the composition of deployed teams. For example the NSW Rural Fire Service, in its comments to the review, advised that requests for assistance by the requesting agency are better to be less prescriptive as to roles and positions, except for specialist or high level positions; it is better to outline what assistance is required and allow supplying jurisdictions to make up teams. Even if this approach were accepted in principle, it would be necessary to ensure that sufficient clarity exists in the administration of the process to ensure that accountability is maintained.

Also initially of concern to Western Australian agencies was the unexpected deployment of numbers of persons designated as liaison officers. Both DFES and Parks and Wildlife commented however that it became apparent during the course of the three deployments that there is considerable value in having teams dedicated to interagency liaison; their deployment should both be accepted and welcomed, despite the significant costs which may be involved (see also section 5.5.2 below).

It is clear from the Lower Hotham and O'Sullivan experience that protocols for exploring the availability of capability needs with interstate providers should be agreed and the process for signing off on requests for assistance strengthened. The review was informed that the issues surrounding confirmation and approval of the numbers of deployed officers are being addressed by AFAC as the custodian of the AIA, noting however that the AIA was intended initially to provide a framework and principles to support interstate cooperation and that the administrative detail was expected to be managed by individual agencies.

In addition to issues around deployment composition, the O'Sullivan and Lower Hotham events, along with other interstate deployments in Australia last summer, seem to indicate that there is a need to standardise and determine specific instructions, systems and processes to support the AIA so as to enable the signatories to effectively implement and manage the arrangements, and to subject the arrangements to ongoing evaluation.

### 4.3.2        Liaison and Coordination

Key learnings to arise from the review related to the various forms of liaison associated with interstate deployments. Liaison in this context refers both to liaison between WA and interstate deploying agencies and the contact between units managing the interstate deployment and the SOC.

The liaison function was undertaken principally through the establishment of Interstate Liaison Units (ILU). Initially one ILU was established within DFES but after the arrival of the Victorian and NSW-coordinated contingents separate ILU were established for each, led by the senior liaison officer of the deploying interstate

agency. These new teams each included DFES and Parks and Wildlife liaison officers.

ILU functions included to provide information on industrial arrangements and workplace health and safety requirements; establish clear reporting lines; allocate personnel to meet specific IMT and regional requests; assist with the management of mobilisation and demobilisation requirements; liaise with deployment team leaders and generally to addressing specific issues to avert the need to escalate.

One 'learning' from the O'Sullivan/ Lower Hotham experience is the importance of the earliest possible presence in Western Australia of a liaison officer from the supplying or deploying agency. This is considered important even when it is not confirmed that a deployment will proceed. The presence of an advance liaison officer could enhance the efficiency of logistical arrangements; assist in identifying capabilities and roles to inform the make-up of deployments and identify the need, content and most suitable delivery platform for briefings of incoming crews.

It is noted that during the O'Sullivan and Lower Hotham events the ILU were not involved in the SOC briefing process and it is suggested that there is a need for improved awareness of the ILU role in the SOC so that issues affecting interstate resource deployment which have not been resolved at the ILU level can be elevated more expeditiously.

Both DFES and Parks and Wildlife suggested that greater resources, including administrative support, are required to support ILU and their incorporation into the operation of the SOC.

Citing its experience in deployment to other jurisdictions, the NSW Rural Fire Service also commented that dedicated liaison officers would also assist at regional level. The RFS noted that this could have ameliorated some confusion which it reported to have been experienced between the IMT, Regional Operations Centres (ROC) and SOC on what resources were arriving for which roles.

It was suggested to the review that preparedness could be enhanced by the identification of a pre-formed Interstate Deployment Unit and associated resources as part of the SOC. This Unit could also take advantage of opportunities to develop networks with similar teams established in other jurisdictions.

It was also noted that there was no formal schedule for briefings at the SOC of ILU activities which may have led to reduced situational awareness. It was suggested that ILU briefings information needs to go on WebEOC and that ILU team leaders need to provide regular briefings to the SOC.

### 4.3.3 Orientation and Briefing

Briefing of incoming contingents was identified by all contributors as an area for improvement. It was generally reported that there were too many briefings and that some briefings were excessively long or inappropriate having regard to the skill and experience of the interstate staff: the time devoted to briefings would have been

better spent in the field. Teams were briefed as many as three times before commencing directly productive activities.

Various improvements were suggested. For example, it may be more efficient to forward briefing material in advance so that interstate responders can be briefed en-route. This is a matter that would be facilitated by the early request and dispatch of liaison officers. Advance liaison officers may also be well placed to fine tune briefing content and reduce the risk of duplication.

### 4.3.4 Integration

As noted above there was isolated criticism of the interstate deployment to the effect that its value was questionable when volunteer crews reported having been under-utilised.  An observation made by the NSW Rural Fire Service suggests that the challenges associated with integration of interstate crews with local crews may increase with the distance from which the interstate crews come. It is likely however that factors such as work practices, the duration of the support provided and organisational culture will also give rise to challenges. It was noted by the NSW Rural Fire Service in the case of O'Sullivan and Lower Hotham that local crews on occasion were not aware of interstate crews being deployed, which appeared to lead them to feel their role was diminished.

It was noted that the common use of AIIMS structure made integration easier although it was also noted that the number of different agencies involved also led to a significant increase in the appointment of Deputy Incident Controllers. Emergency Management Victoria suggested that consideration be given to embedding home state personnel with incoming responders to provide for local knowledge, particularly for crews deployed on the fire ground. Parks and Wildlife noted that all three contingents integrated into local IMTs and that their effectiveness and safety were maximised when they could be mixed with local resources to the greatest extent possible.

### 4.3.5 Financial administration

While the AIA provides clear in-principle guidance on the financial arrangements associated with deployment of interstate personnel there are challenges in practice. Initially, expense claims by interstate agencies for eligible items were being invoiced to DFES for all deployments but midway through the Victorian deployment this was changed to Parks and Wildlife in order to facilitate access to WANDRRA funding. This led, amongst other things, to instances of duplication of invoices.

Subsequent to the O'Sullivan and Lower Hotham events, it has been established that DFES could be an eligible entity for the purposes of making claims on ANDRRA funding. However it is also clear that there is a need for a standardised costing model for interstate deployments so as to provide certainty and efficiency in these arrangements.

DFES also experienced some internal difficulties in recognising and processing financial transactions, pointing to a need within DFES for additional resources and awareness of financial issues around deployments. However given the scope for

unexpected circumstances to arise given the potential for complexity, there is also a need for greater interoperability or at least mutual familiarity with systems between agencies to maintain appropriate level of accountability.

During the deployment there were instances of goods and services being obtained in breach of Western Australian public sector Common Use Agreement (CUA) requirements. This was reported, for example, in the booking of airfares for the demobilisation of interstate teams. While there appears to be a need for greater appreciation of the requirements of CUA, more proactively CUA specifically for access to air transport, ground transportation, accommodation and catering services should be developed for use in connection with interstate deployments. In the absence of such arrangements, management of CUA compliance could be enhanced by centralisation of transportation and accommodation management.

Because of the potential for disputes to arise, a dispute resolution process could also be developed for the AIA, including mechanisms to resolve disputes between deploying and receiving agencies and between state agencies in relation to whether claims are eligible or the apportioning of expenditure.

### 4.3.6 Transport and Accommodation

Mobilisation arrangements made by the deploying agencies were effective and there was limited requirement for involvement from the WA agencies. The use of charter flights proved to be efficient and cost effective method of transporting large numbers of interstate personnel. However charter flights originating in Western Australia are not as readily or cost effectively arranged. This contributed to the greater complexity encountered around demobilisation arrangements.

It was reported that there was a shortage of accommodation for operational personnel supporting the O'Sullivan fire and that as a result personnel were required to travel excessive distances to their accommodation, which caused fatigue management concerns with a potential to impact on firefighting operations.

Accommodation options will always be limited by the resources available in the vicinity of fire operations. In many parts of the State options will be very limited. In these circumstances consideration should be given to earlier activation of DACC arrangements to supply accommodation, as was done in the case of the O'Sullivan fire.

In contrast to O'Sullivan, the agencies noted that accommodation arrangements for Lower Hotham were effective and presented no problems. However it is likely that this was due in large part to the availability of accommodation at the Newmont mine site accommodation village. As noted elsewhere in this report, mine site accommodation presented significant problems for the mine operators. It is noted in Section 4.1.8 that where such emergency accommodation options exist, MOUs to govern access in emergency situations should be developed between mine operators and the combat agencies and it is important also that mine operators engage actively with local and district emergency management committees.

Ground transport by coach for interstate crews was organised through Parks and Wildlife; for smaller transport tasks State Emergency Service volunteers and local transport providers were used. Problems were reported with a lack of air conditioning in some vehicles (regarded as essential). It was noted that some land transport arrangements were not procured under Common Use Arrangements (see Section 4.4.5 above). It was also noted that land transport providers need to be advised as soon as possible so that appropriate arrangements can be in place for a long duration deployment.

Transport and accommodation arrangements around demobilisation was nominated as the single most challenging aspect of the interstate deployments due to the number of people dispersed over a wide operational area. Regrouping required complex transportation arrangements and caused disruption to shifts as personnel on different shifts (day/night) were required to travel to meet flights to home destinations. In the case of the Victorian demobilisation there was a requirement to accommodate large number of people in Perth in preparation to join flights home; again, the challenges around air transportation resulted in bookings being made outside CUA protocols.

The NSW demobilisation was handled predominantly by the NSW ILU; reportedly it took maximum advantage of shift time so there was no requirement to accommodate personnel in Perth prior to the return to home bases and also reduced the number of coach transfers.

### 4.3.7 Biosecurity

Parks and Wildlife raised concerns about potential biosecurity threat with equipment and personal effects being brought to WA having been used in rural or natural environments in the originating territories, for example the threat of myrtle rust. Parks and Wildlife advise that this issue has been raised with AFAC in the context of the AIA and it is expected that it will continue to receive attention in ongoing evaluation of the effectiveness of the AIA.

### 4.3.8 Acknowledgment and thanks

It was reported that interstate staff were impressed that they were met and farewelled by senior officers of the WA agencies, in acknowledgement of the value of the support provided. It was suggested that provision should be made in future for the presentation of mementos to assisting members as a further statement of thanks and regard.

| *4.3.9* | *Opportunities for improvement: Interstate deployment* |
|---------|--------------------------------------------------------|
| ID.1 | DFES and Parks and Wildlife should confer on what amendments to the AIA may be necessary to address the gaps identified by AFAC in relation to the implementation of the AIA in its first year of operation; greater compatibility of administrative systems and processes should also be pursued between DFES and Parks and Wildlife. |

| ID.2 | Common Use Agreements to facilitate the provision of air travel, ground transportation and accommodation should be developed to cover the specific circumstances of for interstate deployments. |
|------|-----|
| ID.3 | The finance and administration provisions of the Arrangements could be made more efficient by the development of a standardised costing model to assist in the delineation of cost sharing and cost recovery items. |
| ID.4 | Consideration could be given to the identification of a pre-formed Interstate Liaison Unit to enhance preparedness for future incoming deployments and to provide a basis for network building with counterpart groups in other jurisdictions. |
| ID.5 | Briefings for incoming crews should be rationalised and opportunities taken to provide general briefings during the transportation phase with more detailed briefings conducted in the area of operations; use of charter flights for incoming crews could assist in the provision of advance briefings. Consideration could be given to specific briefings for local personnel on interstate deployments arrangements. |

# 5    COMMUNITY SAFETY AND WELFARE

## 5.1   Warnings and public information

Although the review did not receive many comments concerning the timeliness and effectiveness of public warnings, those that were received were positive. It is noted in section 6.2 that the DFES Community Liaison Unit was very effective in providing information to community members who took refuge at the Pemberton Sports Centre during the O'Sullivan fire.

The Department for Child Protection and Family Support (CPFS) reported that although alerts and warnings provided by DFES are authoritative and carefully controlled, there is an emerging problem with managing public expectations concerning warnings and event information. Community members increasingly expect variety and change in the information provided, reflecting the contemporary experience of using digital media and in particular social media. Community members dissatisfied with the absence of frequent or 'real time' updates will look increasingly to social media for information.

Social media use also generates other challenges for emergency management agencies. CPFS cited the example of a community Facebook page established during the O'Sullivan fire on which people were encouraged to make donations of food and clothing at the evacuation centre. Because such donations present management problems at all evacuation centres, CPFS intervened on the site to discourage such donations. In major incidents a proliferation of such sites may impose a burden on agencies who will find it necessary to monitor site content and coordinate appropriate responses. CPFS encourages people to use local

government websites, including local government Facebook pages, to obtain better guidance and information, particularly where such sites contain links to current DFES alerts and warnings. The review noted that Parks and Wildlife has recently prepared a draft social media framework under the auspices of the SEMC Community Engagement Subcommittee which if adopted by all agencies will provide an approach to enhance interagency cooperation in establishing a social media presence during emergencies.

While information about public meetings in the case of the O'Sullivan fire was positive, the review heard criticism of the management of public meetings in the Lower Hotham fire. It was also reported that the initial public meetings focussed on the Boddington community at the expense of communities that were more immediately under threat, notably the community of Quindanning. Although this anomaly was addressed during the event, it was reported that the Quindanning meetings did not meet community expectations. As noted in section 7.2, the DFES Community Liaison Unit was not in attendance at Lower Hotham and this may have had an impact on the conduct of public meetings.

The threat to Quindanning gave rise to concerns that the evacuation of residents may have been required. The Local Emergency Coordinator (LEC, the senior WA Police officer in the district) reported that WA Police were tasked by the Incident Controller with attending on all Quindanning residents to warn them of the potential need to evacuate. The LEC advised the review that there is a lack of formal guidance on the pre-evacuation process to clarify roles, responsibilities and reporting channels: this was a cause for concern during this event and should be addressed in evacuation guidelines and evacuation planning.

## 5.2   Evacuation and welfare centres

Evacuation centres for the O'Sullivan and Lower Hotham bushfire events were established at Pemberton and Boddington respectively. The Boddington centre was not fully activated as it did not receive any evacuees. Other centres were put on standby in Manjimup and Walpole. The centre established at the Pemberton Sports Club received 233 registered persons over the course of ten days.

The review heard conflicting accounts about the establishment and operation of the Pemberton evacuation centre which are discussed later in this section. A number of the issues that arose at the centres appear also to relate to a lack of clarity regarding the respective roles of the IMT and the SOC in decision making. Consequently, many of the opportunities for improvement already noted in earlier sections of this report will, if implemented, also assist the future operation of these centres.

Westplan Welfare assigns responsibility for staffing and operating emergency welfare centres to CPFS, which provided the review with a number of examples of effective interagency cooperation in the establishment and operation of the centres in Pemberton and Boddington and the performance of roles specified in the Westplan. CPFS reported that the DFES Community Liaison Unit (CLU), which operated at the Pemberton evacuation centre, was very effective in meeting the

community need for authoritative information concerning the progress of the fire and the firefighting effort, as well as information about issues such as road closures.

The CLU was established in 2012 in response to recommendations of the 2011 Keelty report on the Perth Hills bushfires. It was reported that the presence of the CLU at major incidents has reduced the burden on CPFS staff and has enabled better information and support to affected community members. The CLU was able to get current information direct from the IMT and create an environment in which Incident Controllers have more direct contact with affected community members. The Shire of Manjimup also spoke very positively about the role of the CLU. As noted above, the CLU did not attend at the Lower Hotham fire because the centre did not receive evacuees.

It was noted that the venue identified as an evacuation centre for the Lower Hotham fire at Boddington was located within 50 metres of a reserve being used as an operating base for rotary aircraft. Such a location is not desirable as a refuge for people likely to be anxious as a result of the stress of evacuation and anxiety about the potential loss of their homes, possessions and animals. It was noted however that sometimes people do not want to evacuate to a location too far from their home or the familiar surroundings of the town centre.

In relation to the choice of evacuation centres, CPFS advised that following the 2011 Keelty Perth Hills bushfire review it had developed a database of endorsed centres with up to date contact and facility details for use by hazard management agencies. CPFS advised that there was now much better consultation by the principal agencies in the choice of evacuation centres. WALGA also reported to the review that it had been informed of the decision to establish welfare centres in connection with the O'Sullivan and Lower Hotham events. WALGA advised that although in the past local governments had sometimes not been consulted regarding the choice of evacuation centres, the situation had improved in recent times. The review noted that the 2014 Parkerville Review had reported that as a result of poor consultation with CPFS a poor decision had been made regarding the initial siting of the evacuation centre in that incident.

Other agencies that operated effectively at the Pemberton evacuation centre included the Country Women's Association and the Adventist Development and Relief Agency, which assists in locating temporary accommodation for displaced people. CPFS also reported that an initial problem with a shortage of bedding was resolved by gaining access to bedding from the local Department of Education camp school and that a local camping business had also provided approximately 20 stretchers for use free of charge.

An increasingly prominent issue at evacuation centres is the management of animals. It was reported that in the case of the O'Sullivan fire the Shire was initially not well prepared to deal with animals but that staff of the Department of Agriculture and Food (DAFWA) were able to provide practical and effective support. While DAFWA's primary concern may have been the welfare of livestock, particularly dairy animals, the Department also provided cages and temporary fencing materials which were useful for the management of domestic animals. DAFWA also set up a table at the evacuation centre for collection of pet food donations.

It was noted that DAFWA is well represented on local emergency management committees in the south west, which has also elevated the awareness of animal welfare issues in emergencies and the impact of the management of animals on human welfare. It was reported that kennels and catteries in the Manjimup and Pemberton areas also offered free board for animals displaced by the fire.

Community based volunteer groups worked with Parks and Wildlife and local government officers on native animal rescue and recovery.

Although combat agency comment on the role of CPFS in the O'Sullivan fire was uniformly positive, the Shire of Manjimup expressed reservations about the management of the centre established at the Pemberton Sports Centre. The Shire reported that it had to assist greatly to establish this centre, using local knowledge and resources. In the view of Shire officers the approach of CPFS to the task was 'theoretical' and that CPFS was 'out of its depth' in attempting to meet local needs. The Shire suggested that consideration could be given to the Shire operating evacuation centres[6]. Having regard to all the accounts presented by interviewees, the review concludes that any differences between CPFS and the Shire could be resolved by better communication between the two agencies prior to the impact of emergency events, perhaps through more intensive engagement at the local and district emergency management committee level.

CPFS also reported that it conducts training for other State agencies and non-government organisations including DFES, WA Police, Red Cross and Salvation Army, on community welfare issues in emergencies. This includes the operation of evacuation centres and the roles and responsibilities assigned under Westplan-Welfare. This training not only generates a better understanding of roles, it also enables the creation of relationships which encourage effective interagency cooperation in the field.

The Shire of Manjimup also stated that it believes it is important that agencies maintain a presence in evacuation/ recovery centres and that some agencies withdrew very quickly (Australian Red Cross was identified as an exception). Although the Shire acknowledged that State agencies such as CPFS had a particular role in emergency response, whereas recovery is a matter for local governments, it stated that the transition from response to recovery could be better managed.

The review noted that considerable work has been undertaken by the State Recovery Coordinator to improve the documentation and other processes surrounding the transition from response to recovery in relation to the restoration of services and infrastructure. This includes re-framing the concept of the recovery process to acknowledge that in the early stages it is concurrent with ongoing response activities.

Security was a concern for welfare centre staff. It was reported that several move-on orders were required. While the assistance of WA Police was appreciated, it was felt

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[6] WALGA has advised the review that it does not believe that this option would not be supported across the sector as most local governments are not currently equipped to undertake this role.

that as a 'learning' from the O'Sullivan event it would be better to have contract security personnel providing a 24 hour service.

CPFS reported some problems with media interaction at the Pemberton evacuation centre due to the conflict between CPFS wishing to preserve as far as possible the privacy and security of the evacuation centre and the desire of media representatives to obtain information and first-hand accounts of the event. It was noted that there had been good cooperation from Australian Broadcasting Corporation personnel in relation to these matters.

In relation to interagency cooperation in general, CPFS reported that as an agency it had representation on the State Emergency Coordination Group, in the State Operations Centre, at Operational Area Support Group and Incident Support Group meetings.

Concern was raised by welfare agencies that poor communication between the IMT and the SOC resulted in problems with accommodation bookings: in some cases there were double bookings and others where bookings were not used. It is acknowledged that it is a major task to arrange accommodation for emergency workers from multiple agencies. CPFS suggested that in future an overall event accommodation coordinator could be appointed to improve the efficiency and cost effectiveness of such arrangements. In the O'Sullivan event the Adventist Development and Relief Agency, which organises alternative short and medium term accommodation for evacuees and other people displaced by disaster events, were also able to identify some alternative accommodation for emergency service workers.

Communication problems also led to concern when the SOC and IMT gave different indications regarding the need for evacuations and/or the need to establish additional evacuation centres.

## 5.3   Access, entry & re-entry/ traffic management

The management of traffic in and around a fire, including the welfare of persons affected, must be carefully considered by the Incident Controller given the dynamic nature of fire incidents. However traffic control measures also frequently lead to community concern and discontent when residents and business operators are prevented from regaining access to their properties after evacuation or their absence from home while at work. Guidance on traffic management during emergencies is provided by State Emergency Management Policy 4.8 and related SEMC Guidelines. Traffic management can be an important test of interagency cooperation because different activities associated with road access and traffic control are likely to be managed by different agencies.

In the O'Sullivan event WA Police managed vehicle control points while the administration of entry and access permits was the responsibility of the Shire.

The Shire of Manjimup nominated traffic management as the biggest single issue to arise for the Shire during the O'Sullivan incident. However, these issues were not related so much to interagency cooperation as to the magnitude and dynamic nature

of the task and the time taken to obtain permits and approval to proceed through the vehicle control point. The Shire reported that it had two teams based in Pemberton, each undertaking 12 hour shifts to manage permit arrangements.

While it was reported to the review that 52 police officers were engaged in traffic management in connection with the O'Sullivan incident, in Lower Hotham WA Police were not assigned responsibility for managing vehicle control points by the Incident Controller; this task was undertaken by contractors. The Local Emergency Coordinator (LEC) for the Shire of Boddington, (the senior WA Police officer within the local government area) expressed concern that WA Police had not been given this responsibility and reported to the review that he had noted and conveyed shortcomings in vehicle control point operations to the IMT.

The Parkerville Review recommended that a restricted access permit system based on the arrangements developed for the Parkerville Stoneville Mt Helena fire should be finalised. The review was advised that a working group convened by DFES has progressed this issue with expert input provided by agency representatives on the SEMC Response Subcommittee. Revised Traffic Management Guidelines which reflect the outcomes from the working group were adopted by the SEMC in October 2015. The revised procedures will be introduced over the 2015/16 summer season:

In relation to cooperation in traffic management it was also reported that some media representatives had not complied with traffic management arrangements.

# 6 RECOVERY

The review heard from the State Recovery Coordinator and the two local governments that are responsible for management of the recovery from the two events.

The State Recovery Coordinator advised that a revised Interim Westplan – Recovery Coordination had been issued by the SEMC in December 2014. The new Westplan contains provisions that require controlling agencies to prepare interim and comprehensive impact assessments to guide local governments in recovery planning and implementation. The impact assessments replace the previous documentation prepared for the purpose of 'handing over' an incident from a controlling agency to a local government. In the O'Sullivan and Lower Hotham events it appeared that not all Incident Controllers were familiar with the new requirements of the revised Westplan.

The form in which impact assessments are to be presented was also not settled at the time of these bushfires. It was noted that DFES had been trialling an impact assessment process and forms of documentation, but that this trial had not been completed. The Shire of Boddington advised the review that the initial 'handover' documentation received from DFES was poor, which may reflect that the process of refining the documentation to meet the requirements of the new Westplan was still underway.

The State Recovery Coordinator also advised that Incident Controllers in some cases were not sufficiently aware of the Natural Disaster Relief and Recovery

Arrangements (NDRRA) which govern disaster relief cost sharing arrangements between the Commonwealth Government and the States and Territories, to enable them to deal with enquiries from local government chief executive officers. Better awareness of NDRRA arrangements on the part of Incident Controllers would enable them to provide better information to the State Recovery Coordinator and local government staff on whether the conditions exist to invoke NDRRA in relation to an incident.

The State Recovery Coordinator also advised that there was a need for a template approach and an assurance process to support the impact assessment regime required under the Interim Westplan – Recovery Coordination. A better understanding of the consequent amendments required to other Westplans following amendments to Westplan Recovery Coordination is also required. There is a need not only for guidance to controlling agencies on what documentation is required as part of the impact assessment process but also to local governments on what information they should expect, in order to prepare and resource themselves better for a recovery role.

The experience of the O'Sullivan and Lower Hotham fires and other recent emergency events also point to the need for hazard management and controlling agencies to have a better understanding of when to withdraw from an emergency. The preparation of an impact assessment should not in itself signal the end of the response phase of an event. There is a need to reframe the emergency management sector's shared understanding of roles and responsibilities so as to recognise that the hazard management/ controlling agency is always responsible for response operations and the local government is always responsible for recovery but that the two aspects of an event co-exist temporally, as represented in the diagram below. In the view of the State Recovery Coordinator, more detailed consideration should be given to the factors to be taken into account before standing down an IMT.
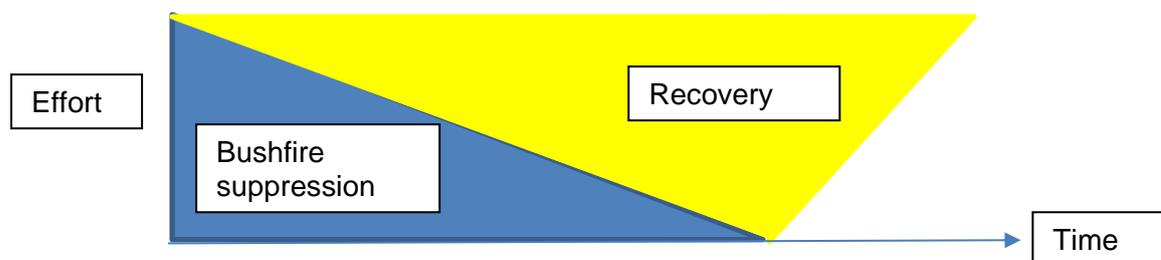


The lack of a rigorous template-based and assured approach also means that Incident Support Group members such as essential service network operators (electricity, water, gas, and telecommunications) are not able to provide or receive inforation which would assist them to plan efficiently and cost effectively for their role in the restoration and potential betterment of services.

The State Recovery Coordinator also reported that the O'Sullivan and Lower Hotham events demonstrated the need for networked agreements to enable neighbouring local governments to provide support to local government staff who may be directly affected by the event through their work or the impact of the event on the community.

Examples of successful resource sharing agreements between local governments already exist, including between one group of eight Perth metropolitan councils.

The experience of the O'Sullivan and Lower Hotham fires also reinforced the need to have a prepared approach for dealing with common hazards that arise in relation to most bushfire events where there is property loss or damage (for example the management of asbestos).

The State Recovery Coordinator expressed the view that there was an important role for SEMC Secretariat Community Emergency Management Officers (CEMOs, now redesignated as District Advisors) to assist local governments to initiate arrangements for recovery management following a bushfire incident and also to assist agencies involved in Incident and Operating Area Support Groups. CEMOs are able to undertake this function as an extension of their roles as Executive Officers of district emergency management committees but at present their formal capacity to provide such assistance is unclear. In a separate submission to the review, the Chair of the Great Southern District Emergency Management Committee also noted that the Incident and Operating Area Support Groups convened during both the O'Sullivan and Lower Hotham fires were effective and that integral to their coordination were the effective working relationships of the CEMOs as DEMC Executive Officers.

Although most recovery-related matters considered by the review related to interagency collaboration during the critical overlap of response and recovery, the Shire of Manjimup also raised some specific concerns regarding a lack of collaboration regarding access to counselling by community members in the period following the fire events. As this also an issue concerning CPFS, the review considers that the advice given in Section 7.2 above regarding communication between the Shire and CPFS is also relevant here.

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### 6.1.1         *Opportunities for improvement: Recovery*

R.1         An assurance process should be developed to ensure that amended Westplans have been fully reticulated and absorbed.

R.2         A template style approach to impact assessment that meets the needs of interim Westplan – Recovery Coordination should be finalised.

R.3         A specific role definition for SEMC Secretariat Community Emergency Management Officers should be adopted in order to make clear that they can advise Incident and Operational Area Support Groups and act as advisor to local government at the commencement of incident recovery.

R.4         Incident Controllers should become more familiar with financial arrangements governed by the WA Natural Disaster Relief and Recovery Arrangements so as to be able to advise local governments and the State Recovery Coordinator on the status of an event in relation to WANDRRA.

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|---|---|
| R.5 | Standardised guidance on the management of common hazards to emerge in the wake of a bushfire, in particular asbestos exposed in premised damaged  or destroyed by fire, should be developed and made widely available. |
| R.6 | Networked agreements between neighbouring local governments should be encouraged in order to provide better support for council officers affected by   emergency incidents, including for the purposes of fatigue management. |

# 7   CONCLUSION

The duration and extent of the O'Sullivan and Lower Hotham fires provide a reminder of the potentially devastating consequences of wildfires that take hold in the forested regions of the south west of the State, in proximity to major population centres. As noted in section 4 of the report, it was fortunate that these two events took place in relatively well serviced areas; other parts of the State could be much more difficult to support.

This factor highlights the need for effective interagency collaboration, because State agencies and local governments not only have their resources dispersed over large parts of the State but these resources are not distributed evenly. This presents challenges for such things as the development of pre-formed interagency incident management teams but it makes it even more urgent that there is a renewed focus on how to overcome these difficulties. It also highlights the need for integrated resource management systems, greater overall inter-operability of systems and equipment and the resolution of the issues raised in this report around the relationship between local incident management teams and centralised operations command centres.

All of these issues should be the focus of ongoing work under the auspices of the Interagency Bushfire Management Committee.

However, in addition to these things, we should be reassured by the many things that were identified as having been done well. These include the support received from interstate firefighting crews in contributing their skill and experience to the suppression effort and relieving our own very  hard-worked volunteer and career firefighters; the cooperation with the Commonwealth through ADF support and the use of RAAF Pearce;  the high level of cooperation between agencies that was reported at the State Operations Centre and State Emergency Coordination Group level; and the cooperation that was reported between State agencies and local government, including in relation to the use of local government facilities and equipment.

Unfortunately the Western Australian community will never be free of the potentially disastrous consequences of exposure to bushfires but we can commit to ensuring that we are always doing the best that we can to minimise the risk through appropriate governance arrangements; land use planning; community education and awareness campaigns; support for our State's volunteer and career firefighters and the promotion of technological advances in support of all of these resources.

# APPENDIX ONE

## SUBMISSIONS & INTERVIEWS:  INTERAGENCY COLLABORATION

**Written contributions were received from:**

Department of Fire and Emergency Services

Department of Parks and Wildlife

Northcliffe Bush Fire Brigade

SES Volunteers Association Western Australia

Shire of Williams

Great Southern District Emergency Management Committee on behalf of the Shire of Katanning

The Bushfire Front, Inc.

Institute of Foresters Australia

**Interviews were conducted as follows:**

| Date | Interviewee(s) | Organisation |
|---|---|---|
| 11 May 2015 | Mr Bob Hay<br>State Recovery Controller | Department of the Premier and Cabinet |
| 12 May 2015 | Mr Frank Edwards<br>Chair<br><br>Mr Jim Sharp<br>Director General | State Emergency Management Committee<br><br>Department of Parks and Wildlife |
| 12 May 2015 | Mr Peter Dans<br>Director Regional and Fire Management Services<br><br>Mr Mike Meinema<br>A/Manager Fire Management Services Branch<br><br>Mr Keith Low<br>Principal Policy Officer | Department of Parks and Wildlife |

| 12 May 2015 | Mr Kevin Jolly<br>Branch President<br><br>Ms Lea Anderson<br>Branch Secretary | United Firefighters Union of WA |
| --- | --- | --- |
| 13 May 2015 | Mr Max Osborne<br>Executive Officer | Western Australian Volunteer Fire and Rescue Services Association |
| 13 May 2015 | Mr Terry Hunter<br>President<br><br>Mr Dave Gossage<br>Vice President | Association of Bush Fire Brigades WA Inc. |
| 13 May 2015 | Mr Gordon Hall<br>President<br><br>Mr Lin Booth | SES Volunteers Association |
| 13 May 2015 | Ms Sue Ash<br>Deputy Chair | State Emergency Management Committee |
| 14 May 2015 | Mr Mark Webb<br>Chief Executive Officer | Botanic Gardens and Parks Association |
| 14 May 2015 | Mr Wayne Gregson<br>Commissioner Fire &<br>Emergency Services | Department of Fire &<br>Emergency Services |
| 8 June 2015 | Mr Kim Dean<br>Director Emergency Services<br><br>Mr Neville Blackburn<br>District Emergency Services Officer<br><br>Mr Ryan Hamblion<br>District Emergency Services Officer | Department for Child Protection & Family Support |
| 8 June 2015 | Mr John Lane<br>Policy Manager,<br>Community | WA Local Government Association |
| 9 June 2015 | Major Lindsay Brown<br>Major Thomas Basan | Australian Defence Force |
| 9 June 2015 | Mr Darren Klemm<br>A/ Deputy Commissioner | Department of Fire and Emergency Services |

| | Operations | |
|---|---|---|
| 9 June 2015 | Mr Lindsay Boyer<br>Ms Carol Plant | Salvation Army |
| 9 June 2015 | Mr John Clarke | Institute of Foresters Australia |
| 9 June 2015 | Mr Steve Fewster<br>Deputy Commissioner Capability | Department of Fire and Emergency Services |
| 10 June 2015 | Mr Peter Haas<br>Principal Environmental Health Officer<br><br>Mr Lee Lewis | Shire of Boddington |
| 10 June 2015 | Mr Richard McAlinden<br>Senior Advisor Social Responsibility – Operations<br><br>Mr Benjamin Armstrong<br>Emergency Services Coordinator – Crisis Management | Newmont Boddington Gold |
| 11 June 2015 | Mr Andrew Campbell<br>Chief Executive Officer<br><br>Mr Paul Bawden<br>Director Statutory & Corporate Services<br><br>Ms Gail Ipsen Cutts<br>Director Community Services<br><br>Mr Todd Ridley<br>Manager Community Emergency Service<br><br>Mr Remo Pessotto.<br>Fire Hazard Reduction Officer | Shire of Manjimup |
| 11 June 2015 | Sergeant Martin Glynn<br>Officer in Charge Boddington | WA Police |
| 11 June 2015 | Mr Greg Mair<br>South West Regional Manager | Department of Parks and Wildlife |

## APPENDIX ONE (CONTINUED)

## SUBMISSIONS AND INTERVIEWS: INTERSTATE   DEPLOYMENT

**Written contributions were received from:**

Department of Fire and Emergency Services

Department of Parks and Wildlife

New South Wales Rural Fire Service

Emergency Management Victoria

Australasian Fire and Emergency Service Authority Council