

AFAC Independent Operational Audit

South Australian Fires of January 2015

Prepared for the South Australian Country Fire Service
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John Paul Critchley – Tantanoola (2 Jan 2015)

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The following personnel were engaged to conduct the Independent Operational Audit (IOA) on behalf of Australasian Fire and Emergency Service Authorities Council (AFAC):

- Assistant Commissioner Jim Hamilton AFSM - Fire & Rescue NSW
- Regional Chief Jeff Harper AFSM - Tasmanian Fire Service
- Assistant Commissioner Steve Yorke AFSM - NSW Rural Fire Service

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The input of these individuals in preparing this document was of great benefit to the IOA.

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Australasian Fire and Emergency Service Authorities Council Limited (ABN 52 060 049 327)

Level 1, 340 Albert Street

East Melbourne Victoria 3002

Telephone: 03 9419 2388

Facsimile: 03 9419 2389

Email: afac@afac.com.au

Internet: <http://www.afac.com.au>

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1 Executive Summary

- 1.1 In early January 2015, high temperatures and strong winds across the Australian continent produced a significant bushfire danger risk within South Australia (SA). Total fire bans were declared across the entire state, with the exception of one fire weather districts, and 'catastrophic' fire danger forecast for the Mount Lofty Ranges and lower south-east of SA.
- 1.2 These conditions resulted in numerous bushfires breaking out on 2 January 2015. Many of these fires were contained utilising local resources and did not require a state coordinated response. However, several of these fires proved difficult to contain in the adverse weather conditions.
- 1.3 The most significant of these fires was the Sampson Flat Fire in the Mount Lofty Ranges (SACFS Region 1 and 2) and Tantanoola Fire in the Millicent area (SACFS Region 5). The SAPOL Commissioner, (who under legislation is the State Emergency Coordinator)¹ declared a 'major emergency', to assist in managing the Mount Lofty incident. This declaration was made on 3 January and supported by SACFS remained in place until revoked on 7 January 2015.
- 1.4 Over the seven days from 2 January, there were no significant injuries recorded as a result of the fires or firefighting operations. Over 13,452 hectares were burnt, together with the destruction of community infrastructure. The losses included:
- 27 homes either destroyed or damaged beyond habitation²
 - 146 other structures destroyed
 - 5 businesses affected
 - 30 vehicles destroyed.
- 1.5 The SACFS, 'Chief Officer's Intent' at Annexe A issued on Thursday 1 January 2015, clearly outlined the approach to be undertaken at the State, Regional and Incident Management Team (IMT) levels. It became the cornerstone of operational strategies embedded throughout the emergency.
- 1.6 The SACFS invited AFAC to conduct an Independent Operational Audit (IOA) of the management of these fires. A small team of senior officers from interstate fire agencies, supported by the AFAC office, prepared this document between February and March 2015. The IOA identified 27 observations, provided 18 recommendations and invites SACFS and supporting agencies to consider these findings. The IOA concluded that none of the observations and/or recommendations contained within this IOA significantly impeded the firefighting operations or management of these fires.
- 1.7 Given the significant bushfire weather conditions confronting the firefighting authorities and the supporting agencies in early January, the IOA commends all those involved in protecting their community under very challenging circumstances.

¹ *Emergency Management Act 2005*

² Figures at the time of the IOA, this could be revised upon further analysis.

Recommendations

1.10 The IOA has made 18 recommendations in this audit and they are summarised as follows:

- **Recommendation 1**
Incorporate in operational doctrine the ability for the State Controller to determine the operational readiness levels of the state or regions based on either the predicted and/or actual risk and/or activity to some or all of the regions.
- **Recommendation 2**
Incorporating 'triggers' within Chief Officers Standing Orders No. 17, which requires the escalation of the State Controller role to the rank of Assistant Chief Officer or greater, depending on the increased risk or activity.
- **Recommendation 3**
Reviewing how Regional resources are managed and tracked and incorporate into COSO's to ensure that there is complete situational awareness as to the location and tasking of CFS resources.
- **Recommendation 4**
That the Emergency Management Australia's 'Arrangements for Interstate Assistance (Fire and Emergency Services)' be applied to all future requests for assistance by the SACFS, SAMFS and SASES.
- **Recommendation 5**
Noting the implementation of Common Incident Command and Control System (CICCS) in SA that fire and emergency services together with police (including through AFAC and ANZPAA), continue to liaise regarding the development of a national incident management.
- **Recommendation 6**
That a complete review of current naming conventions of personnel and centres, in accordance with the outcomes of the Victorian Bushfire Royal Commission is undertaken, to ensure clarity around command, control and coordination within SA.
- **Recommendation 7**
That future declarations be undertaken to ensure that the areas affected by the declaration are clear and concise.
- **Recommendation 8**
That SACFS conduct a review of SIMT with a view to increasing the number of teams from four to six, aligning them with each of the six regions within SA.
- **Recommendation 9**
Plan the establishment of one multi-agency Coordination Centre with sufficient capacity and capability to deal with all incidents in South Australia.

- **Recommendation 10**
Review all current SACFS operational facilities (Group, ICC, RCC and SCC) to provide more effective communications, connectivity and resource management.
- **Recommendation 11**
Review the communication and request procedures within SACFS to ensure that the most effective chain of command and line of communications are established between the Incident Management Team, region and state.
- **Recommendation 12**
SACFS appoint the Regional Controller and/or Coordinator as the IC for any Level 3 incident occurring within their Region to provide better continuity and improved coordination. The position of the regional controller and/or coordinator could then be backfilled by a suitably qualified individual as required.
- **Recommendation 13**
Review the current practise of issuing an 'emergency alert' telephone message or an emergency warning and/or watch and act alert to ensure that it is consistent, relevant and necessary. Prior to issuing an emergency alert message, consider state level involvement so that other agencies are made aware of message and intent.
- **Recommendation 14**
SACFS and the BoM review current weather, fuel loads and curing rates to determine the most appropriate and accurate forecast is prepared, issued and validated against current conditions.
- **Recommendation 15**
That SACFS consider the Traffic Management Procedures and guiding principles adopted in Tasmania as a model that could be implemented within SA.
- **Recommendation 16**
That SACFS in consultation with SAMFS consider adopting common terminology and capability requirements for strike teams being '4-5 appliances and a group officer' in line with other jurisdictions.
- **Recommendation 17**
That SACFS consider a review to develop an effective interagency messaging system and agency resource management system.
- **Recommendation 18**
Review relevant Legislation associated Acts and Plans to establish a consistent approach to fire and emergency management to minimise duplication and risk of contradiction. That the Hazard and Functional area plans be amalgamated and establish a SA Bushfire Plan, under the SEMP, which clearly define role of SACFS.

2 Independent Operational Audit

Introduction

- 2.1 The SACFS requested AFAC to conduct an independent industry IOA of operations leading up to, and during, the major fires of January 2015. The SA Government supported this approach. The intent of the IOA process is twofold:
- a. To assist SA agencies with independent industry advice and comment prior to any potential State based inquiry or further review; and
 - b. To enhance an industry IOA capability and to provide a model for continuous improvement within AFAC agencies.
- 2.2 The IOA was conducted by senior industry figures from other AFAC agencies and was edited by the AFAC Office. The IOA utilised several AFAC publications³ in structuring this IOA. The result is an independent audit of operational performance by industry peers.

Benefits

- 2.3 SA fire and emergency services are committed to enhancing community safety, quality of life and confidence by minimising the impact of hazards and emergency incidents on the people, environment and economy of SA. This IOA will inform the post-incident analysis for the SACFS and its examination of the broader state Emergency Management (EM) approach.
- 2.4 The IOA provided SACFS, an opportunity to benchmark its operations and be proactive in identifying deficiencies. It demonstrated that the agency is well placed in the conduct of future operations and will be well informed to assist in the event of any future inquiry.

Scope

- 2.5 State level issues were confined to the responsibilities of the fire agencies. The State and Regional level considerations covered areas such as policy, procedure, operational documentation/doctrine, planning and performance. The scope of the IOA was focussed on the management and interactions between:
- a. SAPOL and SA fire and emergency services
 - b. Interstate and national agencies
 - c. SA State Emergency Centre, (SEC)
 - d. SAMFS State Coordination Centre Fire
 - e. SACFS State Coordination Centre (SCC)
 - f. Regional Coordination Centres (RCC)
 - g. Level 3 Incident Management Team (IMT)
 - h. Incident Control Centres (ICCs).
- 2.6 While the IOA focussed on the SACFS operations and management, the IOA does include comments on other agencies accountable for fire management as part of their jurisdictional responsibilities.
- 2.7 The causes of the Sampson Flat and Tantanoola fires are not included in the IOA. Findings from individual agency debriefings and reviews were also not considered in this IOA because they

³ AFAC *Conducting Independent Operational Audits*, Version 1, October 2013; AFAC *What is Operational Success for Fire and Emergency Services*, January 2015.

were not complete when the IOA was drafted and their intent in large part was reviewing tactical issues which were not the concern of the IOA .

Terms of Reference

2.8 The intent of this IOA is to identify major elements and aspects of the event that worked well and should be built upon and highlight any issues that can be improved upon. Terms of Reference (TOR) for this IOA are attached at Annex B.

Review and Governance

2.9 An IOA team of three was formed with representatives nominated by interstate agencies to cover the areas of the TOR. Facilitation of the processes included, working with representatives of SA agencies to address the IOA TOR. The IOA team met with relevant agencies in relation to particular issues that arose during the course of the IOA and considered available reports, submissions and comments relevant to the TOR. The process was overseen by Chief Executive Officer (CEO) AFAC. Project milestones located in Table 1. When completed the IOA team reported to CEO AFAC, who presented CO SACFS the completed report.

Table 1 – Project Milestones

Milestones	Project Stage	Due date
Preparation	Terms of Reference agreed, review team established, commencement of audit.	23 Jan 2015
Milestone 1	Site assessments, inquiries and consultation	20 Feb 2015
Milestone 2	Interim/Progress report to CO CFS	27 Feb 2015
Milestone 3	Draft audit submitted to AFAC Office for proof reading	13 Mar 2015
Milestone 4	Final report presented to CO CFS	27 Mar 2015

IOA Methodology

2.10 AFAC invited fire and emergency services outside SA to nominate appropriate senior personnel to undertake the IOA. Officers from Fire and Rescue NSW, the NSW Rural Fire Service and Tasmanian Fire Service formed the IOA team. The IOA focussed on two major fires which started on Friday 2nd January 2015 specifically:

- a. Sampson Flat Fire – Mount Lofty Ranges, 12,569 hectares burnt.
- b. Tantanoola Fire – Millicent, 883 hectares burnt.

There were multiple other fires during the January period, but these fires were not included in the IOA.

Relationship to other Reviews

2.11 The IOA was advised that other formal investigations and after actions reviews are being undertaken independently of this IOA. They include:

- a) SA Government: SAPOL are undertaking an investigation to present to the SA Coroner. The Coroner, will determine whether a Coronial Inquest will be conducted.
- b) SACFS Operational Debrief: An internal SACFS Operational Debrief to review the operational aspect of the fires management and coordination from local, regional and state perspectives.
- c) Multi-Agency Debrief: A multi-agency debrief was convened to review coordination arrangements between all agencies involved in the Sampson Flat and Tantanoola fires

- d) SAPOL Fire Investigation: SAPOL conducted a full and comprehensive investigation into the cause and origin of the Sampson Flat fire.
- e) SAPOL and SACFS have completed an investigation into the cause of the Tantanoola Fire and concluded the cause to be 'undetermined'.

3 Background

South Australian Emergency Management (EM) arrangements

- 3.1 EM in SA is undertaken by all emergency services in line with an established framework of legislative acts, regulations and supporting plans. The primary legislation in SA is the Emergency Management Act, 2004. The State Emergency Management Committee (SEMC) was established under the Emergency Management Act. The Committee members include: the Chief Executives of the major government agencies and the Chief Officers of the Fire and Emergency Services. The SEMC is chaired by the Chief Executive of the Department of Premier and Cabinet.
- 3.2 The SEMC does not have an operational role, but as described under Section 9 of the Act, has the responsibility of 'preparing and reviewing the State Emergency Management Plan 2012 (SEMP) in preparation for, in response to, and the recovery from any emergencies'.
- 3.3 A key component of the Act is the legislated role of the Coordinating Agency and the Control Agency. The Control Agency is the agency nominated to exercise control over an entire emergency location and/or incident, including all aspects of response and recovery. The Coordinating Agency for all emergencies, under the Act, is SAPOL. The Coordinating Agency's role is to actively seek information from the Control Agency and any of the supporting agencies to ensure that the Control Agency is meeting its responsibilities, under the SEMP. These responsibilities include ensuring that:
- Effective command and control arrangements are established.
 - Incident management objectives and priorities are clearly identified.
 - There is collaboration between Agencies.
 - The Controlling Agency is disseminating appropriate and effective community messages and warnings.
 - The threat is clearly understood and actioned accordingly.
 - Information is being disseminated at all levels, as appropriate.
- 3.4 SAPOL also has the role of ensuring that all other Supporting Agencies are actively assisting the Control Agency. The Act and the SEMP describe the responsibilities of key participants under the state's emergency services arrangements.
- 3.5 The State Coordinator is defined in the Act as being the SA Commissioner of Police and has the following functions:
- To manage and coordinate response and recovery operations in accordance with the Act and the SEMP.
 - If an identified major incident, a major emergency or a disaster is declared under this Act — to ensure SEMC is provided with adequate information in order to fulfil its monitoring functions under the Act.
 - To carry out other functions assigned to the State Coordinator under the Act.
- 3.6 An Assistant State Coordinator may be appointed at any time by the State Coordinator to exercise specific powers and functions. The Assistant State Coordinator – Recovery must be appointed if a declaration under the Act is made. The Recovery Coordinator is responsible for developing and implementing the recovery plan for the incident.

- 3.7 The State Controller (SC) is the leader of the functional service. The SC has the role of ensuring that the functional area for which they are responsible operates in an effective and efficient manner to achieve appropriate community outcomes. Upon a declaration being made these controllers have additional powers under the Act.
- 3.8 Supporting the Emergency Management Act is the Police Act 1988, the Fire and Emergency Services Act 2005, and the Public Health Act 2011. All of these Acts are subject to the provisions of the Emergency Management Act and provide for a suite of legislation that effectively addresses the SA EM requirements.
- 3.9 The Fire and Emergency Services Act 2005 and SA Fire and Emergency Services Commission provide the governance, strategic and policy aspects for the emergency services sectors. This includes the SACFS, SA Metropolitan Fire Service (SAMFS) and State Emergency Service (SASES); and other agencies that provide for the prevention, control and suppression of fires and other emergency situations;
- a) SACFS: The SACFS has the functions and powers to protect life, property and the environment, while providing efficient services to prevent respond and reduce the outbreak of fires and deal with other emergencies in country SA. The SACFS CO has powers under the Act and is responsible for the management, administration and ultimate responsibility of the operations of the SACFS and assumes the role of SC in the event of a declared rural fire in country SA.
 - b) SAMFS: The SAMFS has the functions and powers to protect life, property and the environment, while providing efficient services to prevent, respond and reduce the outbreak of fires and deal with other emergencies within fire districts of SA. The SAMFS CO has powers under the Act, and is responsible for the management, administration and ultimate responsibility of the operations of the SAMFS and assumes the role of SC Fire (emergencies other than Bushfires)
 - c) DEWNR: Department of Environment, Water and Natural Resources (DEWNR), is responsible for the management of land reserved under the National Park and Wildlife Act 1972. DEWNR undertake fire suppression activities on lands under their management, in accordance with the Fire and Emergency Service Act, as constituted SACFS Brigades.
 - d) FSA: Forest SA (FSA) is responsible for the management of land under the Forestry Act 1950. FSA undertake fire suppression activities on lands under their management in accordance with the Fire and Emergency Service Act, as constituted SACFS Brigades

Weather conditions and situational awareness

- 3.10 **Monday 29 December 2014.** During the designated SA bushfire season the Bureau of Meteorology (BOM) conducts multi-agency weather briefings every Thursday and Monday (as required). During the weather briefing teleconference held on Monday 29 December 2014, the BOM advised of the potential for dangerous bushfire conditions across the majority of SA for Friday 2 January and Saturday 3 January 2015.

- 3.11 The weather forecast indicated that on Friday 2 January the state would experience a northerly air flow with generally hot to very hot conditions. Winds of 25km/h, gusting to 40km/h, accompanied by unstable atmospheric conditions. On Saturday 3 January, a complex trough would move across the state, ahead of a frontal change, which would bring continuing hot to very hot conditions and winds. As a result of the BOM forecast, preparedness activities were commenced in accordance with the SACFS, Chief Officers Standing Orders (COSOs)⁴, anticipating a 'Red' level activation on the 2nd and 3rd of January 2015.
- 3.12 Preparedness activities at the state level included confirmation of: additional aircraft; the availability of State Coordination Centre (SCC) and State Incident Management Team (SIMT) personnel; the availability of the State Emergency Information Call Centre (SEICC) personnel; and the identification of SACFS Bushfire Information Hotline Operators. The six Regional Coordinators (RCs) also undertook preparedness activities in accordance with the anticipated 'Red' level activation later in the week.
- 3.13 **Tuesday 30 December 2014.** SACFS preparedness for the forthcoming week was reviewed by all relevant agencies. This included developing a media strategy, ensuring the community and partner agencies were aware of the forecast and potential bushfire danger. The State Air Desk (SAD) also continued to ascertain what additional aircraft may be available to supplement the existing State aviation fleet. SACFS CO continued to liaise with interstate agencies, with regards to potential support utilising Emergency Management Australia's (EMA) assistance framework⁵. This ensured that situational awareness was maintained across all agencies regarding the potential threat level and outlook in SA.
- 3.14 **Wednesday 31 December 2015.** The scheduled Thursday BOM multi-agency teleconference was brought forward to Wednesday, in that conference the BOM confirmed that Friday 2 January and Saturday 3 January 2015 would see dangerous weather conditions across the majority of the state. The forecast for Friday was for hot to very hot conditions across the state. Winds generally 25km/h, gusting to 45 km/h and the relative humidity down to 5% across many districts. The c-Haines index was anticipated at 13 (the highest level), due to the significant unstable atmospheric conditions. The prediction for Saturday was for a frontal change to move across the state, with winds ahead of the change at 30km/h, gusting to 50km/h, and the relative humidity down to 10 - 20%, with thunderstorms over many areas.
- 3.15 At 1500hrs, a briefing was held at the SEC with all the functional services agencies confirming the predicted extreme bushfire weather conditions. This briefing also included the preparations ahead of the New Year's Eve celebrations for SA in 2015.
- 3.16 The incoming SACFS 'On-Call' State Coordinator confirmed the requirement for a 24/7 personnel roster and level 2 incident management capability for all six SACFS RCCs, in addition to liaison with local SAPOL Area Commanders. The State Emergency Information Communication Centre (SEICC) standby requirements were also confirmed and the SACFS SCC established a 24/7 personnel roster; and identified three additional fixed wing bombers (SEATs) and a helicopter for the 2nd and 3rd of January 2015.
- 3.17 A media conference for Thursday 1 January 2015 was planned and the SIMT (Green) personnel, with additional personnel from SIMT (Blue) were identified for potential deployment

⁴ COSO No.17 *Levels of Preparedness*

⁵ Emergency Management Australia, *Arrangements for Interstate Assistance (Fire and Emergency Services)*, version 1, October 2014.

in various regions. Mapping support personnel and Fire Behaviour Analysts (FBAN) were also identified for duty at the SACFS SCC.

- 3.18 **Thursday 1 January 2015.** The preliminary BOM weather forecast for Friday indicated all districts, except north-east pastoral, would experience severe or higher fire danger ratings. This included two districts, the Mount Lofty Ranges and lower south-east at 'catastrophic'.
- 3.19 The predicted weather conditions were confirmed by the BOM at 1600hrs and all of the standard notifications were undertaken by SACFS. Consequently the SACFS CO issued a 'Chief Officer's Intent' in order to place; 'the highest priority on protecting the maximum number of lives from impact by bushfire', which applied to all SACFS members and SACFS operations.
- 3.20 Additional preparedness activities included the pre-deployment and stand-up of the SIMT (Green) into the SACFS SCC. The SAD through the SACFS CO requested the deployment of a Linescanning aircraft from the NSW Rural Fire Service (NSWRFS) to Adelaide and the relocation of an additional SEAT to Mt Gambier. A pre-emptive Stage Two Activation of the SACFS SCC, in accordance with the COSOs 17, was implemented for Friday morning, with liaison officers from SAPOL, SAMFS and SA Ambulance Service (SAAS) requested to be in attendance.
- 3.21 A media conference was held at 1430hrs with SAPOL, SACFS, SAMFS and SASES personnel present. The focus of this media conference was to advise the community of the potential significant bushfire danger and a 'call to action' for the community in preparing for the predicted conditions on the 2nd and 3rd of January 2015.
- 3.22 An emergency teleconference of the Commissioners and Chief Officers Strategic Committee was held to provide situational awareness of the extreme weather conditions and gauge potential requests for assistance from other agencies.
- 3.23 **Friday 2 January 2015.** By mid-morning a number of districts were already experiencing severe weather conditions forecasted by the BOM. SACFS SC elevated the preparedness level to the highest level of readiness, Level Red, Stage 2. Over the course of the day, 64 rural fires were reported across SA. The most significant being the Sampson Flat fire situated within the northern Mount Lofty Ranges and the Tantanoola fire which started near Millicent in the lower south-east. A FDR of 'catastrophic' forecast for these two areas and total fire bans were continued for all other regions.

The Sampson Flat Fire (at Annexe C)

- 3.24 The initial report of fire at Sampson Flat, near the locality of One Tree Hill, was reported at 1232hrs on 2 January 2015. The fire burnt in undulating country containing grassland and scrub and was classified, 'contained', by the Incident Controller at 1358hrs. SACFS deployed a number of firefighting tankers to the initial fire, supported by aircraft, which assisted with containing the fire after burning through approximately 10 hectares.

- 3.25 At approximately 1415hrs, two separate fires were detected, south and east of the original fire area. Further SACFS resources responded, including additional aircraft. With fires burning in heavy scrub and high fuel loads, the fire was moving into steep and difficult terrain, making access by SACFS problematic. Weather conditions deteriorated throughout the afternoon influencing the fire behaviour, which saw it travelling in multiple directions.
- 3.26 Considering the ferocity of fire behaviour across the fireground, the initial focus was on providing public safety information and for the primacy of life and protection of property. Messages were developed confirming the necessary actions to be taken by the community in those areas likely to be impacted.
- 3.27 Throughout Friday afternoon the fire spread rapidly, burning generally south to south-east though scrub and forest. A wind shift saw the fire burn in an east-north-easterly direction towards the township of Kersbrook. The fire continued to burn under extreme fire weather conditions into the evening in a north, north-westerly direction, before heading west south westerly towards suburbs of Gould Creek, Hermitage, Golden Grove and Greenwith. It was estimated that the fire travelled eight km in five hours and had impacted on numerous properties in the area.
- 3.28 By the morning of 3 January 2015 the fire had travelled in a south-south-easterly direction towards Inglewood, Paracombe, Cudlee Creek and Prairie. During that afternoon the fire moved in an east north-easterly direction towards Gumeracha, Kenton Valley and Birdwood, shifting to the north-north-east threatening Kersbrook, Forreston, Mt Crawford, South Para and Humbug Scrub.
- 3.29 The fire posed significant challenges to the firefighting operations, primarily due to the terrain and limited access in many areas. Significant spotting activity was experienced due to the topographical diversity and the overall mixture of fuel types involved. Fuels included plantation forest softwood and hardwood, native scrub/forest, grassland, viticulture and other orchards, and a water catchment area surrounding the Millbrook reservoir.
- 3.30 The Sampson Flat fire was classified as contained on 7 January 2015 after burning through 12,569 hectares, with a fire perimeter of 222 kilometres. The Millbrook Reservoir and associated catchment suffered significant damage as the fire burnt around the entire reservoir. The losses from this fire include:
- 27 homes either destroyed or damaged beyond habitation.
 - 146 other structures destroyed.
 - 30 vehicles destroyed.
 - Five businesses affected.
 - 960 sheep, 30 cattle and two horses destroyed.
 - 10 domestic animals (dogs/cats) destroyed.
- 3.31 The incident was managed by the SIMT (Green) during the day shift and SIMT (Blue) on the night shift, established at the South Para SACFS Incident Control Centre, Group Base, One Tree Hill and assisted by other emergency services and support Agencies. Two staging areas were established, one at One Tree Hill oval and the second at Gumeracha, with a base camp at Nairne for the interstate crews. The SIMT was supported by the RCC established at Willaston.

3.32 Firebombing aircraft conducted a total of 894 bombing missions, dropping 2,733,600 litres of suppressants and retardant on the Sampson Flat fire.

The Tantanoola Fire (at Annexe D)

3.33 The Tantanoola fire near Millicent in the south east was reported at 1422hrs on 2 January 2015. The fire burnt in undulating country containing plantation forest and scrub, and was classified as contained at 1816hrs on Saturday 3 January 2015 after burning through 883 hectares. Initially this fire travelled in a south, south- easterly direction then in an easterly direction towards the township of Glencoe. Whilst no structures were impacted, significant damage was sustained to the FSA softwood plantations and native scrub in the area.

3.34 The Tantanoola fire was influenced by the extreme bushfire weather conditions, including a wind change from the west and spotting activity ahead of the main fire front. The fire had the potential to travel through and impact on the surrounding areas and communities on the outskirts of Mt Gambier and beyond towards Victoria. Public information messages were developed confirming the necessary actions to be taken by the community in those areas likely to be impacted.

3.35 SACFS firefighting crews were supported by aircraft from Mt Gambier and a Strike Team from the Victorian Country Fire Authority (CFA). Two SEAT aircraft and two Large Air Tankers (LATs) from Casterton and Avalon in Victoria were also deployed to assist. The LATs assisted with retardant in strengthening a control line being established in close proximity to the FSA Plantation Nursery, a critical asset to the area. Firebombing aircraft conducted a total of 118 missions and delivered 354,000 litres of suppressants at the Tantanoola Fire.

3.36 The SIMT (Red) were responded to the Mt Gambier ICC to assist with managing the Tantanoola fire. Two liaison officers from Victoria were also embedded in the ICC and provided a connection with the CFA ICC at Heywood. The IMT was supported by the RCC established at Naracoorte.

3.37 Both the Sampson Flat and Tantanoola fires were extensive and caused considerable damage to both infrastructure and the environment. As a consequence of the large areas burnt and impact to the community, relocations occurred and several relief centres were established for those affected by the Sampson Flat fire. The management and suppression of these fires were carried out through the resource coordination of a multi-agency response, led by the SACFS and included additional resources from interstate and the Department of Defence, (sourced through Emergency Management Australia).

4 Discussion

TOR 1 – Understanding the incident including timing, conditions, resources available and any other concurrent incidents which may have impacted on response.

- 4.1 In the days leading up to the Sampson Flat and Tantanoola fires there were a number of strategies initiated by the SACFS and other relevant authorities to ensure that there was a heightened level of operational readiness.
- 4.2 These measures included broad distribution of a 'Chief Officer's Intent' communiqué from the SACFS CO. Significant pre-planning was also initiated by the incoming 'On Call' SACFS SC, assisted by other 'On Call' SACFS SCC personnel. These measures included pre-planning and preparedness actions to ensure that SACFS, other combat agencies and functional support areas, and the community, were prepared for the extreme fire weather conditions that were forecast for the 2nd and 3rd January 2015.
- 4.3 While acknowledging the actions implemented by the incoming 'On Call' SACFS State Controller, the IOA identified that the level of operational accountability remains the same for the SC (Commander Rank) and is not based on level of complexity or risk at the state level. It is also recommended that a review of roles and responsibilities of the SC be undertaken to ensure that those personnel have the necessary skills and capabilities to fulfil the role and apply the requirements in a consistent manner.
- 4.4 In accordance with the SEMP, the pre-emptive activation of the State Emergency Centre (SEC) was initiated by SACFS. On Friday 1 January 2015 the State Emergency Centre (SEC) was initiated in response to the BOM's forecast of extreme bushfire weather conditions that were to continue until 8 January 2015. In line with COSOs No. 17 the state-wide operational level of preparedness was determined to be Level Red, Stage 2, and was disseminated from within the SACFS SCC. This level of preparedness was mirrored within SAMFS, which activated the State Control Centre – Fire. Rostering of additional personnel over the weekend included the Adelaide Fire '000' Communication Centre.
- 4.5 All SACFS Regions were requested to determine resource capabilities in accordance with the Regional Operations Management Plans (ROMPs), including the establishment of Level 2 IMTs and the potential for 'out of area' strike team deployments. The New Year long weekend holiday period provided an additional layer of complexity to an emerging threat of fire.
- 4.6 SAPOL confirmed that Officers were available to assist with road closures, evacuations or control points as required. Liaison Officers (LOs) were requested for assignment to the SACFS SCC, with all SACFS Brigades placed on a heightened level of activation.
- 4.7 A call to the Commissioners and Chief Officers of several states was made via telephone by the CO SACFS, confirming the predicted weather conditions and pre-empting the possibility of a request for interstate assistance.

Successes

- The SA Emergency Services Act and SEMP, as well as the *Fire and Emergency Services Act 2005* were appropriately activated in preparation for predicted dangerous bushfire weather.
- SACFS internal preparations were in line with COSO No.17 and appropriate for predicted extreme bushfire weather conditions.

Observations

- SACFS issued a 'Chief Officer's Intent' communiqué on the 1 January and a 'Commander's Intent' issued by the Chief Officer on Sunday 4 January. It is unclear why there are two different titles for an instruction of 'Intent' by the CO.
- Consideration should be given to incorporating 'triggers' within COSO 17, which requires the escalation of the SC role to the rank of ACO or greater, depending on the increased risk or activity.

Regional Responses

- 4.8 At the time of the Sampson Flat and Tantanoola Fires there were 64 incidents occurring across the state. These included 30 bushfires, five structure fires, one MVA/Rescue and 28 other responses.
- 4.9 Initial response to both fires was in accordance with SACFS Standard Operating Procedures (SOPs), with the incident controller initiating responses up to a 2nd and 3rd Alarm (12 tankers), and additional resources identified by Regions and communicated to Adelaide Fire for further activation. Adelaide Fire established a process of communications to relay information regarding subsequent '000' calls reporting incidents within the established fire areas. This involved processing the call and relaying particulars to the relevant Region, who in turn relayed it to the relevant IMT. This process is now being formulated and will be included as standard practice.
- 4.10 The IOA noted that when additional ground resources were required from adjoining regions, requests were generally managed from region to region, with the state being advised of subsequent resource deployments.

Success

- The establishment of a process to relay information regarding subsequent '000' calls reporting incidents within the established fire areas between Adelaide Fire and the region.

Observation

- The IOA identified inconsistencies between regions in relation the application of preparedness activities as they were based only on actual FDIs, rather than a combination of actual and perceived risk. This has the potential to lead to differing levels of operational readiness and resource availability and could have an impact on the overall state of readiness for SACFS. Whilst this did not affect the response capability at these incidents there is the potential for this to occur in the future.

Recommendation 1

Incorporate in operational doctrine the ability for the State Controller to determine the operational readiness levels of the state or regions based on either the predicted and/or actual risk and/or activity to some or all of the regions.

Recommendation 2

Incorporating 'triggers' within Chief Officers Standing Orders No. 17, which requires the escalation of the State Controller role to the rank of Assistant Chief Officer or greater, depending on the increased risk or activity.

State responses

4.11 In accordance with the SACFS State Coordination Centre Operations Manual⁶, one of the responsibilities of the 'On Call' SC is the effective and efficient coordination of the state's response to incidents. Current practice is that region to region ground resource deployment occurs and the SC is only involved in resource requests that cannot be fulfilled at regional level. This has the potential to impact on state situational awareness of resource levels. SACFS State Coordinator and SC 'Checklists' provides a reference for and confirmation of operational readiness and preparedness of SACFS organisations.

4.12 The SAD was responsible for repositioning of aerial suppression resources across the state for the duration of the adverse weather conditions. Due to the expected catastrophic fire danger predicted in the Mount Lofty area, two additional fixed wing aircraft were forward based at Hoyleton, in support of eight aircraft stationed at Woodside, which included the Air Crane. Additionally, a further six aircraft were stationed at Mount Gambier, and four at Port Lincoln. The requested Linescanning capable aircraft from NSWRFSS was located at Adelaide airport and available from 1200hrs on Friday 2 January.

Successes

- Pre-deployment of aviation assets to strategic locations proved effective.
- SACFS SC and SACFS State Coordinator Checklist were completed in accordance with State Coordination Centre Operations Manual.

Observations

- Current practice is that region to region ground resource deployment occurs and the SC is only involved in resource requests that cannot be fulfilled at regional level. This has the potential to impact on state situational awareness of resource levels.
- The SACFS SC and SACFS State Coordinator Checklist appear to duplicate tasks and responsibilities. A review of checklists, linked to roles and including appropriate signature of completing Officer and authorised by the next responsible Officer is warranted.

Recommendation 3

Reviewing how Regional resources are managed and tracked and incorporate into COSO's to ensure that there is complete situational awareness as to the location and tasking of CFS resources.

National Response

4.13 The determination by the SACFS CO to seek early assistance from the other states, through EMA arrangements was considered by the IOA as a positive action. Further, the pre-incident planning, command, control and coordination arrangements at all levels were fundamental in minimising the impact of these major fires on those affected communities.

⁶ SACFS State Coordination Centre Operations Manual, Version 8, October 2014
Title: AFAC IOA: South Australian Fires of January 2015
Report Author: IOA Team

Success

- The early activation of EMA arrangements ensured inter-state agencies were aware of predicted fire weather and enabled the pre-emptive planning of resources including aviation.

Recommendation 4

That the Emergency Management Australia's *Arrangements for Interstate Assistance (Fire and Emergency Services)* be applied to all future requests for assistance by the SACFS, SAMFS and SASES.

Response Summary

4.14 Table 2 represents the resources that were deployed for the duration of the Sampson Flat and Tantanoola Fires between the 2nd and 9th January 2015⁷.

Table 2 – Resources Deployed

Resource	Home Location	Numbers/Comments
Firefighters	South Australia	3500
	Victoria	280
	New South Wales	Unknown
Aircraft ⁸	South Australia	11 SEATs
		1 Heavy Helitack (Ericson Skycrane)
		3 Rotary Wing Observation Platforms
		4 Fixed Wing Observation Platforms
	Victoria	1 State Rescue Helicopter
		2 SEATs
		2 LATs
	New South Wales	1 Fixed Wing Air Attack
		6 SEATs
		2 Heavy Helitack (Ericson Skycrane)
		1 Fixed Wing Linescanner
		1 Rotary Wing Intelligence Platform

4.15 During this period, all 133 SACFS permanent personnel fulfilled either an operational or supporting function within the SEC, the SACFS SCC or in one of the six RCC, including logistics support from the SACFS State Training Centre at Brukunga.

⁷ Includes Firefighters, Liaison Officers, specialist environmental assessment, Incident Management and Damage Assessment personnel.

⁸ Aviation operated from Woodside airbase, Gawler airbase, Mt Gambier airbase, Millicent airbase and the ICC at One Tree Hill.

TOR2 – The effectiveness of the implementation of AIIMS and its contribution to interoperability across services in South Australia and nationally. Also comment on the effectiveness of integration of other agencies and Local Government into the overall incident management.

4.16 Within the fire and emergency services in Australia, the Australasian Inter-Service Incident Management System (AIIMS) has been adopted as the applied model when establishing and integrating incident management coordination. In SA it was agreed to develop and adopt a Common Incident Command and Control System (CICCS), designed to integrate AIIMS with the SAPOL Incident Command and Control System (ICCS). Under the direction of the SEMC, all emergency services SAPOL, SACFS, SAMFS and SASES are currently implementing CICCS, with ongoing consultation to expand the system to all response agencies within SA⁹.

4.17 Although an active participant in the planning and mitigation functions and providing support and resources during incidents, local government has a limited role within the EM arrangements in SA. Generally, local government provide the functional support roles, within the incident management and to the community during recovery phase.

Successes

- The adherence to the AIIMS structure in establishing IMT/SIMT was a positive outcome and reflects the need of structured incident management approach at such incidents.
- The adoption of AIIMS nationally provided for seamless integration of interstate teams with local incident management structures.

Observation

- It was evident to the IOA that the implementation of AIIMS nationally, has resulted in the seamless transition of IMT personnel from across the supporting Agencies, particularly those from interstate, in assisting within SA.

Recommendation 5

Noting the implementation of Common Incident Command and Control System (CICCS) in SA that fire and emergency services together with police (including through AFAC and ANZPAA), continue to liaise regarding the development of a national incident management.

⁹ CO Advice

TOR3 – The effectiveness of command and control between the Level 3 Incident Management Team (IMT) with Region and State.

4.18 Utilising the current principles of AAIMS, the SACFS implements a model of command escalation depending on the nature and significance of incidents. At the local level, IMTs are established, reporting to the relevant SACFS regions, who in turn report to the SCC.

State Coordination

4.19 The SACFS, Operational Management Guidelines (OMG) No.19¹⁰, details the role, responsibilities, functions and structure of the SACFS SCC. OMG No.19 identifies that the SACFS SC is responsible for:

- a) coordination of resources,
- b) provision and facilitation of logistic requests,
- c) coordination of aircraft,
- d) information to the community
- e) media, liaison with other agencies and emergency services, in collaboration with regions and IMTs.

4.20 The SACFS SC has responsibility for ensuring the timely dissemination of information and risks to the SACFS CO, and to the SEC when activated. Furthermore it ensures that appropriate LOs are embedded within all of the incident structures including ICC, RCC and SCC.

4.21 In reviewing the terminology in the doctrine used within SACFS and across agencies, there appears to be contradiction in relation to the term 'Coordinator' or 'Controller'. This has the potential to lead to confusion in the performance of roles and accountability for actions. This issue was documented in the, 2009 Victorian Bushfire Royal Commission Report¹¹.

4.22 The naming conventions under the SA State Emergency Management Act appoints a 'State Coordinator', (the SAPOL Commissioner), as well nominating a 'State Controller (SC)' for specific hazards. The SACFS CO is the 'SC, Rural Fires'. The title of 'SC Bushfire' (not rural fire) is reflected in SACFS doctrine, as well as a 'Deputy SC Bushfire'. SACFS doctrine then refer to roles as 'Coordinator' not 'Controller' and 'Centres' as 'Coordination' not "control'. For example, 'Regional Commander' and 'Regional Coordinator', the 'State Coordinator' and 'SC' and the 'State Coordination Centre' and 'Regional Coordination Centre' and 'Incident Control Centre'; each having different roles and responsibilities.

4.23 The IOA considered this to be confusing and that in consultation with other Agencies, a complete review of current naming conventions, in accordance with the outcomes of the Victorian Bushfire Royal Commission, be undertaken to provide clear and comprehensive understanding of the role titles and command structure within SA.

¹⁰ The Role of the SACFS State Coordination Centre, Version 13.00, October 2103

¹¹ Victorian Bushfire Royal Commission, page 74)

- 4.24 The relationship and coordination functions between the Emergency Management Act and the SACFS are further outlined in OMG No.18¹². OMG No.18 outlines the relationship at coordination functions between the Coordinating Agency, SAPOL and the Controlling Agency, SACFS for bushfires. These arrangements include the issuing of major incident, major emergency and/or disaster 'declarations' by the SAPOL Commissioner as the State Coordinator.
- 4.25 The IOA considered that, in consultation with SAPOL, a review of the formal process of 'declarations' be conducted to ensure that the most effective and transparent procedures are implemented. This should provide a clearer definition of the areas affected by the 'declaration' with well-defined and clearly understood boundaries (e.g. a local government area or shire) informing that declaration, as opposed to more generalised local terminology would seem more appropriate.
- 4.26 There are clear and comprehensive guidelines, under SACFS Incident Management procedures regarding the procedure and roster for State Incident Management Teams (SIMT) Four 'On-Call' pre-formed SIMTs can be deployed, as required by the SC, at the request of relevant regions. Given the predicted extreme fire weather on 2 January SACFS rostered the 20 personnel from SIMT (Green) to be on active standby at the SACFS SCC. This was only the fourth time that a SIMT had been stood up at the SACFS SCC for pre-deployment.
- 4.27 The IOA considered that a future strategy should be, to maintain sufficiently trained and qualified personnel to establish at least one Level 3 IMT within each of the six regions. In the interim, the identified four SIMT's (Black, Green, Blue and Red) should be pre-formed and pre-positioned at either the SACFS SCC or the most appropriate location relevant to the potential risk.
- 4.28 Following a request from Region 2 (Mount Lofty Ranges) at 1518hrs SIMT (Green) was deployed to the Sampson Flat fire and were in position at approximately 1730hrs. As a result of the SIMT (Green) being on active standby since 0900hrs and the late afternoon deployment, a determination was made to divide the SIMT into two to facilitate a night shift IMT/SIMT. To enable this to occur existing local IMT personnel were integrated into the day shift IMT/SIMT, with additional personnel from another "On-Call" SIMT (Blue) recalled to supplement the night shift IMT/SIMT. Simultaneously, SIMT (Red) was deployed to the Tantanoola fire, thus effectively utilising three of the four pre-formed SIMTs.
- 4.29 The IOA confirmed that for both the Sampson Flat and Tantanoola fires the initial command and control was provided by local IMTs was sufficient. Subsequently both incidents escalated, requiring Level 3 IMTs and involving the activation of the three SIMTs.

Successes

- The early formal 'declaration' of a major emergency, resulted in the appointment of an 'Assistant Coordinator- Recovery' an appointment made by the SAPOL Commissioner as the State Coordinator.
- The pre-formed rostering of 20 personnel forming SIMT (Green) on active standby at the SACFS SCC for immediate deployment to the incident.
- The pre-determined regional IMTs provided a timely, effective and efficient incident management response.

¹² Emergency Management related to the SACFS, Version 13.00 October 2013
Title: AFAC IOA: South Australian Fires of January 2015
Report Author: IOA Team

Observations

- A complete review of current naming conventions, in accordance with the outcomes of the VBFRC, is undertaken to provide clear and comprehensive understanding of the role titles and command structure within SA.
- A review the formal process of 'declarations' be undertaken to ensure that the most effective and transparent procedures are implemented. A clearer definition of the areas affected by the 'declaration' would seem to be appropriate, for example, a local Government area, shire and/or region.
- The IOA considered that a future strategy should be, to maintain sufficiently trained and qualified personnel to establish at least one Level 3 IMT within each of the six regions. The current process of staffing four SIMT's (Black, Green, Blue and Red) from a pool of personnel across all regions has implications on local input, fire history and knowledge, availability and timeliness of the response.

Recommendation 6

That a complete review of current naming conventions of personnel and centres, in accordance with the outcomes of the Victorian Bushfire Royal Commission is undertaken, to ensure clarity around command, control and coordination within SA.

Recommendation 7

That future declarations be undertaken to ensure that the areas affected by the declaration are clear and concise.

Recommendation 8

That SACFS conduct a review of SIMT with a view to increasing the number of teams from four to six, aligning them with each of the six regions within SA.

State Coordination Centre

4.30 The IOA considered the current SACFS SCC operational facilities to be less than adequate when compared to other state level operational facilities. There appears to be duplication of agency control centres to enable all mandated activities and functions to be undertaken. This would seem to be driven by the requirements under the various OMGs/SOPs to have Agency personnel located in multiple Centres. During the January fires the following emergency coordination centres were activated at the state level, the SEC, the SACFS SCC and the SAMFS SCCF (State Control Centre Fire), each requiring staffing from individual agencies. The IOA believed that this could lead to an inefficient use of scarce human resources and a breakdown in effective communications.

4.31 The IOA considered that a restructure of the operational layout of the current SACFS SCC be undertaken to facilitate better utilisation of the current space and to provide the most effective operational configuration. Currently key operational personnel have workspaces facing the walls, which minimises access to visual displays and as a consequence providing a degraded level of operational awareness.

Recommendation 9

Plan the establishment of one multi-agency Coordination Centre with sufficient capacity and capability to deal with all incidents in South Australia.

Recommendation 10

Review all current SACFS operational facilities (Group, ICC, RCC and SCC) to provide more effective communications, connectivity and resource management.

Regional Coordination

4.32 SACFS has six regions, each under the management of a Regional Commander (RC), who report to the Assistant Chief Officer (ACO), Director of Regional Operations. The current practice where IMTs report to the Regional Coordinator (RCord), who is a suitably qualified Officer from within the region. The RCord facilitates requests, provides oversight and issues community warnings on behalf of the IC at the IMT. The RCord is also responsible for arranging additional firefighting resources from within the region and liaising with other regions, as required. The RCord reports to the SC on Regional operational readiness and activity, not the ACO, Director Regional Operations.

4.33 All those involved in the firefighting activities were committed to ensuring that the community was protected and that life was preserved. The reporting mechanisms may have created a degree of confusion as to the level of resources at the incident and the overarching control strategies for managing them.

4.34 The IOA considered appointing the Regional Commander and/or Coordinator as the IC for any Level 3 incident occurring within their region would provide better continuity and improved coordination. The position of Regional Commander/Controller could then be backfilled with a suitably qualified individual as required.

Observations

- The RCord is a rostered 'On Call' position and can remain operationally accountable for the region, despite the level of complexity or risk increasing. There appears to be inconsistencies between regions as to when the RC will assume the role of RCord.
- The IOA understood that there were some inconsistencies in the manner in which additional resources to support the incidents were being sourced. These were predominately related to either the IMT/SIMT sourcing resources directly from the SCC, or RCord liaising directly with adjoining regions and/or SCC referring requests back to regions. This resulted in the IMT/SIMT not having a complete appreciation of the process for fulfilling the requests or the resources deployed at the incident.

Incident Control Centre (ICC) Facilities

4.35 SACFS Regions identify and audit local ICCs prior to the bushfire season in order to determine the most suitable locations from which to control major incidents from within their regions. The One Tree Hill Brigade Station was identified by Region 2 as an appropriate location capable of maintaining an IMT in the event of an incident in the area.

4.36 The IOA considered that the facility located at Willaston, although in need of upgrading, would have been more appropriate given the pre-existing infrastructure and facilities. The

provision of maps, planning support, connectivity, staging and enhanced infrastructure would have benefited from being located at a more suitable site. This would also have assisted in the coordinated rostering of personnel, which was also identified by the IOA as an issue.

Observations

- That the One Tree Hill Brigade Station was a suitable location for a Forward Command/Staging Area, however questioned its suitability as an Incident Control Centre (ICC) given the lack of ICT infrastructure and other resources.
- Additionally, the use of the One Tree Hill Brigade Station as an ICC meant that the Brigade had to relocate firefighting personnel, resources and equipment.

4.37 SACFS Region 5 (lower south east) predetermined that the SACFS, FSA and SASES, Emergency Operations Centre (EOC) at Mount Gambier would be a suitable site for an ICC. This location was utilised by the Tantanoola IMT/SIMT (Red) and proved to be an effective location. The regional coordination, including the issuing of community messages and air operations, was provided from the RCC at Naracoorte, some 100kms to the north.

Success

- In general, the Audit Review considered the SACFS command and control between the SMIT, RCord, RCC and the State Coordinator, SCC to be effective.

Observations

- Whilst the utilisation of both Mt Gambier and Naracoorte facilities was effective, the IOA considered that operating all Level 3 IMT/SIMT incidents from the RCC or one identified combined command centre, which has sufficient capability and capacity to sustain the operational requirements of an incident/s would be of greater benefit. In the instance of Region 5 the Mt Gambier EOC would be appropriate.

Recommendation 11

Review the communication and request procedures within SACFS to ensure that the most effective chain of command and line of communications are established between the Incident Management Team, region and state.

Recommendation 12

SACFS appoint the Regional Controller and/or Coordinator as the IC for any Level 3 incident occurring within their Region to provide better continuity and improved coordination. The position of the regional controller and/or coordinator could then be backfilled by a suitably qualified individual as required.

TOR4 – The broad effectiveness of targeted community messaging and warnings specific to urban/rural interface environments, with reference to the National Warnings Project.

4.38 The SEMP articulates that in the case of a rural fire the SACFS is responsible for ensuring the safety of the community through adequate information and warnings. This is critical during emergency situations, such as those experienced during the Sampson Flat and Tantanoola fires. The SEMP also identifies that it is the responsibility of all agencies to provide public information, as a part of their normal community engagement processes.

4.39 When an emergency declaration is enforced, the Public Information Functional Service, has responsibility for ensuring that information and appropriate warnings are provided by the controlling agency. Public Information Functional Service Plan was further enhanced by the establishment of a multi-agency, Community Emergency Information and Warnings Group. This has resulted in a development of a public common operating picture, AlertSA. AlertSA is a website designed to be the single point of messaging for the social media feeds of all SA agencies.

4.40 The SEMP outlines the principles for public information and warnings in accordance with the national, State and agency guidelines, principles and plans. It describes all current emergency information and warning systems available to agencies across all hazards. These national guidelines are currently under review, with draft recommendations to be presented to the Australian and New Zealand Emergency Management Committee (ANZEMC). Currently the draft recommendations include:

- a) Establish a National Warnings Working Group,
- b) Improve documentation,
- c) Consistent approach to warnings within hazards,
- d) Improve use of technology,
- e) Improved use of social media,
- f) Partnerships with third parties, including media and technology companies,
- g) Agreed research methods for measuring response to warnings, and
- h) Performance indicators for warnings and information.

4.41 In the days leading up the predicted catastrophic fire weather conditions, the SACFS began messaging the public on the likelihood of forecasted adverse weather conditions. The messages highlighted the need for the communities in bushfire prone areas to ensure that they had a 'bushfire survival plan' or an understanding of their action in the event of a bushfire in their area. This message was reinforced on Thursday 31 December 2014 at a multi-agency media conference hosted by the SACFS, which reinforced the earlier predictions by the BOM.

4.42 On 31 December 2014 the SACFS CO participated in several media interviews outlining the dangerous fire conditions expected. At 1430hrs a further multi-agency media conference was conducted where details of the Sampson Flat fire were conveyed to the public, in addition to an updated brief on upcoming fire weather conditions.

4.43 Constant media enquiries and incident updates were addressed by SACFS media and operational personnel for the duration of the fires. Over 140 formal media interviews were arranged, including live updates via radio and television. This included international coverage broadcast to Canada, Holland, New Zealand, United Kingdom and United States of America.

4.44 During the operational response, the SACFS issued 112 community warnings. These warnings were issued in accordance with the national alert and warning matrix. They ranged from 'emergency warnings' (EW), utilising the Emergency Alert (EA) and Standard Emergency Warning Signal (SEWS), through to 'watch and act' (WA) and 'advice' messaging. The SACFS Media and Public Information Officers at the SACFS SCC and at the ICC provided regular updates, to the media, emphasising need for public safety and vigilance.

4.45 In the specific case of issuing an EA the SEMC has endorsed South Australian Fire and Emergency Services Commission's (SAFECOM), 'Protocol for using the Alert SA Warning System'. This protocol was adopted as a part of the SACFS Emergency Alert Procedures¹³. The IOA considered the establishment of defined timeframes for situation reports to be entered into CRIIMSON and public messaging forums. These messages were based on bushfire Alert Matrix, which could be delivered in the following timeframes:

- a) Every 30 minutes for emergency warning fires
- b) Every two hours for watch and act fires
- c) Twice daily for advice fires
- d) Or any significant situational change and/or incident.

4.46 During the Sampson Flat fire, there were 19 EA messages transmitted. This included 10 voice messages, which had 67% contact rate and 18 SMS text messages with an 87% contact rate. The first message was conveyed at 1546hrs on 2 January 2015 and the last message issued at 1057hrs on 3 January 2015. In support of these messages, SACFS facilitated six community meetings during the Sampson Flat fire, with a total attendance of 4550 people.

4.47 In comparison, 6 EA messages were transmitted during the Tantanoola fire. This included three voice messages, which had 70% contact rate and six SMS text messages with a 91% contact rate. The first message was conveyed at 1603hrs on 31 Dec 2014 and the last message issued at 1806hrs on Friday 2 January 2015. A community meeting held at the Glencoe Hall, was attended by over 150 residents, and provided an update of the firefighting suppression and management activities.

Success

- The targeted community messaging and the warnings specific for the urban/rural interface communities, both prior and during the incidents, was broadly effective. This ensured that those affected communities were suitably advised, and could make well informed decisions based on the advice conveyed in a timely manner.

Observation

- Messages were disseminated in a timely manner; however there were some inconsistencies in the messaging and errors in road names. This highlighted the need for a process of formal approval, by the IC, prior to the authorised personnel distributing the message. Current doctrine identifies the RCord to approve/complete and send messages.

¹³ Version 8.00, August 2014, "Issuing an Emergency Alert"
Title: AFAC IOA: South Australian Fires of January 2015
Report Author: IOA Team

4.48 A location based EA message, issued at 0003hrs and again at 0204hrs on Saturday 3 January, covered the urban interface areas of Golden Grove and Greenwith areas to the south west of the Sampson Flat fire. These EA messages resulted in many residents deciding to relocate, which created a significant traffic management issue in the area. This is also reflected in the number of calls to the Bushfire Information Line, which peaked at 2029 calls at 0200hrs on 3 January.

Observation

- Review process and risk assessment of issuing emergency alerts, location based messaging against specific 'Area Based polygon' to minimise community anguish and anxiety and impact on 000 Communications centre due to widespread distribution of tower-based alerting.

Recommendation 13

Review the current practise of issuing an 'emergency alert' telephone message or an emergency warning and/or watch and act alert to ensure that it is consistent, relevant and necessary. Prior to issuing an emergency alert message, consider state level involvement so that other agencies are made aware of message and intent.

TOR 5 – The value of additional resources, including State Support Liaison Officer, Bureau of Meteorologist and Fire Behaviour Analysts.

The Roles and Functions of the State Support Liaison Officer (SSLO)

4.49 On 2 January 2015 SACFS CO requested EMA deploy an SSLO to SA. The role of the SSLO was to facilitate federal Government support to the SA in the management of the major emergency declared Sampson Flat. The deployment of the SSLO assisted in acquiring early access to critical data and infrastructure through the Australian Defence Force. The timely acquisition of both visual data and the access to the Royal Australian Air Force base at Edinburgh for the LATs from Victoria was of significant benefit to firefighting operations.

Success

- There was significant benefit in the early deployment of the State Support Liaison Officer in facilitating national support through the requesting agency and the supporting agencies facilitating national support.

Observation

- The effectiveness of the SSLO could have been enhanced through improved reporting by agencies into the State Emergency Centre (SEC) and the development of a State Agency Capability List.

The Roles and Functions of the BOM

4.50 It was evident that the integration of the BOM personnel into the SACFS SCC and their involvement in the coordinated operations is a positive outcome. This outcome involves BOM input into predictive weather perspective, but also their involvement in, the fire behaviour and fire modelling analysis.

4.51 The opportunity to liaise directly with BOM personnel on predicted weather conditions four to seven days in advance provides agencies with the ability to both pre-plan and prepare the community in advance of an adverse weather event. This benefit has also been clearly demonstrated across other jurisdictions and provided SACFS with the ability to engage with the community regarding their actions.

4.52 It was identified that there is opportunity to improve the accuracy of fire weather forecasting by introducing methodologies adopted in some other States. This includes, classifying gridded cells by the vegetation type, (currently the BOM uses GDFI and FFDI) in order to determine fire danger ratings. If applied in the wrong contextual area there is the potential to overlook the appropriate triggers for fire warnings. Currently in SA grass and forest fuel loads are calculated for only three regions, (Mount Lofty Ranges, Kangaroo Island and Lower South East).

4.53 Improvements in defining the fuel state include adjusting the fuel loads based on field observations as well as using satellite derived curing. Current fuel loads are set to 4.5tonnes/hectare and curing at 100% maximum, which are determined prior to the bushfire danger period and modified on a weekly basis to reflect the observed curing. This has the potential to consistently over warn communities.

4.54 The IOA recognised that the BOM services will be further enhanced once the standardisation of the BOM Services is completed. Further enhancement will occur with the work currently being undertaken by the National Fire Danger Rating Working Group.

Success

- The IOA acknowledges the improvements made by the BOM, in consultation with fire agencies, including the gridded (GFE) fire weather forecaster and MetEye. These services will be further enhanced, nationally, once the Standardisation of the BOM Services Taskforce and the National Fire Danger Rating Working Group has completed their reviews.

Observations

- The SACFS and the BOM should review the current weather inputs, including weekly reviews of state-wide fuel loads and curing rates, to ensure that the most appropriate and accurate fire weather forecasts are prepared and issued.
- This review should also periodically validate the outputs against the actual experienced conditions, particularly on days of heightened fire danger, to assist in informing the process and the accuracy of outputs.
- Consider the use of 'Livestream' to provide weekly weather updates and any other operational briefings.

Recommendation 14

SACFS and the BOM review current weather, fuel loads and curing rates to determine the most appropriate and accurate forecast is prepared, issued and validated against current conditions.

The Roles and Functions Fire Behaviour Analysis

4.55 The role of Fire Behaviour Analyst (FBAN), in consultation with the BOM provides strategic advice to the SC, RCord and IMT's on bushfire predictions and modelling outlining likely impact zones. The SACFS FBAN personnel utilised the Phoenix Rapidfire program in developing predictive models for fire spread for any given point of ignition. These predictive models assume no fire suppression activities and as such provide a 'worst case' scenario until firefighting activities were able to commence. The FBAN worked within the SACFS SCC, as part of the intelligence cell, in partnership with embedded BOM personnel. Strategic intelligence for both the Sampson Flat and Tantanoola fires in the form of map-based predictive modelling was distributed to the relative IMTs, RCCs, CFS SC and the SEC.

4.56 The IOA found that the predictive modelling provided by the SACFS FBAN personnel and reflected in the Phoenix Rapidfire outputs were indicative of the fire progression paths from the Sampson Flat and Tantanoola Fires.

Success

- The FBAN predictive modelling capabilities provided timely and accurate indicators to the SACFS SCC which allowed for validation of community messaging and planning at both incident and regional level.

TOR 6 – The effectiveness of traffic management and road closures, including reopening of roads and access for property owner’s return.

- 4.57 The SEMP clearly outlines responsibilities for and the management of traffic during emergencies. It also acknowledges that the management of traffic at an emergency is a complex task, subject to a significant number of variables, many of which can change during the course of that emergency.
- 4.58 The SEMP identified SACFS as the Control Agency responsible for traffic management as a part of their incident management arrangements. Under the SEMP the control agency can only undertake traffic management where it has the legislative authority to do so. They may delegate traffic management responsibilities to another Agency, providing that agency has the necessary legislative authority and accepts the task. The SACFS through the IMT/SIMT at One Tree Hill delegated the traffic management for the impacted areas at the Sampson Flat fire to SAPOL.
- 4.59 The SEMP identified that returning communities to normality following an emergency incident, to normality in a timely manner assists in the healing and recovery process. It is appropriate to enable certain groups of individuals into the incident area, where it is reasonably safe, and doesn’t adversely impact upon operations or other legislative obligations. Access to a fire ground, during and after a fire, and subsequent management of that traffic has been problematic in other fire incidents. In general, is an issue which has occurred at many similar incidents. The same issue was experienced after the 2009 Victorian fires and was the subject of comment by the Victorian Bushfires Royal Commission and has been an issue at subsequent fires in other jurisdictions.
- 4.60 At every major fire, where people have left their homes or were not in their homes during the fire, the difficulty of allowing access to return becomes an issue for both residents and the authorities. The IOA was made aware of many comments that were received by the agencies, which were highly critical of the access issue to the affected areas by residents and other community groups. The desire to access fire grounds needs to be balanced against the responsibilities of the authorities for maintaining the operational firefighting effort. Incident controllers must ensure that the safety and welfare of the community, the emergency and essential services personnel are paramount. Hazards such as fallen power lines, burning or dangerous trees, exposed asbestos and other hazards need to be addressed before a return to the incident site can be initiated.
- 4.61 The IOA was advised that a process for road clearance and access within the Sampson Flat fire perimeter was adopted by the IC and SAPOL, in consultation with all the relevant parties. The process adopted was as follows:
- a) Initial assessment by SA Power, to confirm status of power lines, supported by fire authorities,
 - b) Assessment and identification of trees that posed a risk by qualified Arborists supported by fire authorities – trees were assessed and marked for clearance,
 - c) Tree felling and removal, supported by fire authorities,
 - d) Reconnection of power as appropriate by SA Power,
 - e) Road quality assessment by either DPTI or council to identify safety issues, risks and mitigation,
 - f) Final assessment of risk and clearance of road/s by SAPOL, and
 - g) Roads opened by SAPOL, against operational briefings.

4.62 This process was coordinated by the IMT/SIMT to allow integration of all parties, against the Incident Action Plan. The 'Commanders Intent' issued by the SACFS CO, for the fire operations balanced the need to maintain community safety and allowed residents to return or travel safely on the road network.

4.63 Following the 2013 Parkerville Fire in WA, DFES initiated a temporary Restricted Access Permit System. This permit allowed residents' re-entry into areas deemed safe. However, while this was considered a good initiative, the process of issuing permits and checking the authenticity of residents overwhelmed the resources available to issue the permits thus resulting further frustration.

4.64 Similarly, after the fires in 2013 the Tasmanian Fire Service, in conjunction with the Tasmanian Police, developed a memorandum of understanding and developed joint bushfire arrangements.

4.65 The IOA considered the procedures adopted in Tasmania could be implemented as a model within other states, including SA. These guidelines do not limit the independent discretion of relevant authority to exercise their duties in the interest of public safety. The guideline identifies three levels of access within a sliding scale that is hazard dependant. The guideline is attached at Annex E.

Successes

- The development of a systematic approach to the identification and treatment of hazards within the Sampson Flat impact zone ensured the safety of the community and other personnel.
- The cooperative arrangements between IMT/SIMT and other stakeholder groups in facilitating the transition of the returning community

Recommendation 15

That SACFS consider the Traffic Management Procedures and guiding principles adopted in Tasmania as a model that could be implemented within SA.

TOR 7: The effectiveness of recovery processes and procedures related to the responsibilities of the control agency.

- 4.66 The SEMP provides clear guidelines on the appointment of an Assistant State Coordinator – Recovery, under the State Coordinator, once a ‘declaration’ of emergency has been made. The role of the Recovery Officer is to develop and implement a recovery plan for that incident in consultation with the State Coordinator and the SC. This appointment occurred on 3 January 2015 and has continued under another SA government department.
- 4.67 Following the Sampson Flat fire the SA Premier committed \$1m to support the recovery effort and to assist the local Recovery Committee. The Committee is made up of representatives from local and state government, to assist in coordinating the recovery efforts. A local Recovery Coordinator was appointed by the SA Government, with the responsibility of coordinating the Government’s recovery operations, and to work closely with the local community, across three tiers of government and the non-government sector.
- 4.68 The recovery Coordinator established a group of local community members to act as a Community Reference Group. They provided advice and liaison between the community and Recovery Committee, to ensure that services were coordinated and responsive. A Recovery Centre was established at the Torrens Valley Community Hall at Gumeracha and newsletters distributed to the community offering advice on welfare, relief funds, legal assistance and other support services.
- 4.69 A Sampson Flat Bushfire Relief Appeal Fund was also created with funds distributed through the State Emergency Relief Fund Committee. The Committee included community members, government representatives, and an independent chairperson. In response to the fire, The Hon. Michael Keenan, Minister for Justice, declared on 6 January that ‘the bushfire that commenced on 2 January 2015 at Sampson Flat and affected the Mount Lofty Ranges region in South Australia’ was to be classified as a ‘major disaster’¹⁴.
- 4.70 Upon the declaration of the major emergency and the appointment of the Recovery Coordinator, the SACFS role was to assist in the recovery process. This included ensuring the safety of the returning community members to the affected area and to provide liaison to advise the regional coordinator.
- 4.71 To assist in the identification of potential hazards, SACFS requested Rapid Damage Assessment (RDA) teams to undertake an assessment of the affected area. Given the magnitude of the area involved, special resources were requested from interstate agencies. SAMFS, as the Control agency for urban search and rescue, in consultation with SACFS and SAPOL, requested RDA teams from Fire & Rescue NSW for assistance. RDA is a specialised capability that involves systematically assessing damaged properties and infrastructure, which enables recovery authorities to effectively focus their resources to assist affected communities.

¹⁴ Social Security (Australian Government Disaster Recovery Payment) Determination 2015 (No. 1)
Title: AFAC IOA: South Australian Fires of January 2015
Report Author: IOA Team

4.72 The RDA process involved assessing buildings for structural integrity and looking for hazards such as asbestos, damaged electrical wiring and chemical residual spills. The RDA teams also reported on fire damaged trees (Hazard Trees). That endangered structures, and reported on injured livestock and native animals. They also reported on residents who appeared emotionally traumatised and in need of counselling services.

4.73 Assessments were conducted by a Bushfire building impact analysis team from NSWRF. This team provided detailed assessments on the bushfire impact on properties, building construction types, asset protection setbacks and flame zone impact. The IOA identified that there was a degree of confusion regarding the terminology used by different agencies between 'initial', 'rapid' and 'detailed' assessment and the timeframes required to provide those assessments.

4.74 In 2012 COAG endorsed a report¹⁵. The report included 12 recommendations which were subsequently grouped into three areas: National Consistency, Effectiveness and Resilience. The Recovery Sub-Committee (RSC) was tasked with the objective of establishing national consistency in disaster impact assessments, to inform disaster recovery interventions and investments. Specifically the project is called the 'National Impact Assessment Model (NIAM)'. The raw model produces a numerical value and agencies provide additional contextual analysis to further assess the impact of the disaster event. This includes:

- a) history of disaster events,
- b) community vulnerability and resilience profiles,
- c) extent of service and critical infrastructure,
- d) community size, and
- e) diversity.

4.75 The NIAM process has not yet been endorsed within an emergency management framework. The establishment of a data dictionary to facilitate a nationally consistent damage classification terminology and development of a nationally consistent assessment marking systems will address future issues of consistency in data collection.

Success

- The RDA and BIA teams performed a vital function. The early identification of the magnitude of the task and early request for interstate assistance from FRNSW, ensured the necessary assessments were completed in a timely manner.

Observations

- SACFS fulfilled their obligation by recommending the early declaration of a major emergency. The subsequent appointments of a Recovery Coordinator, together with initiating a systematic process of identification and management of the hazards, and identified an appropriate LO to the Recovery Committee, that SACFS fulfilled their agency obligation.
- Clearly define the deployment process roles and responsibilities and "triggers" between 'initial', 'rapid' and 'detailed' assessment teams within a major incident.

¹⁵ Review of Commonwealth and State/Territory Relief and Recovery Payments: Report to COAG/SCPSM from the National Emergency Management Committee Recovery Sub-Committee

TOR 8 – Successes identified and any other factors to improve effectiveness of Prevention, Preparedness, Response and Recovery.

4.76 EM in Australia has embraced the concept of hazard management through a comprehensive and integrated strategy of risk assessment. Fire and emergency services agencies have adopted these strategies when dealing with incidents such as the Sampson Flat and Tantanoola Fires. The four strategies are related to:

- Preventing emergencies,
- Preparing for emergencies,
- Responding to emergencies, and
- Recovering from emergencies.

4.77 In the case of Sampson Flat and Tantanoola Fires, the IOA identified a number of factors introduced by SACFS that had improved the effectiveness of Prevention, Preparedness, Response and Recovery strategies. There were areas that required further consideration.

Prevention

4.78 The amendments to the Act in November 2009, introduced a two-tiered bushfire management planning structure to assist in the identification and mitigation of bushfire risk.

4.79 In accordance with the SEMP, rural fire hazard Leadership worked with the various advisory groups and functional services to ensure that all aspects of the State's approach to hazards were included. In 2013 the SACFS, assisted by the State Emergency Management Project Officer (SEMPO), undertook a risk assessment for the rural fire hazard in SA. The resultant report¹⁶ was compiled using the National Emergency Risk Assessment Guidelines (NERAG), as part of the State Emergency Risk Assessment System (SERAS). The results of this report formed an important part of the ongoing risk mitigation strategies applied by SACFS and SA land management agencies.

4.80 Endorsement by the State Bushfire Coordination Committee (SBCC) of interim Bushfire Management Area Plans (iBMAPs) and the development of a Bushfire Risk Register application is considered to have assisted in the prevention of bushfires in SA. The iBMAPs define the agreed bushfire risk treatment strategies, each of which have been drafted by the area Bushfire Management Committees, in line with parameters established by the SBCC. The bushfire management committees also assigned the responsibility for the preparation, maintenance and implementation of the operational plans for the work defined in the iBMAP.

4.81 The Sampson Flat Fire and the Tantanoola Fire iBMAP's were prepared in accordance with Section 73A, of the Fire and Emergency Services Act 2005 (SA) and were endorsed by the Adelaide Mt Lofty Ranges and Limestone Coast bushfire management committees in October 2012. The IOA was unable to accurately ascertain the influence/impact of the iBMAPs on the Sampson Flat and Tantanoola Fires.

Success

- The development of the interim Bushfire Management Area Plans (iBMAPs) and a Bushfire Risk Register application was considered by the IOA as positive outcome.

Preparedness

¹⁶ Rural Fire Hazard State Risk Assessment Report, 2014
Title: AFAC IOA: South Australian Fires of January 2015
Report Author: IOA Team

4.82 Significant preplanning at the group, regional, state and national levels ensured that each level of responsibility understood their capacity to respond and/or assist with any emerging situation. The IOA considered that there was an appropriate level of preparedness undertaken by the SACFS and other agencies leading into the predicted extreme bushfire weather conditions on 2 and 3 January 2015.

4.83 The SA Emergency Services Act and Fire and Emergency Services Act 2005 were appropriately activated in preparation for predicted extreme bushfire weather. SACFS internal doctrine regarding organisational preparedness at defined levels (COSO 17) was appropriate for predicted weather conditions. Similarly, the early activation of EMA arrangements ensured inter-state agencies were aware of predicted fire weather that enabled the pre-emptive planning of resources including aviation.

4.84 Preparedness arrangements were articulated within the established operational doctrine and command structure, which exists within SACFS and was aligned to the requisite acts and legislative requirements. The SEMP provided the policy documentation for operational procedures and functions at a state level. This identified SACFS as both the Hazard Leader and the Functional Service Control Agency for rural fire in SA.

4.85 In accordance with the requirements of the SEMP, a Rural Fire Hazard Plan and a SACFS Rural Fire Functional Service Plan were prepared and authorised within the framework of the SEMP. These Plans are further supported by the COSOs, SOPs and OMGs and associated SCC, RCC and IMT manuals and procedures.

Observations

- A Review of all relevant legislation associated Acts and Plans to establish a consistent approach to fire and emergency management to minimise duplication and risk of contradiction. It is recommend that the Hazard and Functional area plans be amalgamated and establish a SA Bushfire Plan, under the SEMP, which clearly define the role of SACFS.
- While the rural fire hazard plan and rural fire functional service plan are quite robust and cover the essential aspects of preparedness related to rural fire, the IOA questioned the need for both a hazard plan and a functional service plan

Response

4.86 The adherence to the AIIMS doctrine in establishing SIMT was a positive outcome and reflects the need for a structured incident management approach to such incidents. Utilisation of appropriate local resources in the early stages of the incident is critical in ensuring efficient and effective management of the response. The inclusion of local knowledge is well recognised nationally as fundamental to ensuring success.

4.87 The active standby of the SIMT (Green) at the SCC enabled the timely deployment of the SIMT to the Sampson Flat fire. This provided local teams with additional management resources but also provided a higher level of skill to supplement the local knowledge already in place at the incident.

- 4.88 Targeted community messaging and the warnings specific messages for the urban/rural interface communities, prior to and during the incidents, were broadly effective. The messaging and warnings ensured that those affected communities were suitably advised in advance and as result could make well informed decisions based on that advice.
- 4.89 The predictive modelling provided by the FBAN was considered timely and accurate for the vegetation type which allowed for validation of community messaging and planning at both incident and regional level.
- 4.90 The IOA considers that the appropriate Liaison Officers embedded within the entire relevant agency structures, including the ICCs, RCCs and SCCs needs review. This was at times inadequate for the Sampson Flat and Tantanoola Fires.

Observations

- In consultation with SAMFS establish consistency with the deployment of 'Strike Teams', SAMFS deploy 2 appliances and Commander and SACFS deploy 4-5 appliances and a Group Officer which is the standard applied across other fire Agencies.
- The IOA understood that a delegation of powers was not formally contained within an 'Instrument', appointing an IC to act on behalf of the CO at an Incident. This similarly applies to the operational and financial Delegations of the SC at SACFS SCC.
- Incorporate a standard formatted 'Incident Action Plan' within the CRIIMSON system and review the effectiveness of WebEOC for interagency messaging and IRIS for SACFS resource management.
- Reinforce Communication Protocols and Procedures within and between Agencies, examples of FSA and SAMFS not adhering to communications protocols.
- Develop a Plant Contract Register across SA with associated procedures for engagement and compliance of plant operating within the fire ground.

Recommendation 16

That SACFS in consultation with SAMFS consider adopting common terminology and capability requirements for strike teams being '4-5 appliances and a group officer' in line with other jurisdictions.

Recommendation 17

That SACFS consider a review to develop an effective interagency messaging system and agency resource management system.

Recovery

- 4.91 Notwithstanding with the issues raised with SAPOL, the SEC and the Sampson Flat SIMT, the development of a systematic approach to the identification and treatment of hazards within the impact zone to ensure the safety of returning community was a positive outcome. This included the cooperative arrangements between incident management and other stakeholder groups in facilitating the plan.
- 4.92 The cooperative arrangements of the Rapid Damage and Building Assessment Teams from both SA and NSW also provided the necessary advice to the relevant authorities and SA Government in facilitating the safe return of the community.

Recommendation 18

A review of relevant Legislation associated Acts and Plans to establish a consistent approach to fire and emergency management to minimise duplication and risk of contradiction. That the Hazard and Functional area plans be amalgamated and establish a SA Bushfire Plan, under the SEMP, which clearly define role of SACFS.

5 Conclusion

- 5.1 The intent of this IOA is to review operational processes and procedures and provide a mechanism for continual improvement. The IOA found that the measures taken by the authorities in these incidents ensured that the general community were well-prepared, well informed and aware of the potential risks that these fires posed. The fact that there was no loss of life is a testament to those measures.
- 5.2 The inevitability of bushfires occurring across the Australian continent including South Australia, and their impact on our communities, is an ever present reminder to all fire and emergency services agencies, that at every opportunity they should seek to refine their operational and learning capacity.
- 5.3 The bushfire preparedness strategies outlined within the Chief Officer's Intent prior to the extreme weather conditions, clearly articulated the expectations and approach to be taken by all involved over the coming days. The manner in which the authorities, in particular the SACFS, coordinated their resources, activated procedures and deployed their assets in response to the emerging threat is to be commended. It clearly demonstrated a commitment to enhancing community safety, ensuring quality of life and instilling confidence, by minimising the impact of bushfires on the people, environment and economy of South Australia.
- 5.4 Future challenges faced by all fire and emergency service agencies in an emerging environment of fiscal and resource constraints, increased community expectations and public scrutiny should not be underestimated. These challenges are contextualised recent AFAC publications and need to be considered by all agencies.
- 5.5 Reviews such as this not only need to document what went well, but also provide the opportunity to discuss improvements and future developments for all stakeholders by enhancing experiences and reinforcing our understanding of increasing complexity within a dynamic and challenging environment.

6 Annex

A: Chief Officer's Intent

B: Terms of Reference

C: Sampson Flat

D: Tantanoola Fire

E: Tasmanian Guidelines 3 levels of access

7 Glossary

AAR	After Action Review
AFAC	Australian Fire and Emergency Service Authorities Council
AIIMS	Australasian Inter-Service Incident Management System
AIRS	Australasian Incident Reporting System
BOM	Bureau of Meteorology
CCs	Coordination Centre
CEO	Chief Executive Officer
CFA	Country Fire Authority (Victoria)
CFS	Country Fire Service
CO	Chief Officer
Commcen	SA Metropolitan Fire Service Communications Centre
COSO	Chief Officers Standing Order
CRIMSON	Critical Resource Incident Information Management System Online Network
DCO	Deputy Chief Officer
DEWNR	Department of Environment Water and Natural Resources
DFES WA	Department of Fire and Emergency Services Western Australia
DSC	Deputy State Coordinator
EA	Emergency Alert – Telephone/Mobile Phone Alert System
EWM	Bushfire Emergency Warning Message
EW	Emergency Warning Fire
FBA _n	Fire Behaviour Analyst
FBS	Fire Ban Districts
FDI	Fire Danger Index
FDR	Fire Danger Rating
FDS	Fire Danger Season
FFDI	Forest Fire Danger Index
GCC	Group Control Centre
GFDI	Grassland Fire Danger Index
GOMP	Group Operations Management Plan
GRN	Government Radio Network
IAP	Incident Action Plan

IC	Incident Controller
ICS	Incident Control System
IMT	Incident Management Team
LGA	Local Government Association
LSE	Lower South East
MCO	Media and Communications Officer
MFS	Metropolitan Fire Service
MLO	Media Liaison Officer
RC	Regional Commander
RCC	Regional Coordination Centre
RCord	Regional Coordinator
RDA	Rapid Damage Assessment
ROMP	Regional Operations Management Plan
SA	Staging Area
SAAS	SA Ambulance Service
SACAD	South Australian Computer Aided Dispatch
SACFS	South Australian Country Fire Service
SAD	State Air Desk
SAFECOM	South Australian Fire and Emergency Services Commission
SAMFS	South Australian Metropolitan Fire Service
SAPOL	South Australian Police
SAD	State Air Desk
SASES	South Australian State Emergency Service
SBCC	State Bushfire Coordinating Committee
SCC	State Coordination Centre
SEAT	Single Engine Air Tanker
SEC	State Emergency Centre
SEMP	State Emergency Management Plan
SIMP	State Information Management Plan
SOP	Standard Operating Procedure
ST	Strike Team
STC	State Training Centre (Brukunga)
TFB	Total Fire Ban

TMP	Traffic Management Plan
WA	Watch and Act Fire
WAM	Bushfire Watch and Act Message



CHIEF OFFICER'S INTENT

VALID FROM: 2000 HOURS THURSDAY 01 JANUARY 2015

VALID TO: 0800 HOURS SUNDAY 04 JANUARY 2015

APPLICATION: This Chief Officer's Intent applies to all CFS members and all CFS operations. The Intent is to be noted by all Regional staff, Group Officers, Level 2 and Level 3 Incident Controllers and key personnel from partner and support agencies (including MFS, DEWNR and ForestrySA)

IN ORDER TO PLACE THE HIGHEST PRIORITY ON PROTECTING THE MAXIMUM NUMBER OF LIVES FROM IMPACT BY BUSHFIRE, CONSIDERATION MUST BE GIVEN TO:

- 1. MAINTAINING SITUATIONAL AWARENESS SO THAT RED FLAG WARNINGS CAN BE ISSUED, IN ORDER THAT THE SAFETY OF FIREFIGHTERS AND EMERGENCY SERVICES PERSONNEL IS ASSURED.** (This includes awareness about the potential for dehydration; the risks associated with using appliances on the fireground; and the "WATCHOUT" situations, continued implementation of CFS Guidelines for managing fatigue).
- 2. PROVIDING CRITICAL (LIFE SAFETY) INFORMATION QUICKLY, IN ORDER THAT APPROPRIATE AND TIMELY WARNINGS CAN BE ISSUED TO THE PUBLIC AND TO OTHER AGENCIES.** (This includes information about new fire starts, critical fire situation changes and changes in the likely impacts of going fires).
- 3. PROTECTING PLACES WHERE VULNERABLE PEOPLE MAY BE LOCATED OR MAY BE SHELTERING.** (This includes occupied schools, hospitals and residential care facilities).
- 4. PROTECTING CRITICAL INFRASTRUCTURE, IN ORDER THAT COMMUNICATIONS AND WATER SUPPLIES ESSENTIAL TO FIREFIGHTING OPERATIONS CAN BE MAINTAINED.**
- 5. FOCUS ON FIREFIGHTING ONCE CONDITIONS MODERATE.** (Once conditions moderate efforts can then be directed to controlling the incident).



GREG NETTLETON
CHIEF OFFICER
SA COUNTRY FIRE SERVICE

DATE ISSUED: 01 JANUARY 2015

AFAC Independent Operational Audit

Sampson Flat and Tantanoola Fires

January 2014

Background

The Sampson Flat fire situated within the northern Mount Lofty Ranges and the Tantanoola fires started in the States South East on Friday 2 January 2015. Total fire bans had been declared with a forecast fire danger rating of Catastrophic.

Both fires were extensive. Relief centres were established; relocations occurred and large areas were burnt. Management and suppression of the incident was carried out through the coordination of multi-agency resources, led by the South Australian Country Fire Service (CFS). This included additional resources from NSW, Victoria and through EMA from the Department of Defence. 27 residential properties sustained major damage and numerous vineyards, orchards and livestock were burnt. The small town of Kersbrook was the hardest hit, with twelve residential properties damaged as well as the Kersbrook primary school.

Benefits

CFS is committed to enhancing community safety, quality of life and confidence by minimising the impact of hazards and emergency incidents on the people, environment and economy of South Australia. This Independent Operational Audit (IOA) will inform the post-incident analysis for the CFS and its examination of the broader State Emergency Management approach.

It provides an opportunity for CFS to benchmark its operations against its peers and to be proactive in identifying deficiencies. By undertaking a review, it demonstrates that the industry is not afraid to look at itself in an inquisitorial manner and ensures it will be well informed to assist in the event of any future formal inquiry.

Terms of Reference

The intent of this review is to understand the aspects of the event that worked well and should be built on and highlight any issues that can be improved upon. The review is to address the following:

1. Understand and document the context of the incident including timing, conditions, resources available and any other concurrent incidents which may have impacted on response. This is to include reference to both the Sampson Flat and Tantanoola fires.
2. The effectiveness of the implementation of Australasian Inter-service Incident Management System (AIIMS) and its contribution to interoperability across services in South Australia and nationally. Also the effectiveness of integration of other agencies and Local Government into the overall incident management.
3. The effectiveness of command and control between the Level 3 Incident Management Team with Region and State.
4. The broad effectiveness of targeted community messaging and warnings specific for urban/rural interface environments. This is to include specific reference to the National Warnings Project. (This will be further examined by the BNH CRC).

5. The value of additional resources, including the role of State Support Liaison Officer, embedded meteorologist and fire behaviour analysts. This is to include specific reference to the use of Phoenix Rapidfire.
6. The effectiveness of traffic management and road closures including reopening of roads and access for property owner's return.
7. The effectiveness of recovery processes and procedures as they relate to the responsibilities of the control agency.
8. Comment on successes identified and any other factors to improve effectiveness of Prevention, Preparedness, Response and Recovery (PPRR).

Review and Recommendations

A review team of three will be formed with representatives nominated by interstate agencies to cover the areas of the terms of reference.

Facilitation of the processes will include, at minimum, working with representatives of South Australian agencies to address the terms of reference. The review team may need to meet with relevant agencies in relation to particular issues that may arise during the course of the processes.

The team should consider available reports, submissions and comments available that are relevant to the terms of reference. The process will be overseen by CEO AFAC.

Project Milestones

Milestones	Project Stage	Due date
Preparation	Terms of reference agreed, review team established, commencement of review	23 Jan 15
Milestone 1	Site assessments, inquiries and consultation	20 Feb 15
Milestone 2	Interim/Progress Report to Chief Officer CFS	27 Feb 15
Milestone 3	Draft Report submitted to AFAC Office for review proof reading	13 Mar 15
Milestone 4	Final Report presented to CO CFS	27 Mar 15

Governance Arrangements

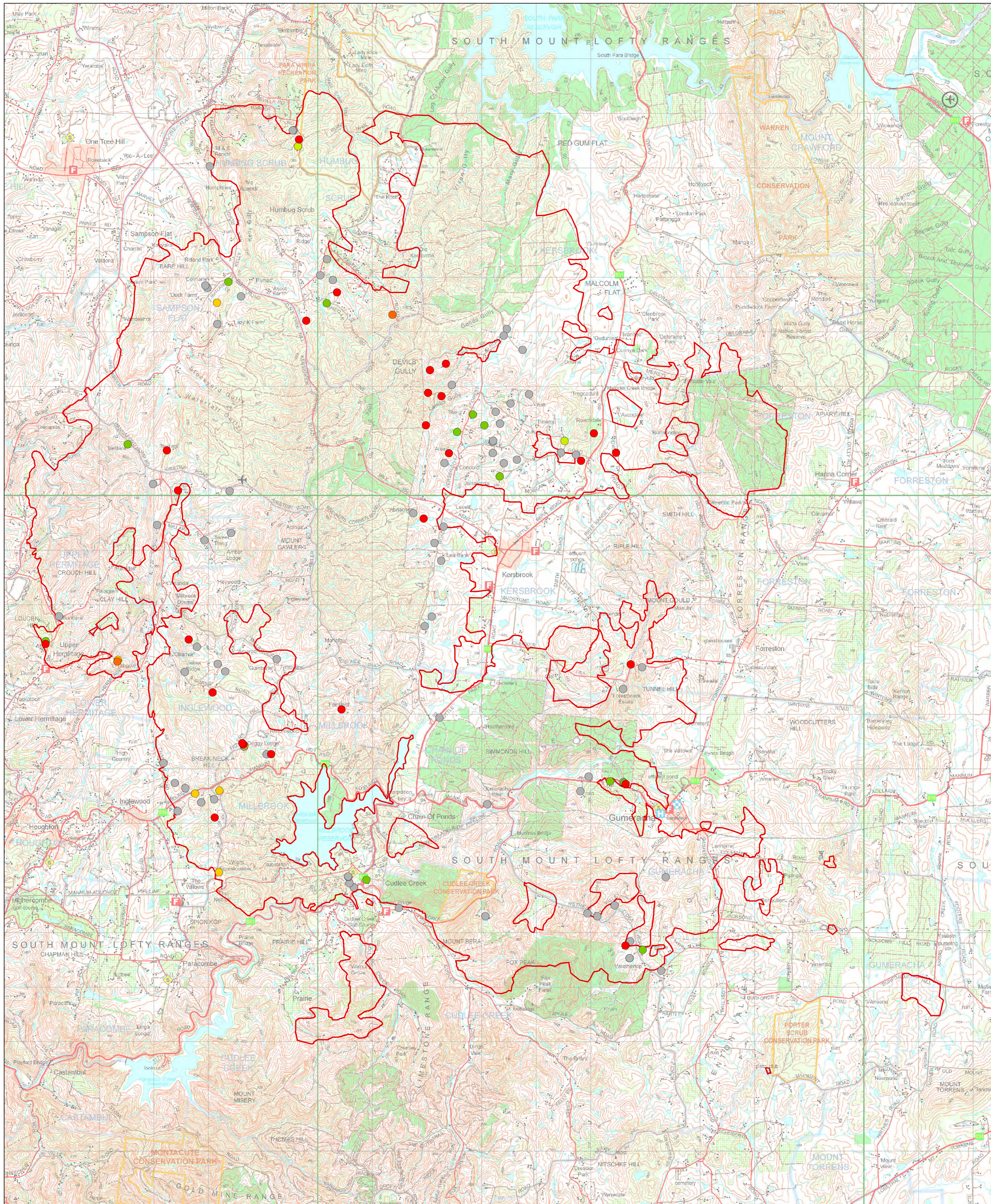
The Review will be completed on behalf of the CFS, with the Review Team reporting to CEO AFAC, who will liaise with the Chief Officer of the CFS, Greg Nettleton.

The final report is to be addressed to the Chief Officer of the CFS who will subsequently distribute the Report as required.

SAMPSON FLAT FIRE

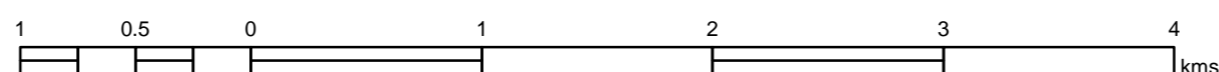
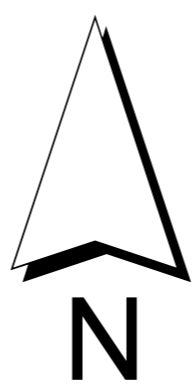
2/2/2015 to 7/2/2015

Annex C to
AFAC IOA
Dated 7 April 2015



DAMAGE

- Destroyed
- Heavy
- Light
- Medium
- Superficial
- Untouched



Produced by: GIS section - SACFS
Data: Burnt edge data from Aerial observers and Line scanning aircraft - SACFS/DEWNR
Projection: Universal Transverse Mercator
Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia Zone 54

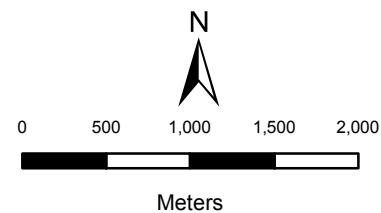


Government
of South Australia



Tantanoola Fire - Location Map - 1530 hrs 3/01/2015

Fire Statistics
 Incident No: 1085337
 Total Area Burnt = 853.1 ha
 Total Perimeter = 22.6 km



Area Burnt

Annex D to
 AFAC IOA
 Dated 7 April 2015

Important:
 Before using this map for fire suppression, please check with appropriate CFS or DEWNR staff to ensure there have been no changes to the condition or accessibility of tracks or water. Ensure you are aware of escape routes, turnaround points and safe areas.

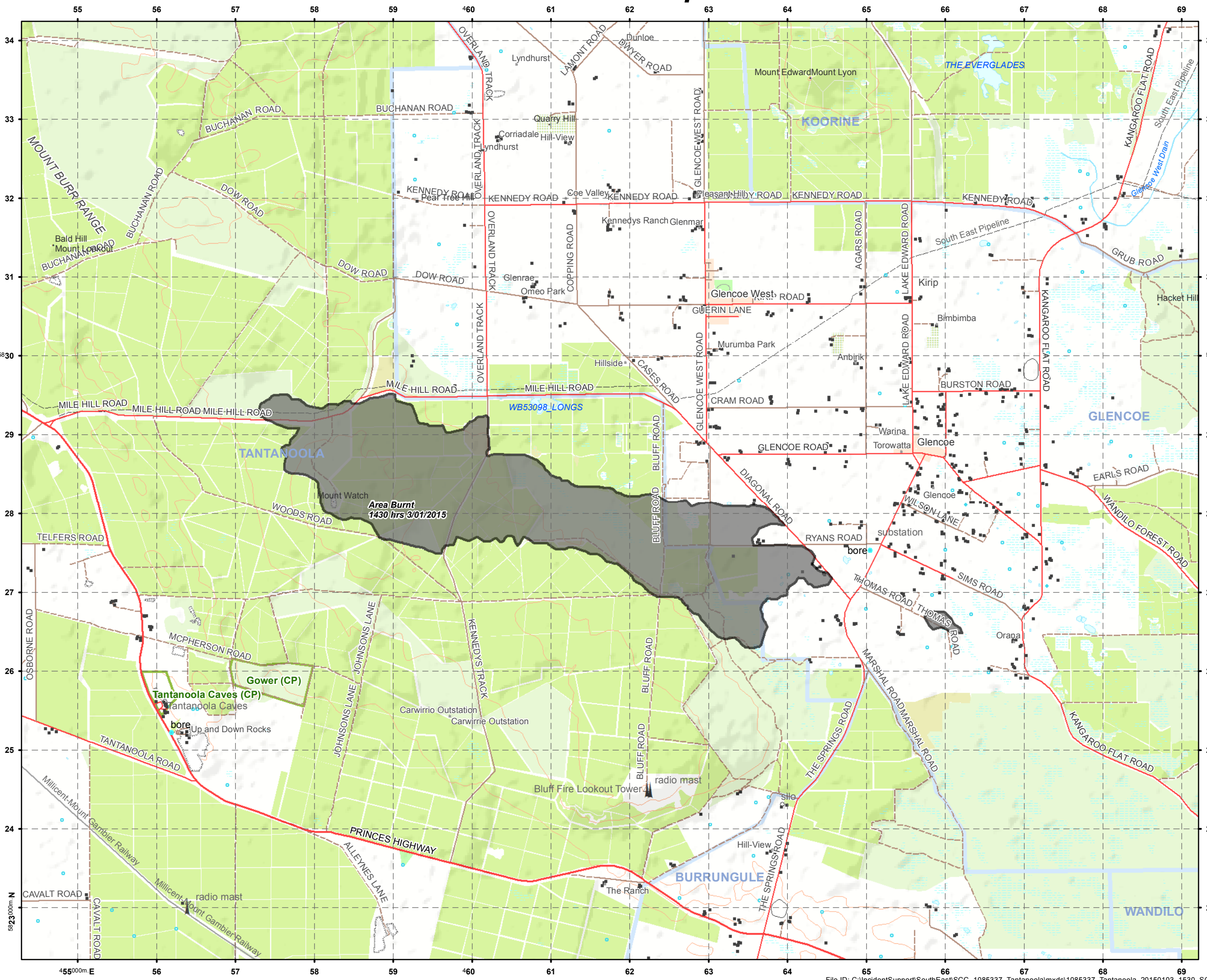
Produced by: Mapping Support Team
 Department of Environment, Water and Natural Resources
 Location: DEWNR Office/ICC/SCC/SEC
 Data Sources: CFS/DEWNR
 Photo Date:
 Projection: Transverse Mercator
 Datum: Geocentric Datum of Australia, 1994
 Grid: Map Grid of Australia, Zone

Although every effort has been made to ensure the accuracy of the information displayed, the Department, its agents, and officers and employees make no representations, either express or implied, that the information displayed is accurate or fit for any purpose and expressly disclaims all liability for loss or damage arising from reliance upon the information displayed.



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Authorised Access

Level 1: - Emergency Service Access Only (Authorised by responsible agency)

- Emergency service personnel engaged in response and mitigation activities

At this level, access is to be refused to all traffic, except emergency personnel in emergency vehicles.

Level 2: - Essential Services Access (Authorised by responsible agency)

- Contractors delivering equipment and / or providing services
- Public safety assessment teams
- Essential services – restoration of power, water, communications, gas, animal welfare, etc.

In addition to emergency services personnel the IC may allow access to non-emergency services assisting with mitigation or recovery efforts. If in doubt contact should be made with the IC to seek clarification / approval. Where circumstances allow details of such movements at TMP's are to be transmitted to incident control.

'Accredited' media may be permitted access at this level, however, approval must be granted by the Incident Controller and an escort provided.

Level 3: - Authorised Access (Authorised by responsible agency)

- Recovery agencies, residents, media access

In addition to emergency and essential services, this level permits access to recovery and / or aid agencies, residents returning to their homes, media and any other people approved by the IC. At this level, where circumstances allow, a log is to be kept recording details of persons and vehicles moving through the TMP.