Government of Western Australia
Department of Fire & Emergency Services
Operations

DFES
Department of Fire &
Emergency Services

Directive 3.2
Incident Control

Introduction

Incident Control incorporates those roles and responsibilities undertaken, and the associated powers provided, for individuals to fulfil the role of emergency response Incident Controller (IC). Incident control must provide for the safety and needs of both emergency responders and the community and is the critical function in ensuring successful conclusion of an incident.

Prevention and Preparedness

1.   General

Within operational Areas of Responsibility (AOR), stations, brigades, groups and units will have known and suspected hazards. Be it dangerous goods facilities, cliffs or rural urban interface, the efficiency of incident response will be greatly enhanced if crews are familiar with an area and the inherent risks within.

2.   Risk Assessment

Operational Managers must undertake familiarisation and risk assessment of their AOR. Not all hazards will present significant risk. In order to assess risk, hazards should be assessed for:

- **Likelihood** they will threaten the community; and
- **Consequences** to the community should the hazard impact the community

An assessment of likelihood against consequence will result in a risk rating. Hazards which present risk should be mitigated through the following:

- Hazard Planning.   Provides comprehension and response options
- Hazard Inspection.   Provides familiarity and standards enforcement
- Crew planning.   Provides training against risk

Further procedural detail regarding risk assessment is in the Operational Safety Risk Assessment Protocol.

Operational Safety Risk Assessment Protocol

3.   Hazard Planning

At the district and area level, risk assessed hazards may be mitigated through gaining understanding of hazards and their layout and planning response options. DFES Operations utilises three types of documented plans as follows:

- Operational Pre-Plan (OPP)
- Urban Bushland Response Plan (UBRP)
- Fire and Emergency Services Emergency Response Guide (FES-ERG)

FES Emergency Guides and Plans site

ATTACHMENT 14.2.2

4. Hazard Inspection

Hazard risk is mitigated through crew inspection by developing familiarity and regularly providing external enforcement of fire and industry safety standards. The regime of building inspections is dictated by the risk assessed rating. Buildings are to be inspected in accordance with risk rating as follows:

RISK	INSPECTION REGIME
LOW/MOD	Risk assessment completed every five (5) years. Changeover date 1 July.
HIGH	Once a year, changeover date 1 July.
HIGH Public Buildings	Twice a year over a two (2) year period, each shift has opportunity to visit building. Change over dates 1 July and 1 January.
EXTREME	Inspected every 30 days until safety issue has been mitigated.

Further detail regarding building inspections is provided at the DFES Building Inspection Guidelines Manual (BIGM 2014).

5. Crew Planning

At local level, risk assessed hazards may also be mitigated through training or planning response options. Known prevalent hazards are to be reflected in training regimes, e.g. stations located adjacent to industrial chemical areas must be regularly refreshed in HAZMAT procedures, SES crews in flood risk areas should regularly refresh their sandbagging and flood rescue boat skills.

Legislated Powers During an Incident

6. General

IC have certain authority and powers under the various emergency services acts that permit them to carry out their role of protecting life, property and environment unimpeded.

Bush Fires Act 1954

Fire Brigades Act 1942

Fire and Emergency Services Act 1998

7. Responding to Emergencies

The authority to respond to emergencies 'with all possible speed' is provided through the *Fire Brigades Act 1942, Part VII Sect 34*. However, there is no legal protection for responding in a reckless manner that endangers the lives of the responding crew or members of the public and such events will be open to prosecution through normal legal channels.

Road Traffic Code 2000

SOP 3.3.1 - Respond Under Emergency Conditions

8. Gaining Entry to Premises

The legal authority to gain entry to premises is vested in the Deputy Commissioner and through him to emergency responders under his control by the *Fire Brigades Act 1942, Part VII Sections 33 and 34, the Bush Fires Act 1954, Section 39, and the Fire and Emergency Services Act 1998, Parts 3, 3A and 3B.*

9. Incident Controllers Power to Direct

The appointment of Incident Controller (IC) is empowered to direct staff and volunteers placed under his/her command for the purpose of treating that incident hazard. The IC is empowered to

undertake any measure deemed necessary to protect life and/or property through the *Fire Brigades Act 1942, Part VII Sect 34/34A, the Bush Fires Act 1954, Section 39, and the Fire and Emergency Services Act 1998,* including the following:

- Gaining entry
- Demolition of premises
- Shutoff or re-direction of mains water
- Shutdown of gas and/or electrical services
- Traffic thoroughfare closure and/or traffic re-direction
- Removal of persons obstructing emergency response
- Direct and control contaminated persons for the purposes of decontamination (for up to 3 hours)

10. Securing Premises

There is **NO** legislative requirement for DFES Operations personnel to secure unattended premises after gaining entry to deal with a threat to life or property, as responders must refurbish and prepare for subsequent response. However, DFES Operations closely adheres to the DFES value of 'Put the Community First' and OIC are to ensure the security of premises as practicable prior to departure (this should include attempting to notify the premises owners and/or alerting WA Police of the breach to the premises security). If owners and/or WA Police are unavailable OIC can request Security as per SOP 3.2.12.

SOP 3.2.12 – Use of Security Guards at Incidents

11. Directing Correction of Breaches to Public Fire Safety

OIC inspecting premises for public use are authorised to instruct the correction of breaches to fire safety regulations and/or direct the closure of the premises for up to 48 hours. *Fire Brigades Act 1942, Part VII Sect 33A.* Forcible removal of persons from such premises is to be assisted by WA Police.

Incident Response

12. General

It is the expectation of DFES Operations that crews responding to emergencies are qualified and competent in their roles and equipped correctly. It is too late at the point of response to query an individual or crew's ability to achieve the tasks set. OIC are responsible for ensuring their crews are prepared to achieve the tasks set out by their station/brigade profile or unit roles.

13. Career Station Turnout Procedures

CFRS Stations should be able to turnout within four (4) minutes. Any delay to this turnout time is to be considered a Delayed Turnout. Upon receipt of a direction to respond to an emergency, stations are to turnout as follows:

- **Cease All Other Activities.** All administrative work, training or rest is to cease, and all personnel are to form for tasking
- **Understand Tasking.** Pause to ascertain the nature and location of the incident
- **Secure Station.**
- **Don PPC/PPE.** Don PPC. Don the correct levels of PPC in accordance with the nature of the incident. When responding to any incident minimum required uniform is issued work

uniform; this will be with trousers and shirt with woollen socks and footwear, or overalls with socks and footwear then dress as per PPC matrix is at SOP 3.2.1 – Order of Dress – PPC Matrix.

SOP 3.2.1 - Order of Dress - PPC Matrix

- **Mount Appliances.**   Mount appliances and conduct radio and IRIS checks
- **Depart.** Secure engine room and send turnout message.

14. Delayed Turnout

Delayed turnouts can be termed as any situation that will not allow an appliance to turnout to an emergency and respond within a reasonable time frame (i.e. training, appliance maintenance, building inspection, display/visit, post incident clean up etc). If a delayed turnout is anticipated the ComCen is to be notified of the reason and estimated period of delayin order to seek authorisation and instigate alternate mobilising arrangements if necessary.

SAP 5.1.H – Crew Missing for CFRS Turnout

15. Movement to the Incident

Upon turnout, appliances are to move to the scene of the incident at best safe speed using the most expeditious known route.

SOP 3.3.1 – Respond Under Emergency Conditions

16. First Arriving Appliances

The crews of first arriving appliances are to take on the primary tasks of the incident and their OIC are to accept the role of IC. OIC of first arriving appliances are to undertake the following:

- Initial size-up of the incident
- Provide the ComCen with an initial assessment (arrival code) and
- Request additional resources if required
- Commence operations in accordance with RECEO-VES
- Commence planning as IC

17. Arrival Codes

IC are to transmit an arrival code (where applicable) to the ComCen upon arrival at an incident. Arrival codes indicate arrival of the first appliance and convey the immediate assessment of severity of the incident to the SCC thereby alerting the ComCen to incidents of particular concern in order to focus mobilising effort in the short term. Arrival codes are defined as follows.

ARRIVAL CODE	DEFINITION
44	Arrived at the reported address No sign of reported incident Crews are investigating
66	Arrived at the reported address Incident reported is of a minor nature Incident can be managed within currently mobilised resources
88	Arrived at the reported address Incident reported is of a major nature Incident will require additional resources to be mobilised (Resource request or incident classification upgrade to follow)

18.   Alarm Classifications

Alarm classifications represent the number of crewed structural firefighting appliances to be mobilised in support of an incident (i.e. '3rd Alarm' equates to the response of three crewed structural firefighting appliances). Guidance for the use of alarm classifications in initiating mobilisation is as follows:

- **Structural Fire/HAZMAT.**   IC are to use alarm classifications to initiate pre-planned mobilisation of resources to structural and HAZMAT incidents. However, alarm classifications are to be supplemented by requests for specific resources as required at all classification levels.
- **Bushfire.**   Mobilisation to bushfires using alarm classifications is at the discretion of the IC and specific resources should be requested as required at all classification levels. *Mobilisation to bushfires using alarm classifications is not effective past 3rd alarm* as the appropriate mix of fire fighting appliances may not be achieved. Although IC may use automatic responses to bushfires up to 3rd Alarm, above this level they are to request specific resources as required rather than utilise alarm classifications.

The following table describes the generic use of alarm classifications in mobilising resources.

ALARM	RESPONSE	NOTES
1st Alarm	1 structural FF appliance	
2nd Alarm	2 structural FF appliances	
3rd Alarm	3 structural FF appliances DO	DO will decide upon further mobilisation in support of incident including personnel to undertake IMT roles
4th Alarm	4 structural FF appliances	
5th Alarm	Complex Building Response	

19.   Prioritisation of Incident Actions (RECEO-VES)

DFES Operations advises IC to follow a system of prioritisation referred to by the acronym RECEO-VES.   RECEO-VES is further described at SOP 3.2.2 – RECEO-VES.

SOP 3.2.2 – RECEO-VES

20.   Incident Area Safety

Incident areas, defined by the IC as incorporating the localised community or geographical area impacted by an incident, may be potentially dangerous environments. Making incident areas secure is the responsibility of the IC. The following considerations should be undertaken:

- On arrival, incident area identification and demarcation should be put in place as soon as operationally possible once appropriate risk assessment has occurred;
- The IC should ensure that all personnel located within the incident area are essential to the successful outcome of the incident. Non-essential personnel including on-lookers within the incident area should be removed to safer areas as soon as possible;
- Movement in and out of the incident area should be restricted;
- All personnel working within the incident area must wear appropriate PPC/E and be competent in the use of designated safety equipment;
- Staging area should be located in a safe zone where resources can assemble until required.

Subsequent Incident Management

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21. General

The methodologies employed to contain, control and extinguish a fire/resolve an incident are many and varied and influenced by many factors both significant and minor. This section provides guidance for IC's in the application of accepted incident management protocols.

22. Resource Escalation

IC's are to continuously reassess the incident situation in order to ensure strategies (and IMT to plan and implement those strategies) are effectively resourced. The request for additional resources requires planning of reception, tasking and control.

23. Subsequent Arriving Appliances

The crews of subsequent arriving appliances are to accept the roles delegated to them by the IC and assist in whatever manner deemed appropriate. In structured turnout procedures, subsequent arriving appliances may have pre-designated roles (i.e. boosting at high rise incidents). OIC of subsequent arriving appliances are to be prepared to relinquish their crews to IC tasking and undertake the following:

- Key IMT roles (including IC)
- Staging/marshalling roles
- Functional coordination duties (e.g. BACO)

24. Siting of Appliances

All appliances must be considered as potential exposures at an incident and should be sited so as to not to be exposed to fire, chemical exposure, vehicle collision or the like. Risk assessment may result in appliances being positioned in locations where they are exposed to damage (e.g. fend-off positions at RCR) to protect personnel from the dangers of the work environment. Safety considerations when siting appliances include:

- Ensure the appliance and crew are visible to other road users
- Position off roadways on hard, even ground (when possible)
- Remain clear of smoke, gases and contaminants
- Consider the ramifications of incident escalation, explosion and building collapse
- Position clear of power lines or trees
- Position so the incident is visible from the pump panel (when possible)
- Allow access for other emergency service vehicles.

25. Incident Communications

Key to achieving control is the early notification of a Control Point, Incident Command Channel and WebEOC activation to ensure additional requested resources are properly received and tasked before progressing onto the fire ground. Communications plans are described at SOP 3.2.4 – Incident Communications.

SOP 3.2.4 – Incident Communications

26. Control Points (CP)

IC's requesting additional resources are to establish and identify CP to the ComCen. The ComCen is to direct all subsequently mobilised resources to stage through the CP. All attending members irrespective of service are to stage their arrival at an incident through the CP and record their arrival on a T Card.

27. Incident Naming

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Incident naming conventions are controlled to ensure reliable operational control and financial capture is achieved. Incidents are to be named with a single, simple title related to the location of the fire and quickly adopted by all levels. The incident, CP and ground controller are to be referred to by the same title as the incident. Examples are as follows:

CIRCUMSTANCE	INCIDENT NAME	CP/ICV CALLSIGN	GROUND CONTROLLER
Single fire in locality	Roleystone Bushfire	Roleystone Control	Roleystone Ground Control
Multiple fires in locality	Campbell St Roleystone Bushfire	Campbell St Control	Campbell St Ground Control

28.   T Cards

The IC is to ensure that all arriving resources and personnel are to be recorded on a T Card and placed in an Incident Management Board prior to tasking. Appliance OIC are to ensure their T Card is cleared from the board upon departure.

SOP 3.2.6 – T Cards and Incident Management Boards

29.   Incident Reporting

Incidents are to be reported upon continuously throughout the duration of the incident (using PAFTACS) through the following standard messages:

- Turn Out
- Arrival
- Informative
- Under Control
- Incident Closure
- Departure

Additional detail and examples of each message is provided at SOP 3.2.4 - Incident Communications.

30.   Making Safe/Rules for Departure

IC are to continue to commit resources until the incident is deemed safe for the community. Hazard specific factors required to be achieved in order to deem an incident safe are detailed at SOP 3.2.3 – Making Safe/Rules for Departure.

SOP 3.2.3 – Making Safe/Rules for Departure

31.   Incident Handover

Where IC's are relieved from an ongoing incident, formal handover is to occur *irrespective of the size/level of the incident*. Incident handovers are to adhere to a SMEACS format as follows:

- **Situation.**
  - The hazard being faced
  - The current state of Incident Action Plan (IAP) put into effect
  - The crews/agencies/resources that are currently deployed and their rotation plan
  - The safety issues that have arisen and what mitigation plans have been put in place
- **Mission.**
  - Objectives/Goals and Tasks that have been tasked to resources
- **Execution.**
  - Relate the duration and intent of the current IAP
- **Administration.**

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- Relate logistic plans/resources requested
- Relate identified resource shortfalls

- **Communications.**
  - Explain the Incident Communications Plan

- **Safety.**
  - Explain specific safety issues and measures in place.

Handovers are to be recorded in incident diaries/logs.

32. Crew/Team Debrief

Personnel conduct debriefs at crew/team level following every incident or event as per SAP 3.19.A – Debriefs. OIC/Team Leaders will also ensure all safety issues are reported, and observations submitted.

SAP 3.19.A – Debriefs
Reporting Hazards and Injuries
Observation Portal

Incident Control

33. General

The concept of incident control should be viewed in relation to that assessment, planning and implementation of goals which occur in the first line of defence to mitigate an emergency. Incident control may therefore incorporate a single person IC directing the effort of a number of appliances/equipment or an IC heading an Incident Management Team (IMT) with multiple sectors and/or divisions under an AIIMS construct. Coordination beyond first line defence is deemed Emergency Management and is discussed in the WAFES Manual.

34. Appointment of the IC

IC are to be appointed by the HMA as directed within the *Emergency Management Act 2005*. IC must be deemed competent (possess appropriate skills, training, experience and confidence) for the size/nature/complexity of the incident concerned.

35. IC Responsibilities

The IC is responsible to:

- Develop and/or approve plans and strategies to control the incident
- Implement strategies
- Control the incident effort either personally or through a command structure
- Manage and resource the incident as effectively and efficiently as the circumstances allow
- Establish systems and procedures for the safety and welfare of all persons working at the incident
- Establish effective liaison and cooperation with all relevant persons, including the affected community, external to the incident

36. Size-Up

IC are required to undertake an initial size-up of an incident in order to quickly gain an understanding of the situation, decide upon appropriate response actions and provide direction to crews.

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SITUATION/FACTOR	DIRECTION
The nature and scope of the incident	• Articulation of goals and objectives
The hazards to safety involved	• Initial instructions to crews
The resources required to satisfactorily deal with the incident	• Initial request for additional resources

Incident circumstances and IAP must be periodically reassessed to ensure the ongoing suitability of objectives and tasking and resourcing. Although individual size-up methodologies may alter from individual to individual, DFES Operations advocates the following system of size-up:

STEP	DESCRIPTION
UNDERSTAND SITUATION	Gather Information from sources at the scene.
	Conduct reconnaissance
ANALYSE	Assess what is required to control the incident, considering: • Potential of the incident to escalate • Options for control • Additional assistance required • Implications of control activities

PLAN	Formulate a plan.
	• Consider the safety of crews
	• Set objectives. Objectives must be:
	  - Achievable
	  - Measurable
	  - Consistent with the DFES Operations mission

	Prioritise the objectives in accordance with RECEO-VES
ACT	Communicate your objectives and methodology to achieve them Put the plan into action.
REASSESS	Undertake a secondary size-up once initial tasking of resources is complete and periodically thereafter.

37.   AIIMS

Once the dimensions of an incident exceed an IC span of control[1], they are required to establish a command structure capable of ensuring control and safety of all persons and equipment in the achievement of the IC goals. AIIMS structures incorporate operational, planning and logistic functions.

AIIMS Reporting Structure

38.   Unified Command

Unified Command is a supporting principle to AIIMS which requires the inclusion of key decision-makers from all combat agencies within all structural functions in order to ensure unity of purpose and effort. Unified command relies upon the following:

- **IC Retaining Sole Authority.**   To achieve Unified Command, it is critical that the Hazard Management Authority (HMA) appointed Incident Controller (IC) is recognised as the sole command authority at all times.
- **Unity of Decision-Making.**   Unified Command enhances and strengthens AIIMS structures by incorporating all decision-makers from all Combat Authorities (CA) involved in

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[1] The span of control for an IC within DFES Operations is deemed to be five (5) reporting groups or individuals.

an emergency within a single management structure, rather than promoting the establishment of parallel management structures by each CA.

- **Unity of Effort.** A single identified and acknowledged IC working in concert with other CA decision-makers, will ensure clarity of intent and unity of effort is carried through each CA hierarchy thus avoiding potential conflict of orders and instructions at lower levels.

39. Sectorisation

The reduction of operational tasking into functional sectors is designed to aid the IC in directing effort as an incident gains in complexity. Sectors can be physical (i.e. west flank or rear building entry) or functional (i.e. BA or evacuation). IC are to consider sectorisation at an incident as soon as sufficient resources (competent personnel and communications) suggest that devolving control will enhance (not detract from) control of the operation.

40. AIIMS Tools

IMT require formal correspondence and record-keeping in order to function efficiently. DFES Operations provides IMT resources in two forms:

- **The IM Toolbox.** An electronic database available through the DFES Intranet providing access to AIIMS and IMT resources as follows:
    - AIIMS key functions checklists
    - Procedures
    - IMT forms
    - Mapping
  IM Toolbox

41. Incident Records

IC at all levels, and primary AIIMS function position holders (Ops/Plans/Log), are to personally chronologically record their actions and decision-making processes. Actions during larger or long duration incidents are to be recorded using the DFES Personal Incident Diary. Incident records are to document the following:

- Incident name, location and CAD Incident No.
- Incident Date
- Details of:
    - Incident appreciations (reasoning and deliberations supporting decisions)
    - Key decisions
    - Significant events and actions taken
    - Advice given or received
- Other relevant information.

Further detail regarding the compilation and management of incident diaries and records is available from Doctrine.

SAP 5.2.B – Record Keeping
SAP 3.1.K – Incident Documentation

42. Incident Area Security

IC are to define the Incident Area as soon as possible upon arrival and ensure access to this potentially dangerous area or areas are restricted to operational and nominated support persons and equipment. Once an incident area is secure, personnel in the vicinity, both operational and

non-operational, become controlled, thereby greatly reducing the risk of exposure to the hazard. Regardless of the nature of the incident, incident area security will be enhanced through IC undertaking the following initiatives:

- **Visually Represent the Incident Area.**   The incident area should be made physically identifiable as soon as the incidents impact has been risk assessed.   Appropriate demarcation will depend on the particular incident but can be achieved through the following:
  - **Visual Barriers.**   Demarcation tape, appliances, road cones
  - **Physical Barriers.**   Fence lines, buildings, road ways etc.
  - **Physical Enforcement.**   WA Police and/or security personnel may be required to restrict entry at larger incidents
  - **Informing.**   Mapping of sectorisation informs staff of operational boundaries
- **Restricting Personnel Access.**   The IC should ensure that all personnel located within the incident area are essential to the successful outcome of the incident. Non-essential personnel including onlookers within the incident area should be removed to safer areas as soon as possible:
  - **Restricting Points of Entry.**   Movement in and out of the incident area at any incident should be restricted to one entry and one exit point where possible
- **Enforce PPE Standards within the Incident Area.**   All personnel working within the incident area must wear appropriate PPC, even civil contractors. Enforcing PPE standards allows non-operational persons to be quickly and easily identified.
- **Remotely Locate Staging Areas.** Relief crews should be assembled and remain outside of the incident area until required.

43.   Incident Scene Preservation

IC are to remain aware of the need to preserve incident scenes for investigation and determination of origin and cause of all types of incident. DFES provides a fire investigation capability through the FIAU, however most investigations are undertaken by external agencies (i.e. WA Police for road crash/missing persons and WorkSafe for industrial accidents). Regardless of investigating agency, IC are to take steps to preserve incidents as follow:

- **Preliminary investigation.**   IC are to personally detail a basic understanding of the incident. IC should note the following:
  - Point of origin
  - Physical evidence relating to cause
  - Persons involved
- **Protection of Evidence.**   IC is to minimise damage to areas of key evidence and prevent these areas from being interfered with by unauthorised persons (including media) until the incident is handed over to an authorised investigative officer. IC is to note and demarcate points of origin and evidence and post a guard if deemed necessary. Once extinguished, points of fire origin requiring investigation are to be isolated from blackout, salvage and overhaul operations in order to preserve evidence.
- **Protection of Privacy.**   IC is to take steps to protect the dignity and privacy of persons involved in incidents, whether deceased or distraught. If persons and/or physical evidence are required to be removed from the scene their location/destination is to be documented.

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Incident Communications

44. General

Regardless of the level, size or complexity of an incident, establishing effective communications is critical to ensuring operational goals are achieved and safety assured.

45. Incident Communications Planning

Effective incident command requires IC to appreciate the communications systems required to effectively relate intent. Consideration must be given to the following communications aspects:

- **Radio Communications.**
  - ComCen communications
  - Incident ground channels
  - Sector internal channels
  - Air operations channels
  - External agency channels (need and compatibility)
  - Staffing of multiple channels
- **Verbal Briefings.**
  - Scheduling of IMT briefs
  - Format (SMEACS) and nominal roll for briefings
  - Written records of briefs
  - Back briefings
  - Debriefings
  - Handover briefings (and written records of handover)

46. Communications Procedures

Incident communications are described at SOP 3.2.4 – Incident Communications. A full incident communications plan is described at SOP 3.2.5 – AIIMS Communications Plan.

SOP 3.2.4 – Incident Communications
SOP 3.2.5 – Communications Planning

Logistics

47. General

Extended incidents will require logistic support. IC must habitually link their operational planning with logistic resourcing. As logistics require time to arrange and deliver, IC must forecast forward to anticipate the logistic need in order to ensure operational tasking is maintained on a continual basis. Such forward planning will identify opportunities for efficiencies in load and location that reactive requests will not. Irrespective of the incident size/level, IC should be prepared to plan to logistically resource the following:

- Water
- Fuel
- Catering
- Toilets
- Maintenance and Recovery
- Medical

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Media

48.   General

Incidents of an emergency nature will always attract the attention of media outlets. IC needs to be aware of the media and aware of the resources available within the greater DFES organisation with which to manage interaction with the media.

49.   Referral to OIC

Emergency response crews are to be briefed to refer all enquiries from the media to the Officer in Charge (OIC)/Public Information Officer (PIO). OIC at incidents are to consider the scope of their knowledge of the issues involved and refer the media to DFES Media when required.

50.   Call for Media Support

Level 1 IC is to consider the need for on-site Media Liaison Officer (MLO) support in the first instance. All incidents of Level 2 and above are to be supported by a MLO/PIO.

51.   Information for Release

Hazard specific information suitable for release to the public is detailed at Field Guide 3.2 – Public Info Media Points.

Field Guide 3.2 – Public Info Media Points

52.   Information Not for Release

At the point of interview, any uniformed member will be held to represent DFES (and hence the policies and position of DFES) to the general public. Members being interviewed must therefore be mindful of the position they hold when releasing information to the media. Information not to be released to the media is as follows:

- Names and addresses of emergency responders
- Names and addresses of injured or deceased persons
- Personal opinion
- Any information that has the potential to prejudice or influence a Coroner's enquiry or a legal inquest
- Comments relating to policy matters. (These matters should be referred to the Regional Superintendent.)

Incident Safety

53.   General

Every individual emergency responder is responsible for their own safety through the wearing of required PPE and adherence to operational procedures. However, it is the IC who through the planning of operational tasks, carries primary responsibility for safety at an incident. IC must risk assess objectives, goals and tasks in order to evaluate their suitability and/or resource them appropriately to ensure safety. IC must be particularly aware of providing safe working environments to support agencies and civil contractors who are not trained or equipped to the same level as emergency responders. *It is the IC who sets the standard for safety at the incident.*

54.   Safety Advisor - Role

The role of the Safety Advisor (if appointed) is to provide continuous safety overwatch of operational planning in order to give an independent assessment of the IC's intended plan and tasking. In this

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manner, the IC has a member of his IMT dedicated to assessing risk and optimising operational outcomes without incurring unforeseen losses.

55.   Safety at Incidents - LACES

LACES is applied across all hazards as a safety reminder acronym which directs the following safety measures:

- **L – Lookouts**.   Establish lookouts (preferably a designated firefighter), and task all crew members to be alert.   All firefighters must evaluate and re-evaluate their situation and have the ability to initiate communications should their environment change threatening their safety.
- **A – Awareness.** Remain aware of the fire situation including current and potential weather, terrain and aspect, fuel types and fuel loads, hazards and crew locations. All personnel have a responsibility to be alert and act decisively before situations become critical.
- **C – Communications.**   Stay in communication with your people, communicate changes in situation, provide regular updates and use briefing procedures (SMEAC).
- **E – Escape Routes.**   Know your escape route at all times and ensure your fire line colleagues are also fully informed.   Vehicles must be positioned to allow for rapid escape.
- **S – Safety Zone.**   Always have a safety zone (anchor point) to which you can retreat if fire behaviour escalates.   Well burnt ground is a safe area however; consideration must be given to ensure the Safety Zone is large enough.

56.   Safety Messages - Red Flag Warnings

Red flag warnings provide a method of ensuring specific safety information (i.e. weather changes, hazardous materials, fire behaviour, structural integrity, and equipment failure) critical to ensuring the welfare of operational staff is delivered and received by radio.   Red flag warnings may be initiated by the IC, Operations Officer, Division Commander, Sector Commander or Regional Duty Coordinator.   ***All Red Flag Warnings are to be recorded in the incident log.***   Content and recipients are to be specific and must be clearly acknowledged by the recipients at each level prior to retransmission.

SOP 3.2.7 – Red Flag Warnings

57.   Safety on Roadways

DFES Operations personnel are at particular risk due to the prevalence of incident occurrence being linked with roadways and traffic hazards.   IC are to be aware of the hazards associated with the roadways involved in the specific incident being addressed.   Basic measures to ensure operational safety on roadways for emergency responders are as follow:

- **Visibility.**   PPC affords high-visibility, but in smoke filled atmospheres additional warning devices/personnel should be positioned to warn road users of the risk to personnel.
- **Protection.**   Basic appliance fend-off positions afford sound protection for emergency responders work areas.   Additional protection is afforded by road cones, warning signs and personnel positioned at the extremities of work sites.
- **Speed Reduction.**   Emergency response must be undertaken at an urgent, yet controlled, pace.   Emergency beacons, speed reduction lanes and warning signs all assist in reducing traffic speed at the extremities of an incident to ensure safety at the work site.

- **Assessment and Enforcement.** IC must assess the risk, brief crews on hazards and enforce control measures. Crew leaders must ensure the operation of their appliance does not endanger their own crew and others.

SOP 3.3.2 – Road Hazard Management

After Action Review (AAR)

58.   General

DFES Operations undertakes incident debrief, review and analysis commensurate with the complexity and impact of the incident. Incident analysis is undertaken to ensure common understanding of occurrences and outcomes at all levels, and to ensure that the control and management of incidents within the portfolio is continually improved. The levels are as follow:

- **Debriefs.**   Debriefs are the most common form of incident analysis conducted at the local level and may occur either formally or informally. Debriefs are to be conducted at crew level by SO/OIC after every emergency incident.
  SAP 3.19.A - Debriefs
- **Reviews.**   PIA systematically reviews an incident as a way to ensure organisational performance improvement and will result in documented outcomes and recommendations for use within the DFES Operations portfolio. Incidents requiring PIA are likely to be significant (for example, those that involve multiple service response and/or casualties).
  SAP 3.19.B – After Action Reviews (AAR)

Further information is available from Doctrine.

Directive 3.19 – Operational Lessons Management

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Feb 10	Contact Doctrine@dfes.wa.gov.au for document history.
1.1	Nov 11	Paragraph 25 • Added reference to Security services
1.2	Apr 12	Add in link for securing premises
1.3	Jul 12	Reformat Deleted Risk Assessment Annex A and Hyperlinked to FESA Risk Assessment Matrix Deleted Logistics Annex D Include new AIIMS Structure in Annex B Addition of PIO into AIIMS and Media
1.4	Oct 12	Organisational Name Changes & Updates
1.5	Aug 13	Para 14 Add in required minimum uniform for turnout.
1.6	January 2021	Scheduled review. General updates throughout. Updated incident analysis content to reflect Operational Lessons Management doctrine. Annexes removed, and links provided to contemporary information.
1.6	May 2022	Repaired broken links in "Related Procedures"
1.7	Dec 2022	Repair broken link page 7 to SOP 3.2.6

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For further information contact Doctrine@dfes.wa.gov.au

Application
This Directive is applicable to all DFES personnel and volunteers.

Release Authority
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Related Procedures
SOP 3.2.1 – Personal Protective Equipment (PPE)
SOP 3.2.2 – RECEO-VES
SOP 3.2.3 – Making Safe-Rules for Departure
SOP 3.2.4 – Incident Communications
SOP 3.2.5 – Communications Planning
SOP 3.2.6 – T-Cards and Incident Management Boards
SOP 3.2.7 – Red Flag Warnings
SOP 3.2.8 – Notification of Property Loss
SOP 3.2.10 – Incident Catering
SOP 3.2.11 – Strike Team/Task Force Resources
SOP 3.2.12 – Use of Security Guards at Incidents
SAP 3.2.A – Community Briefings During Incidents
SAP 3.2.B – Public Information and Warnings
SAP 3.2.C – Incident Action Planning
SAP 3.2.D – Restricted Access permits

Government of Western Australia
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Directive 3.4
Structure Fire

References:
A.   Fire Brigades Act 1942
B.   Emergency Management Regulations 2006
C.   State Hazard Plan Fire
D.   Directive 3.2 – Incident Control

Introduction

Section 25 of Reference A directs DFES to: *take, superintend and enforce all necessary steps for preventing and extinguishing fires and protecting and saving life and property from fire.* This directive sets out the principles for dealing safely with structural fire incidents by DFES Operations personnel.

1.   Legislated Structural Fire Responsibilities
References B and C list the FES Commissioner as the Hazard Management Authority (HMA) for property fire within gazetted fire districts and external to gazetted fire districts where agreements have been reached with other HMA. Structural fires on port facilities and within major hazard facilities (where the incident is within the capacity of the facility to combat, clean-up and dispose of properly) are exempt from DFES management unless DFES assistance is requested or the incident has potential to spread beyond the confines of the facility (including plume hazards).

Procedures

2.   Initial Mobilising

Initial mobilising shall be a 2nd Alarm response, as described in SOP 2.1.2 – Mobilising. The SCC/CSO may alter this response based on interrogation of 000 callers.
SOP 2.1.2 - Mobilising

3.   Initial Incident Management
Initial incident management of structural fires is to be as outlined in Directive 3.2 – Incident Control. IC are to use RECEO VES to guide initial decision making.
Directive 3.2 –
Incident Control
SOP 3.2.2 –
RECEO-VES

4.   First Arriving Appliance – Role
The role of the first arriving appliance is to assess the situation, undertake immediate rescue and commence direct firefighting actions in accordance with RECEO-VES. The OIC of the first arriving appliance is to assume the role of IC. Principles and Procedures for first and subsequent arriving appliances are detailed in SOP 3.4.1 – Structural Fire Response.
SOP 3.4.1 – Structural Fire Response

5. Direct Brigade Alarms (DBA) and Private Alarms
Where fitted, DBA permit immediate alert and rapid response to structural fires. DBA or Private Alarm Fire Indicator Panels (FIP) provide initial situational awareness of fire situations within monitored structures prior to physical investigation. OIC of first arriving appliances at structures with FIP's are to interrogate the FIP as a first priority. Information gained from the FIP enables OIC to make informed decisions regarding the incident and minimise risk to their crew. Procedures to follow are in SOP 3.4.7 – DBA and Private Alarms.
SOP 3.4.7 – DBA and Private Alarms

6. Control Point
Where the incident is escalating (or likely to escalate) and additional resources have been requested, IC are to establish a control point from which to receive arriving resources. The location of the control point is to be forwarded to the ComCen via the VHF radio Command Channel in order that all appliances enroute gain situational awareness. Second arriving appliances (and all subsequent appliances) are to report in the first instance to the designated control point.

7. Mobilisation Against Alarm Classifications
After initial mobilisation, structural fires are to be mobilised against numeric alarm classifications as provided by IC. IC are to request specific appliances and resources to supplement the mobilisation initiated by their reported alarm classification as required.

8. Complex Buildings
Structural fires within buildings that require the establishment of internal forward control points and equipment staging areas in order to enable efficient firefighting operations and may require dedicated resources for boosting internal suppression systems, are defined as a Complex Building.
When a suspected/confirmed fire occurs within a complex building the incident shall be classified as a 5th Alarm. SOP 3.4.2 – Response to Complex Building Emergencies will provide guidance to roles and responsibilities for appliances and crews.
SOP 3.4.2 – Response to Complex Building Emergencies

9. Creating Sectors
Structural fires that involve large or multiple buildings or large amounts of personnel and resources are to be sectorised in order to ensure the safety of personnel on the fireground and to ensure that the IC/Ops Officer remains in control of firefighting efforts. Sectors may be physical or functional in nature. Sectors *are* to be created at structure fires under the following circumstances.

PHYSICAL SECTORS	FUNCTIONAL SECTORS
Where external crews are operating to the rear or out of visual contact with the IC/Ops Officer	**Exposures.** Where considerable and dedicated resources are involved in the protection of exposures
Where separate and distinct structures are involved	**Evacuation.** Where considerable and dedicated resources are tasked exclusively with evacuation
Where multiple seats of fire are being combated	**Foam.** Where the provision of firefighting foam requires dedicated management
Where multiple rescues are being supported in different	**Water/Boosting.** Where the provision of water supplies requires dedicated management
	BA. Where the provision of BA crews and resources requires dedicated management

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10.   Minimum Street Mains Water Supplies

The Water Corporation guarantees the supply of Perth metropolitan mains water at a minimum pressure of 200 kPa (2 bar). OIC accessing water mains that do not achieve this minimum standard are to request the mobilisation of resources to ensure minimum supply and report the matter through their district chain-of-command.

11.   Lift Operation

In accordance with AS1735, all lifts servicing floors above an effective height of 12m must be fitted with fire service controls. Fire service controls enable automatic and manual recall and override floor operation.[1]   *Procedures for the operation of lifts are at SOP 3.4.3 - Lift Operation.*

SOP 3.4.3 – Lift Operation

HAZMAT/Fire

Irrespective of the level of incident, structural fires that involve a HAZMAT agent, have been initiated by a HAZMAT agent, or present a developing/ongoing threat to public health and environment are to be classified *'HAZMAT/Fire'* by the IC.   The principles of Directive 3.6 – HAZMAT/CBRN and associated SOP's shall be considered in conjunction with this directive.

Directive   3.6   –
HAZMAT/CBRN SOP 3.6.1 –
HAZMAT-CBRN Response
SOP 3.6.3 - Decontamination

12.   Mobilisation/Notifications

Classification of a fire as *'HAZMAT/Fire'* will trigger additional notifications and/or resources. This is detailed in SOP 2.1.2 – Mobilising.

SOP 2.1.2 - Mobilising

13.   External Attack

In accordance with the guidance of RECEO-VES, initial firefighting actions are to prioritise the restriction of further spread of structural fires by providing protection to exposures – this is achieved through external attack. External attack is also to be used where entry to the structure is deemed unsafe or unnecessary by the IC/Ops Officer.

14.   Working Near Buildings

All structural firefighting is vulnerable to building collapse.   Where possible, external attack crews are to be located at a distance deemed safe from the structure involved.   Where circumstances force the positioning of external attack lines in close proximity to structures involved in fires, ground monitors are to be used as the first option. External attack crews and aerial appliances forced by circumstance to work in close proximity to structures involved in fires are to be located at the corners of the structure to minimise their exposure to the risk of outward collapsing walls.

15.   Internal Attack

Internal attack of structural fires permits direct access to the seat of the fire and can greatly reduce damage levels by limiting internal spread. However, internal attack of structural fires carries inherent risk through the exposure of crews to structural collapse, irrespirable atmospheres and isolation.   These risks are mitigated through strict adherence to *BA* and *Entry Control* procedures**.**

[1] *BCA 2009, Part E3.4*
DFES Directive 3.4 – Structure Fire – Version 1.6   10

ATTACHMENT 14.2.2

16. Working Within Buildings

The inherent risks associated with working within buildings are to be mitigated through the following:

- Adherence to the '*Eight (8) Rules for Wearing BA'*
- Establishing and maintaining communications between internally working BA teams and the IC/Ops Officer/Sector Comd.
- Identifying and attacking the seat of the fire as soon as possible
- Reporting hazards as they occur or upon exit for updating of relief teams
- Working close to walls, door frames and known safe areas

17. Ventilation

The removal of smoke through ventilation techniques greatly enhances the safety of firefighters conducting internal attack by increasing visibility and enabling greater situational awareness.

However, under certain circumstances the rapid increase in air within a structure provided by ventilation can greatly intensify combustion and in extreme cases may cause flashover. Ventilation is to only occur under the direction of the Ops Officer or IC. IC/Ops Officer are to ensure that the seat (or multiple seats) of the fire have been identified and controlled to the satisfaction of internal crews prior to authorising ventilation. All crews working internally are to be made aware of ventilation operations prior to the ventilation occurring.

Breathing Apparatus (BA)

BA worn in conjunction with appropriate PPC is the key to the safe conduct of internal firefighting attack at structural fires.

18. Wearing BA

BA must be worn whenever a hazardous atmosphere may exist, and your risk assessment identifies BA as a suitable control measure. BA is to be donned and worn in accordance with the '*Eight (8) Rules for Wearing BA'*.   Refer to DFES BA Student Resource.

19. Entry Control

Entry control procedures are initiated to ensure the safety and control of firefighters entering a known or unknown risk. All BA wearers are to commence and finish their task by entering and departing through an Entry Control Officer (ECO) who has been appointed by the IC/Operations Officer. The procedure for individuals to conduct a controlled entry through an ECO is described at SOP 3.4.4 – Controlled Entry Procedure.

SOP 3.4.4 – Controlled Entry Procedure

20. Exceptions from Entry Control

In certain situations, Entry Control Procedures can be dispensed with. These situations are when BA operations occur external to a structure and the BA operator will not be directly affected by any increase in fire behavior or structural collapse. In these situations, the following shall apply;

- May work in team of one
- BA Tally to be handed to pump operator
- Must work in line of sight of a nominated crew member, donned in BA (not started).

21.   Minimum Initial Entry Requirements

Entry requirements to commit a BA team to internal attack tasks at structural fires are as follows;

REQUIREMENT	MINIMUM STANDARD
IC size-up complete	Structural integrity confirmed – safe to enter
Entry Control	• Setup in fresh air • Removal of BA tally and recording of all wearers committed on task • Establish radio communication • Calculation and recording of working duration and time team is due out
Min Two member BA	In correct PPC/PPE briefed on tasking
Two member BA Emergency Team (ET)	In correct PPC/PPE, BA donned and available for immediate tasking

There may be circumstances (e.g. where persons may be at risk and require urgent assistance or where dangerous escalation of the incident may be prevented) where IC will risk assess the situation and commit a BA team prior to the arrival of supporting resources. In such circumstances all other ECO duties may be delayed until supplementary resources arrive. The IC shall ensure an ET is available prior to entry of the BA team. This may require the pump operator and/or OIC filling the role of the ET.

22.   Minimum Re-Entry Requirements

Re-entry is defined as the commitment of a BA team, which has withdrawn from task and removed masks, to perform a specific task using the same cylinders. BA teams may conduct re-entry using the same cylinder for specific tasks using the same requirements for Minimum Initial Entry Requirements, except for;
-    BA Team minimum cylinder pressure of 150 kPa.
-    Maximum working duration of 10 min.

23.   ECO Log Books

Stations that have a BA capability are required to have one ECO Log Book on station (stock) and one stored inside the Entry Control Board Bag. The DFES ECO Log Book is to be used to transcribe information from Entry Control Boards under the following circumstances:
-    When more than two teams enter during an incident
-    When Stage 2 entry control procedures are initiated
-    If there is an accident, fatality or serious injury or unusual event at the incident scene that is likely be subject to an investigation
-    When the BACO/IC or Ops Officer instructs the ECO to retain the BA records of the incident

24.   Emergency Teams (ET)

The role of the BA ET is to be available for immediate tasking of an emergency nature. BA ET are to conform to the following minimum standards:
-    **Composition.** Two (2) qualified BA wearers (min.)
-    **PPC.**   Equivalent to the supported BA teams.   BA sets donned but not started up.
-    **Equipment.**   UHF radios set on BA operating channel
-    **Minimum Ratio.**   The minimum ratio of two member ET is 1 ET : 10 wearers. During Stage 2 entry control an ET is to be established at each ECP.

25. BA Communications

BA communications are to use UHF radios. Channels used are outlined in SOP 3.2.4 – Incident Communications. Stage 2 Entry Control Communications Plan is detailed in SOP 3.4.1 – Structural Fire Response.

SOP 3.2.4 – Incident
Communications SOP 3.4.1 –
Structural Fire Response

26. Long Duration BA

Incidents that require Long Duration BA (LDBA) wears shall request support from LDBA capable stations via COMCEN/RDC and have Extended BA Operations support mobilised as outlined in the following sections.

Extended BA Operations (Metro Regions)

IC requesting resources to conduct extended BA operations are to have a SET mobilised (carries 'T' pieces, additional BA sets, BA cylinders[2] and servicing facilities).

Extended BA Operations (Country Regions)

Resources to conduct extended BA operations within country regions are to be mobilised from within district resources. Mobilisation of regional resources to support extended BA operations is to be undertaken by the responding OIC/IC in the first instance. Subsequent and additional logistic support is to be coordinated by the RDC/DO responsible for the area of the incident.

Boosting

Booster systems are designed to permit internal suppression (sprinkler) and/or attack (hydrants) systems to be pressurised using firefighting appliance pumps. Types of boosters are described in DFES Student Resource Installed Fire Safety Systems. Requirements of Booster Cabinets are detailed in the Building Inspection Guidelines Manual.

Installed Fire Safety Systems
Building Inspection Guidelines
Manual

27. Booster Connection Procedures

Procedures for connecting into a booster system are at SOP 3.4.6 - Booster Connection Procedures. SOP 3.4.6 – Booster Connections

28. Booster Communications

OIC's/crews of appliances tasked to boost internal suppression and attack systems will generally be remote from the IC and Ops Officer. Booster crews are to be kept situationally aware through monitoring and operating on the designated command channel. Booster communications *are not to* occur on the dedicated BA channels.

Communications

Regardless of the scale of a structural fire, communication plays a key role in ensuring safety by maintaining situational awareness at all levels and providing the conduit for continuous update and feedback. Communications should be viewed in verbal (briefing), written and electronic (radio/telephone) sense.

29. Briefings

The larger the scale of the structural fire, the more important scheduled formal briefings become. Low level briefings may be informal and/or personal but must update crews on hazards and incident management intent. Formal briefings are to be provided in the SMEACS format at regular intervals to the IMT and other key appointments.

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30.   Fireground Communications

Communications plans for general and complex structural fires are included at <u>SOP 3.4.1 – Structural Fire Response.</u>

Media

Significant structural fires will attract public, and hence media, attention. DFES Media and Corporate Communications (MCC) are tasked with supporting IC at incidents, however IC must be prepared to meet and interact with the media.

31.   Media Management

Once a structural fire is at a stage where it will attract media attention IC are to request the mobilisation of a Media Liaison Officer (MLO) through the ComCen in order to manage the media on the IC's behalf.

The involvement of MLO may not absolve the IC from the requirement to speak to the media personally, however, MLO are to be used to schedule briefing and interview times at the convenience of the IC, IMT and the operation. MLO are available on-call 24 hours a day/7 days a week.

32.   Structural Fire - Key Messages

All requests for comment to the media at structural fires are to be referred to the IC. IC of structural fires approached by the media for comment are to provide only the information detailed at the <u>Field Guide 3.2 – Public Info Media Talking Points.</u>

Structural Fire Safety

The work conditions experienced at any structural fire involve considerable risk. BA and communications procedures are designed to minimise these risks to firefighters and are to be followed by OIC and FF alike.   Other safety points regarding structural fires follow.

33.   Maintaining Situational Awareness

Key to maintaining firefighter (and public) safety at structural fires is to ensure awareness of the situation at all levels through clear, accurate and continuously updated communications throughout the incident. IC/Ops Officer are to prioritise the flow of information to all levels and sectors within their command in order to ensure all members on the fireground remain aware of the current situation.

34.   Structural Collapse

Signs of structural collapse are to be acted upon. BA teams are to be withdrawn immediately signs of structural collapse are noted to allow further investigation to occur without risk to personnel. As a general rule, external crews should always work from the corners of buildings where they are partially protected from the outward collapse of walls. However external attack crews may still need to be withdrawn to a safe distance until the situation is assessed as safe.

35.   Electrical Hazards

Mains electricity within buildings represent a deadly risk to firefighters using water as a suppressant. Water must not be applied to an electrically charged hazard (wires or power box) until it has been switched off. IC/Ops Officer are to isolate structures from mains power prior to committing firefighters to attack lines (internal or external) at structural fires. Water may be applied to adjacent structures (cool exposures) that are not involved in fire as long as they are structurally sound and water penetration into the structures is not achieved.

Procedures for dealing with electrical hazards at structural fires are detailed at SOP 3.4.8 – Electrical Hazards.
SOP 3.4.8 – Electrical Hazards

36.   Hazard Isolation

Common functional systems within domestic and commercial structures pose hazards to firefighters once that structure is involved in fire. Electricity, gas, water and mechanical devices require isolation/neutralisation and identification prior to the commencement of firefighting. Identification of isolated hazards is to be achieved through standard tagging. Hazard isolation procedures are further described at SOP 3.3.7 – Hazard Isolation Tagging
SOP 3.3.7 – Hazard Isolation Tagging

37.   Fatigue Management

Structure fires present a serious risk for fatigue management. The IC is to provide sufficient crew & task rotation along with rest breaks to mitigate the effects of fatigue.
Fatigue Management Policy
Health and Safety Services – Fatigue Management

Special Risks

Structural fires involve a number of distinct special risks particular to the working environment.

38.   Working at Height

Working at heights at emergencies has long been identified as a hazardous practice due to the potential of serious injury from falling. State codes of practice stipulate that *fall injury prevention systems* (ie. harnesses) are to be used where a person could fall **three (3) metres or more** from an edge at a workplace unless there is existing edge protection. During emergencies the application of this requirement is difficult due to operational imperatives. However IC/Ops Officer must remain cognisant of the risks of working at height and minimise exposure wherever possible. IC risk assessment of the requirement to work at height is to include the following factors.

FACTOR	CONSIDERATION
Need	• Is there life involvement? • Are emergency personnel required to work in that particular
Location/Environment of Task	• If personnel are required to be in that location, what is their working environment like? • Is it too dangerous to work in that location?

Alternatives	• Are there alternative strategies available:
	  – Work from ground?
	  – Ladders?
	  – Aerial appliance?

Mitigation	• Can a fall prevention system be put in place?

Only after **all** fall risks have been fully assessed and a failure to act represents a **real and imminent risk** that could cause the death of a person requiring rescue, may emergency responders work at a height where there is a risk of a fall greater than 3 metres. Expediency is not an acceptable option in justifying the risks of falling from heights.

DFES Directive 3.4 – Structure Fire – Version 1.6   10

39.   Alternate Electrical Supplies

Developments in domestic supply technologies have created additional risk of exposure to electrical hazards to structural firefighting.   Alternate electricity supplies such as photovoltaic array systems, and mechanical generators will not be isolated through the removal of fuses at the main board. The existence of such systems is required to be recorded within the main switch board and IC are to take note of the hazard warning and system description.

Alternate electrical supplies represent the risk of residual power generation existing within the structure after mains isolation. Efforts must be taken to halt the production of this electricity before the application of water as a fire suppressant can be deemed safe. Further guidance is detailed at SOP 3.4.8 – Electrical Hazards.

40.   Tilt-Up Construction

Buildings constructed using pre-formed tilt-up concrete panels are becoming the preferred method of construction of single storey commercial and light industrial sites. Tilt-up construction represents significant risk to structural firefighting due to the inherent weaknesses in the design once the construction bonds between wall panels and between wall panels and the roof are compromised.

Critically, the roof plays an integral role in maintaining the integrity of the construction as a whole. Once the roof is weakened or damaged the walls are vulnerable to collapse. IC/Ops Officer are to ensure signs of collapse on tilt-up construction buildings are observed and precautions taken.

Signs of impending collapse include as follow:
- Roof or roof sub-structure involvement in the fire
- Wall panels bending inwards or outwards at the top
- Smoke issuing from joins in wall panels
- Wall panels disjointed or lifting off footings

When conducting building inspections and pre-planning, operational crews should note the construction details of buildings of tilt-up construction on the Building Inspection Form and preplan. Further detail is provided at SOP 3.4.10 – Structural Fire Involving Tilt-Up Construction.

SOP 3.4.10 – Structural Fire Involving Tilt-Up Construction

Document History

VERSIO	DATE	DESCRIPTION of CHANGE
1.0	Feb 10	New Directive created. **Source Documents:** • FB Act 1942 • SEMC Policy No. 7 • Westplan Urban Fire • SOP 4 – Complex Building Emergency Operations • SOP 5 – Booster Connections • SOP 10 – Wearing BA • SOP 11 – BA Control Procedures • SOP 20 – Electrical Hazards • SAP 25 – Alarm Panels • SOP 32 – Tilt-Up Construction • FTC Learning Manual *All listed SOP/SAP, now retired.*
1.1	Aug 11	Update Hyperlinks to BA Learners Manual and SOP 1
1.2	Aug 11	Update DBA alarm table paragraph 55
1.3	Mar 12	Updated hyperlinks, insert version No in document history.
1.4	Apr 12	Insert hyperlink to BA Learners manual, Personal issued spectacles for BA
1.5	Nov 12	Organisational Name Change & Updates
1.6	Oct 2022	Sect 22 Re entry time adjusted for new consumption rates

Related Procedures

SOP 3.4.1 – Structure Fire
Response SOP 3.4.2 – Response to Complex
Building Emergencies SOP 3.4.3 – Lift Operation
SOP 3.4.4 – Controlled
Entry SOP 3.4.6 – Booster
Connections SOP 3.4.7 – DBA
and Private Alarms SOP 3.4.8 –
Electrical Hazards
SOP 3.4.10 – Structural Fire Involving Tilt-Up
Construction SOP 3.4.11 – Multi-Tiered Vehicle
Stacking Devices SOP 3.4.13 – Controlled House
Burns   SOP 3.4.14 – Fire Cause
Investigation
SAP 3.4.A – Fire Station Key
Management SAP 3.4.B – Building Fire
Safety Officer Role
SAP 3.4.C – False Fire Alarm Reduction Process

Government of Western Australia
Department of **Fire & Emergency Services**

DFES
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Directive 3.5
Bushfire

Introduction

1.   Responsibilities

DFES, Local Government (LG) and the Department of Biodiversity, Conservation and Attractions (DBCA) have legislated bushfire management and suppression roles. In accordance with *Emergency Management Regulations 2006*, the Fire and Emergency Services (FES) Commissioner is identified as the Hazard Management Agency (HMA) for all fires occurring across the entire state.

Legislation authorises the FES Commissioner to assume control of any incident it believes has escalated beyond the management capability of another agency, in accordance with the *Bush Fires Act 1954*.

2.   Powers of DFES Personnel (Staff and Volunteers)

DFES personnel have powers under the *Fire Brigades Act 1942* to enforce all necessary steps for the prevention and extinguishment of fire and protecting and saving life and property within gazetted fire district boundaries. For further information refer to *s25 of Fire Brigades Act 1942*.

3.   Powers of the LG Bush Fire Control Officer (BFCO)

BFCO are LG appointments empowered through the *Bush Fires Act 1954* to direct fire operations and prevention strategies within their LG district. The powers of BFCO are detailed at *s39 of the Bush Fires Act 1954*

4.   Powers of a Bush Fire Liaison Officer (BFLO)

BFLO's are DFES officers designated by the FES Commissioner to act in an advisory role to BFCO and DBCA officers. However, irrespective of the location of a fire with regard to gazetted fire district boundaries (i.e. the fire may be occurring on LG or DBCA lands) BFLO may be authorised by the FES Commissioner to take control of incidents. In this instance all BFCO, BFLO, CALM Act Officers and BFB'spresent are under the control of the authorised person.

5.   Appointment of BFLO

BFLO appointments are recommended by the Deputy Commissioner Operations and appointed in writing by the FES Commissioner. Administration of BFLO appointments are maintained on the DFES RM8 and are to be controlled as follows.

CIRCUMSTANCE	METHOD OF CONTROL	MEMBER RESPONSIBLE
Annual Review	All BFLO designations are to be reviewed annually and must be DFES employees.	District Officer Regional Operations Country (DO ROC)
BFLO Designations Incident Control	All BFLO must be designated by the FES Commissioner. L2 Incident Controller endorsement is recommended.	DO ROC

DFES Directive 3.5 – Bushfire Version 2.1   2

ATTACHMENT 14.2.2

| CIRCUMSTANCE	METHOD OF CONTROL	MEMBER RESPONSIBLE
BFLO Designations Fire Investigation	A Fire Investigation Officer (FIO) will be appointed as BFLO to give them the powers required to conduct investigations at an incident.	DO ROC

6.   Assume Control of Incident

DFES will assume control of all Level 3 bushfires in accordance with State Hazard Plan Fire. Upon adeclaration of a Level 3 fire an IC will be appointed under *s13 of the* *Bush Fires Act 1954.*

The FES Commissioner may also elect to appoint an authorised person to take control of a bush fire if due to the nature or extent of the bush fire considers it appropriate to do so. The criteria for the assumption of control of a bushfire are detailed in State Hazard Plan Fire and the *Bush Fires Act 1954*.

7.   Transfer of Control Between DFES/LG/DBCA

In accordance with Section 13 and Section 45 of the *Bush Fires Act 1954*, control of a bushfire may be transferred to another agency at any time after consultation has occurred as to which agency is best placed or resourced to deal with the emergency. LG and DBCA are required to notify DFES ComCen/ROC of such handovers. The below diagram details the transfer of control requirements.
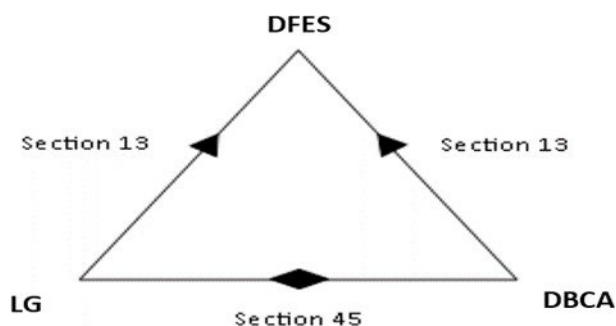
8.   LG and DBCA Controlled Fires

LG/DBCA are required to notify DFES ComCen or the Regional Operations Centre (ROC) of all fires under their control. DFES RDC are to ensure notifications are passed on to the SCC DFES ComCen. LG and DBCA incidents are to be recorded in DFES IRS to enable inter-agency monitoring on IRS.

Prevention/Mitigation

In accordance with State Hazard Plan Fire, DFES has a number of responsibilities for prevention and mitigation activities to reduce the risks associated with bushfire. DFES will contribute and participate in the development of Bush Fire Risk Management Plans at the local level and may through a Memorandum of Understanding (MOU), complete mitigation activities for other landholders. For further information relating to the responsibilities and mitigation requirements refer to State Hazard Plan Fire. SOP 3.5.17 – Prescribed Burning

SAP 3.5.B – Managing Bushfire Risk on UCL/UMR

Preparedness

Bushfire poses a threat to the community of Western Australia, particularly during the northern and southern bush fire seasons. The best defence against bushfire is sound preparation and early warning.

9.   Planning and Risk & Readiness

DFES Directive 3.5 – Bushfire Version 2.1   3

The consideration of forecast weather conditions, Fire Danger Ratings (FDR) and regional resource availability occurs during weekly operational preparedness briefings. Further detail is provided in the Forecast Risk and Resource Assessment.

10. Public Information

DFES issues information and warnings for community preparedness on high risk fire danger days. Information and warnings issued assists individuals in the community to decide what actions to take and when to enact their bushfire survival plans. Information is also issued on how to prevent negligent and accidental ignitions during these high risk fire danger periods.

11. Fire Danger Ratings (FDR)

DFES has adopted the national FDR model and associated common messaging protocols. Forecast FDR inform decision-making with regard to regional preparedness, establishment of deployable pre-formed Incident Management Teams (IMT) and consideration of Total Fire Bans (TFB). FDR are described in the following table.

Fire Danger Rating	Fire Behaviour Index Range	Suppression difficulty
MODERATE (Green)	12-23	Most bushfires in this category. Fires typically suppressed with direct, parallel or indirect attack.
HIGH (Yellow)	24-49	Initial attack success critical to prevent large fire development. Defensive suppression strategies.
EXTREME (Orange)	50-99	Defensive suppression strategies. High levels of threat to life/property. Safety of firefighters and community paramount.
CATASTROPHIC (Red)	100+	Unsafe for firefighters and community. Without initial attack success, likelihood of very large fire development is very high. High probability of loss of life and property.

12. Total Fire Bans (TFB)

In accordance with s22B of the _Bush Fires Act 1954_, TFB's are declared on days of extreme weather or when widespread fires are limiting available firefighting resources. A TFB prohibits persons from lighting or maintaining fires in the open air or carrying out an activity in the open air that causes or is likely to cause a fire.

Agricultural activities and machinery movements are not prohibited by a TFB. Harvesting and machinery movement is controlled through the issuing of Harvest and Machinery Movement Bans, managed by local government.

SAP 3.5.A – Total Fire Bans

Response/Bushfire Management

Response to bushfire within WA is managed by three agencies – DFES, DBCA and LG's. Effective multi-agency management of this responsibility requires clear information sharing and incident handover protocols. As the sole 000 call centre, the DFES Communications Centre is the primary facility for sharing bushfire management information.

13.   Mobilising

Minimum mobilising for a bushfire is normally a CFRS/VFRS station, VFES unit or Bushfire brigade (appliance configuration is reliant upon the service responding). The intent of minimum mobilising to a bushfire is for the assessment of the first arriving OIC to confirm the required mobilisation. For detailed information refer to SOP 2.1.2 - Mobilising and SAP 3.11.A - Aerial Suppression Mobilisation.

14.   Incident Objectives

Incident objectives at all bushfires are to be in line with the State Strategic Control Priorities as provided in State Hazard Plan Fire. Initial actions at bushfires are to be guided by SOP 3.5.1 - Bushfire Response.

The State Strategic Control Priorities are as follows:

- •   Protection and Preservation of Life.
- •   Community Warnings and Information.
- •   Protection of Critical infrastructure and community assets.
- •   Protection of residential property.
- •   Protection of assets supporting individual livelihood and community financial sustainability.
- •   Protection of environmental and heritage value.

It is important to note that these priorities are not hierarchical.

15.   Incident Control

A key to achieving control of an incident is the early notification of a Control Point and Incident Command Channel. This ensures additional requested resources are properly recorded, briefed and tasked before progressing onto the fire ground. For further information refer to Directive 3.2 - Incident Control and SOP 3.2.5 – Communications Planning.

16.   Incident Levels

State Hazard Plan Fire states that Incident Controllers will declare every incident level above Level 1 in accordance with the State Emergency Management (EM) Plan, Section 5.1.6 and State EM Procedure, Response Procedure 2 Incident Level Declaration. Escalating bushfire incidents may transition through levels where the control objectives and strategies must be reassessed.

These incidents levels are as follows:

- • **Level 1 -** A Level 1 fire incident is characterised by being able to be controlled through local or initial response resources within a few hours of notification. Being relatively minor, all functions of incident management are generally undertaken by the first arriving crew/s.
- • **Level 2 -** Level 2 fire incidents are more complex either in size, resources, risk or community impact. Level 2 incidents usually require delegation of a number of incident management functions, and may require interagency response.
- • **Level 3 -** Level 3 fire incidents are protracted, large and resource intensive. They may affect community assets and/or public infrastructure, and attract significant community, media and political interest. These incidents will usually involve delegation of all incident management functions.

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Incident Controllers are to continually reassess the situation and evaluate the effectiveness of strategies in order to ensure appropriate resourcing of an incident and activation of ROC/MOC/SOC. Further information outlining incident levels can be located within State Hazard Plan Fire.

17.   Public Information

Incident Controllers are required to provide community warnings and information to the public. An advice should be issued for any fire which is highly visible to the public and occurs in a built-up residential area.

The requirement to notify the public of the threat posed by a bushfire is to be identified early, this ensures the timeliness and effectiveness of warnings and information. Public notification is to be issued in accordance with SAP 3.2.B – Public Information and Warnings. The construction and disseminationof public information is the role of the Coordinator Public Information. The Telephone Warning System(TWS) can be activated by contacting the SAO. For further information refer to SAP 3.1.D - Telephone Warning System.

18.   Demobilisation

Crews/Resources released from a bushfire incident are to depart through the Control Point. Current and accurate recording of resources within an incident is critical to maintaining crew welfare, safety and effective management of resources.

19.   Bushfire Crew Safety

The work environment experienced at bushfires may involve considerable risk. Firefighters may be exposed to uncontrolled fires, under extreme weather conditions with finite suppression resources. DFES has implemented a number of safety measures to reduce the risk to firefighters at incidents. SOP 3.5.10 – Crew Safety at Bushfires

SOP 3.5.11 – Entrapment and Burnover at Bushfires

Operations at Rural Urban Interface (RUI) Environments

Communities within RUI environments are exposed to the threat of fast-moving, intense bushfires. When numerous assets within the RUI environment are threatened simultaneously, the employment of defensive strategies is most viable. The procedures for firefighting bushfire in RUI environments are outlined in the following SOP's.

SOP 3.5.6 – Structural Triage

SOP 3.5.7 - Employment of Task Forces/Strike Teams at the RUI

SOP 3.5.8 - Immediate Street Assessments at the RUI

SOP 3.5.9 – Firefighting Within Rural Urban Interface Environments

Relief and Recovery Arrangements

DFES as a controlling agency has certain responsibilities in accordance with State Hazard Plan Fire. DFES is required to initiate relief and recovery activities during all bushfires under their control. There is a requirement to undertake an initial impact assessment during the response phase and also a comprehensive impact assessment prior to concluding response activities. For further information refer to State Hazard Plan Fire

Impact Statement

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 11	New Directive created. New sections created (all): **Source Documents:** Bush Fires Act 1954 SOP 6 – Incident Control System SOP 7 - T Cards SOP 8 – Incident Communications SOP 35 – Operational Safety on Roadways SOP 51 – Bush Fire Smoke Exposure SOP 56 – Mop Up and Black Out at Bushfires SOP 61 – Wildfire Operational Management SOP 62 – Appliance and Crew Protection at Wildfires SOP 66 – Unexploded Ordnance SOP 67 – Use of Fire Suppressants (Class A Foam) or Wetting Agent at Incidents SOP 71 – Aerial Fire Suppression Participants Resource Bushfire 1_V1.3 Dec 09 Participants Resource Bushfire 3 DEC/DFES Aerial Suppression Operating Procedure 2009/10 Guidelines for Fire Management in UXO Zones as at 22/6/04 SAP 30 – Dieback Management *All listed SOP/SAP, now retired.*
1.1	Aug 11	Added Paragraph 85 – High Voltage Power Lines Changes to Paragraph 47 and 50 to reflect Bushfire Suppression, suppression techniques and defensive strategies.
1.2	Sep 12	Para 51. Aerial Suppression VHF channels amended to VHF High Band.
1.3	Nov 12	Organisational Changes and Updates
1.4	Jan13	Add Para 74. Maintain 25% water supply at bushfires
1.5	Feb 13	Para 43. Change SAP 3.5.C from State Alert to Emergency Alert Para 4. Appointment process for BFLO updated.
1.6	Dec 17	Removal of all references to SOP 3.5.2 as completely integrated into SOP 3.2.5.
2.0	Sept 18	Major review of document.
2.1	Sept 22	Section 11 and associated templates updated to reflect the launch of the Australia Fire Danger Rating System on the 1 Sept 2022

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Related Procedures

SOP 3.5.1 – Bushfire Response
SOP 3.5.2 – Diesel Particulate Diffusers Regeneration During Bushfire Firefighting
SOP 3.5.3 – Ground Control of Aerial Suppression Platforms
SOP 3.5.5 – Use of A Class Foam at Incidents
SOP 3.5.6 – Structural Triage
SOP 3.5.7 – Employment of Task Forces/Strike Teams at the RUI
SOP 3.5.8 – Immediate Street Assessment at the RUI
SOP 3.5.9 – Firefighting Within RUI Environments
SOP 3.5.10 – Crew Safety at Bushfires
SOP 3.5.11 – Entrapment and Burnover at Bushfire
SOP 3.5.12 – Identifying and Treating Hazardous Trees at Bushfires and Planned Burning Activities
SOP 3.5.13 – Operating Within Registered UXO Sites

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SOP 3.5.14 – Dieback Hygiene
SOP 3.5.16 – SES/VFES Support at Bushfires
SOP 3.5.17 – Prescribed Burning
SAP 3.5.A – Total Fire Bans
SAP 3.5.B – Managing Bushfire Risk on UCL/UMR

Government of Western Australia
Department of Fire & Emergency Services
Operations

DFES
Department of Fire &
Emergency Services

Directive 3.11
Air Operations

Introduction

DFES Operations utilises air assets to deliver aerial fire suppression, aerial intelligence surveillance and reconnaissance gathering, emergency rescue helicopter services and air transport capabilities. This directive aims to provide DFES personnel with a clear overview of the capabilities and decision-making processes to be used when employing aerial suppression platforms.

1. Legislative Framework

DFES utilises air assets to achieve its HMA and combat responsibilities in accordance with the *Emergency Management Act 2005*. Additionally, operating guidance is provided by the Heads of Agreement for Partnership and Joint Bushfire Management Service Delivery frameworks between the DBCA and DFES.

2. Capability

DFES air capability is as follows. Actual platforms available will vary annually. The Manager Air Operations is to ensure details of platforms available for the current season are updated annually to the SOC and MOC.

CAPABILITY	PLATFORMS AVAILABLE
Fire Suppression	Rotary Wing (RW) and Large Air Tanker (LAT) - Contracts are managed by DFES. Fixed Wing (FW) SEATS - Contracts are managed by DBCA.
Aerial Intelligence Surveillance and Reconnaissance (AISR)	RW platforms supplemented by POLAIR and ERHS for night operations if available. FW multi-spectral line scanning aircraft.
Transport	All transport is contracted through an approved contractors list.
Emergency Rescue	RW platform.

3. Key Positions/Roles

Air capability is delivered through the Aviation Services branch. Key positions within the Aviation Services directorate are as follows:

POSITION	CONDITIONS OF SERVICE
Superintendent Aviation Services	Full-Time Position
Manager Air Operations (MAO)	Full-Time Position
Air Operations Officer (AOO)	Full-Time Position
Duty Aviation Officer (DAO)	On-Call through State Duty Roster
Air Attack Supervisor (AAS)	Seasonal Shift Roster
Air Intelligence Operator (AIO)	Seasonal Shift Roster
State Operations Air Desk officers (ADO)	Seasonal shift Roster
Air/Heli Base Managers (ABM)	Volunteer/Call When Needed

The roles/responsibilities of key Air Operations positions are described at Annex A – Roles and Responsibilities of Key Positions.
Annex A – Roles and Responsibilities of Key Positions

4.   Planning

Review, planning and budgeting of general aviation services (rescue and transport) is the key ongoing function of the Superintendent Aviation Services. Post-fire season assessment and planning for the subsequent season is an annual cycle of review/ analysis/ modification to be undertaken by the Superintendent Aviation Services. All preparation for the bushfire season is to be in place by 31 October annually.

5.   Communications

The physical separation of the aerial delivery platform and ground-based customer requires radio communications. Radio communication channels and protocols have been standardised to ensure common understanding is maintained through the clear and reliable transfer of information. Communications channels and call protocols are as follows.

PLATFORM	ROLE	CALLSIGN	CHANNEL	PROTOCOLS
FW Fire Bomber	Suppression	Bomber (No.)	Refer to 1. WAERN Metro Communications Plan 2. Fire Bomber Operational Channels	To make 5min and 1 min inbound calls to GC
RW Helitak	Suppression	Helitak (No.)		
ERHS	Search and Rescue & Medical Evacuation (MEDEVAC)	Rescue 651, 652 & 653		As required via WAERN or multi-agency radios
RW/FW Air Attack Supervisor	Aerial Supervision	Air Attack (No.)		Initiate 5 min inbound call to GC
RW Aerial Intelligence Surveillance and Reconnaissance (AISR)	AISR	Air Intel		Air Intel is to make 5 min inbound call to fireground point of contact on ch 369
FW AISR	AISR	Firescan		As required
Ground Controller	Ground Control	(Incident Name) Ground Control		Must be vehicle mounted radio in order to trigger repeater Handheld radios NOT to be used

Aerial Fire Suppression

6.   General

DFES Operations utilises both FW and RW platforms to undertake suppression, intelligence gathering and coordination from the air. Initial actions commence with the IC decision to mobilise aerial suppression assets in accordance with the pre-determined response criteria. Further guidance for the employment of aerial suppression assets is provided in Operations Doctrine.
SOP 3.11.1 – Aerial Suppression Response

7.   Funding of Aerial Suppression Assets

DFES does not have full control over aerial assets as it neither owns nor provides full funding for the aerial fire-bombing capability. Critical to DFES Operations utilisation of aerial suppression assets are the state and federal funding systems which dictate the seasonal availability of assets and air hours.

Dispersal of federal funding is coordinated by the Australasian Fire and Emergency Service Authorities Council (AFAC) through the National Aerial Firefighting Centre (NAFC) on an annual basis. More detail on the role of the NAFC is available through the DFES Aviation Services intranet page or at the NAFC web site. Funding is also provided by the state government.
https://nafc.org.au/

The broad relationship between platform funding and platform operational management is as follows:

PLATFORM	FUNDING PROVIDED TO	MANAGED BY
Fixed Wing (FW)	DFES and DBCA	DBCA
Rotary Wing (RW)	DFES	DFES

8.   Inter-Agency Cooperation

As DFES and the Department of Biodiversity, Conservation and Attractions (DBCA) share joint management responsibilities for the state's aerial suppression assets under the Heads of Agreement, close liaison is to be maintained between the two agencies. During the bushfire season, the Duty Aviation Officer (DAO) is to maintain daily contact with the DBCA State Aviation Operations Officer (SAOO) in order to oversee the State Operations Air Desk (SOAD) which coordinates tasking and allocation of the state's RW and FW aerial suppression assets in the metropolitan area and South West of the state.

9.   Aerial Suppression Management Structure

The Air Operations management structure is enhanced with seasonal aircrew in order to support aerial fire suppression operations.

FULL-TIME STRUCTURE	ON-CALL STRUCTURE	ROLE
SUPERINTENDENT AVIATION SERVICES		Provide advice and support to SOC hierarchy.
MANAGER AIR OPERATIONS **AIR OPERATIONS OFFICER**	**Duty Aviation Officer (DAO)**	Provide on-site advice and support to IMT. Determines aerial resourcing within initial response zone.

The roles/responsibilities of on-call Air Operations positions are described at Annex B.
Annex B – Roles and Responsibilities of On Call Air Operations Positions

10.   Operating Parameters

General operating parameters for FW and RW assets involved in aerial suppression tasking are detailed in Operations Doctrine.
SOP 3.11.1 – Aerial Suppression Response

11.   Response Criteria

Prioritisation of effort for responding aerial suppression assets is to be guided by the DFES Operations Mission to:

> 'Train, respond to, and manage emergency incidents in order to save lives and protect property and environment.'

In particular, response is to be considered against the following criteria:

	CRITERIA	REMARKS
1	**Crews**	Fire crews are in imminent danger.
2	**Public Safety**	Public safety is at risk.
3	**Assets**	Assets are at imminent risk.
4	**Fire Behaviour**	There are known high fuel loads and there is a likelihood of an excessive rate of spread, or extreme fire behaviour.

12.   Initial Mobilising

The SOAD is the central mobilising authority of aerial suppression assets within the Primary Response Area (PRA). All tasking of aerial suppression assets is undertaken by the SOAD referencing the WA Aerial Fire Suppression Operating Procedures.

- **Incident within a Pre-Determined High Risk/High Value Aerial Suppression Response Zone**.

    A pre-determined response level is to occur for bushfires reported on the metropolitan portion of the Darling Scarp (annotated Zone 2/2A), Kings Park, Bold Park, Rottnest, Garden Island and other enhanced zones. This pre-determined response is based upon the immediate mobilisation of aerial suppression assets in support of ground assets. Pre-determined high risk/high value response zones are described at SOP 3.11.1 – Aerial Suppression Response.

- **Request from an IC/RDC.**
    All requests for aerial suppression support from IC/RDC are to be justified against the response criteria. Additional information to be supplied by IC/RDC requesting aerial suppression support is described at SOP 3.11.1 – Aerial Suppression Response.

The SOAD is to mobilise in accordance with the response criteria and the assessed threat to life, property, critical infrastructure and environment. Administrative procedures for the mobilisation of FW, RW and Aerial Intelligence Surveillance and Reconnaissance (AISR) assets are detailed in Operations Doctrine
SAP 3.11.A - Aerial Suppression Mobilisation

13.   The Role of the Ground Controller

IC's are to ensure a Ground Controller (GC) is appointed for every incident where aerial suppression assets are mobilised. The GC is to assist the IC to accurately task air assets in order to achieve the desired strategies and objectives.

The GC MUST maintain continuous liaison with IC/IMT and the Air Attack Supervisor (AAS) throughout the aerial operation to ensure safety and that any changes in aerial operations are conveyed to all appropriate positions. Procedures for ground controllers are described in Operations Doctrine
SOP 3.5.3 – Ground Control of Aerial Suppression Platforms

14.   Deployment Outside of Primary Response Area (PRA)

DFES aerial suppression and AISR resources can be deployed outside of the PRA upon the consultation and authorisation of the DAC and the DBCA SAOO. The decision to deploy a resource outside of the PRA is based upon the justification/need, the exposure/risk to the Perth metropolitan area and available ground support. A deployment decision matrix to aid the DAC in the event of a request for the deployment of aerial suppression resources outside of the PRA is detailed in Operations Doctrine.
SAP 3.11.A – Aerial Suppression Mobilisation

15.   Air Support Mobilising

The mobilisation of support to aerial suppression tasking is detailed at SAP 3.11.A - Aerial Suppression Mobilisation.

16.   Floating Collar Tank Operations

Floating collar tanks provide flexibility in the provision of remote static water supplies for the purpose of aerial suppression refilling. Procedures for the employment of floating collar tanks are detailed in Operations Doctrine.

SOP 3.11.5 – Floating Collar Tank Operations

17.   Operational Aircrew Selection – Annual

An aerial suppression operator (AAS, AIO) application and selection process is to be initiated by the Manager Air Operations to ensure that operator teams are selected and trained annually by 31 October. The minimum selection criteria for each operator position are detailed at Annex C. Additional criteria may vary from season to season in accordance with need.

Annex C – Aerial Suppression Operators – Selection and Training

18.   Operational Aircrew Training – Annual

The Manager Aviation Operations is responsible for the funding and tasking of the Air Operations Officers (AOO) to conduct training required for aerial suppression operators (AAS, AIO). The AOO is to also plan and conduct annual induction and currency training of all Aircrew selected during the annual selection process. Primary training points are as detailed at Annex C.

Aerial Intelligence Surveillance and Reconnaissance

19.   General

Aerial Intelligence Surveillance and Reconnaissance (AISR) assets are normally associated with the monitoring of bushfires, but the gathering of intelligence may be required to support response to other hazards or to support other DFES HMA responsibilities such as search and rescue, earthquake, or flood.

20.   Operating Parameters

AISR is to be made available for all major incidents within a 200 km radius of Perth Airport. Pre-arranged extensions to this operating area are to be assessed for risk of operational exposure by the DAO and SAOO prior to acceptance. Line Scanner aircraft is available for all types of State-wide incidents.

21.   Mobilisation Criteria – Bushfire

When requesting AISR support to bushfires, the IC must establish that one or more of the following criteria exist.

CRITERIA	REMARKS
Decision-Making	Sufficient information to support decision-making is not available through ground resources.
Risk/Threat	A fast-moving fire exists where life or assets are under threat.
Planning	Where mapping, infra-red imaging and video imaging will assist the planning and prediction functions.

Or

CRITERIA	REMARKS
Automatic Response	Any fire within a Zone 2 response or enhanced response areas, any confirmed 3rd alarm grass scrub or bush (GSB) fire within 120 km of Jandakot Airport.

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22.   Mobilisation Criteria – Line Scanner

When requesting AISR Line Scanner aircraft support to any State-wide incident, the IC must establish that one or more of the following criteria exist.

CRITERIA	REMARKS
Decision-Making	Sufficient information to support decision-making is not available through ground resources.
Risk/Threat	A fast-moving fire, flash flooding, inundation, land slide, or other incident exists where life or assets are under threat or a requirement for intelligence advance planning.
Planning	Where multi-spectral mapping will assist the planning and prediction functions.

23.   Operational Aircrew Selection and Training

The criteria and training regimes for Air Intel Aircrew is detailed at Annex C.
Annex C – Aerial Suppression Operators – Selection and Training

Emergency Rescue Helicopter Service (ERHS)

24.   General

The Emergency Rescue Helicopter Service (ERHS) is operated and managed by DFES on behalf of the WA Government. Tasking authority has been contracted to St John Ambulance (SJA) State Operations Centre (SOC) due to the synergies gained in aligning the air response and evacuation capability with SJA's existing road ambulance response expertise. The ERHS provides the most rapid deployment of the highest-level of pre-hospital medical aid to emergencies in the state. DFES Operations personnel will encounter it particularly when responding to medical emergencies or during ERHS mobilisation of helicopter Medical Evacuation (MEDEVAC) in support of incidents.

25.   Automatic Response

IC can mobilise the ERHS for air rescue, helicopter winch extrication, or medical emergency tasks through (000) or the DFES ComCen which will contact the tasking authority SJA SOC (call sign 6DS). The SJA SOC will dispatch and provide incident information to the ERHS crew in accordance with agreed medical protocols. Additional guidance for normal operations with the ERHS is detailed in Operations Doctrine.
SOP 3.11.2 – Emergency Rescue Helicopter Service Response

26.   Mobilisation

If within 200 kilometres of the Jandakot or Bunbury Rescue Helicopter Bases, it is highly recommended that IC's plan for and request MEDEVAC support in advance, so the DAO can coordinate with Manager ERHS to place the respective Rescue Helicopter base(s) on ALERT for the incident.

The procedures for the mobilisation and forward deployment of MEDEVAC assets for any incident may commence with either a request by an IC through the ComCen, or via WebEOC to the DAO. The request is then coordinated by the DAO with the Manager EHRS to determine the appropriate and available resource required to support the incident. This would include the requirement to plan and seek the necessary approvals for deploying assets to a forward operating base.

Additional guidance and recommended criteria for ERHS MEDEVAC response to support incidents is detailed in Operations Doctrine.
SOP 3.11.6 – Helicopter MEDEVAC Mobilisation

27. ERHS Landing

The ERHS will respond to a variety of incidents and locations, but unlike aerial suppression assets, it must land in order to carry out its role (with the exception of winching tasks). Landing and take-off for all aircraft are the most crucial periods during their operations, and ground operators must be aware of the preparation and assistance required to safely assist the ERHS land. Communications with the helicopter are to be limited to essential communications only. Guidance for landing and approaching RW aircraft is detailed in Operations Doctrine.
SOP 3.11.3 – Landing Rotary Wing Aircraft

Air Transport

28. General

DFES requires access to air service transport for the purposes of rapid deployment of staff and equipment in support of emergency incidents (e.g. cyclone, bushfires outside the metropolitan area, flooding, earthquake, land search). This is achieved using both contracted and regional operators.

DFES contracted aircraft that can quickly be configured for rapid deployment of DFES personnel and equipment are:

	Passengers	Internal Payload	Cruise speed	Endurance
Bell 214B (RW)	8	1760kg	120kts	2.5hrs
AS-Dauphin (RW)	8		140kts	3hrs

29. Procurement of Air Transport

Procedures for the authorised procurement of transport aircraft for incident support are described in Operations Doctrine.
SAP 3.11.B – Air Transport Procurement

Special Risks

30. General

Aircraft are most vulnerable during take-off and landing as separation from the ground is negotiated by the pilot. However, any mid-air event which results in loss of flight effect (forward movement or rotary hover effect) will most likely result in high level impact with the ground at which point DFES emergency responders will become involved. Witnesses in close proximity to rotary wing aircraft impacting the ground must be acutely aware of debris travelling at high speed horizontally from rotor components separating from the aircraft. The resultant damage will present responders with specific challenges and risks.

31. Aircraft Accidents

First arriving personnel at an aircraft accident will be required to minimise injury and loss of life, restrict property loss through damage and fire, and preserve evidence within a hazardous and unfamiliar environment. Under the *Transport Safety Investigation Act 2003* the Australian Transport Safety Bureau (ATSB) may issue a 'Protection Order'. Once issued, no-one can interfere with, or remove the aircraft or its wreckage unless directly authorised by the Chief Commissioner of Police or an authorised ATSB Transport Safety Investigator.

Care must be exercised by personnel attending the accident scene to ensure they are protected from aircraft payloads that may have included biological (medical samples), chemicals or explosives. Procedures describing how to safely respond to aircraft accidents are detailed in ATSB publication entitled 'Civil & Military Aircraft Accident Procedures for Police Officers & Emergency Personnel', readily available from the ATSB and detailed in Operations Doctrine.
SOP 3.11.4 – Aircraft Accident Response

Safety

32.   General

Operating on and around aircraft incorporates additional hazards above those encountered during normal emergency response environments. Crew members working in sand around unfamiliar aircraft are to be made aware of the following general hazards:

- **Fuel Loads.**   Some aviation fuels are more volatile than fuels used with ground-based machinery. Static electricity and ignition points including mobile telephones in close proximity have the potential to cause explosions.

- **Propellers and Rotors.** Spinning propellers and rotors are almost invisible to the naked eye and extremely dangerous if contacted. Crews must be briefed on where not to move around aircraft particularly around the tail rotor on helicopters.

- **Engine Exhaust Outlets.**   Fixed wing aircraft exhaust nozzles are emitting extremely hot gases. Care must be taken to avoid moving directly behind operating engines and no closer than 100 metres unless accompanied by an authorised person. Rotary wing aircraft engines operate at full power for take-off and landing. Care must be taken to ensure that no-one proceeds beyond the hinge of the rear doors on the side of the aircraft fuselage.

- **Downdraft.**   Downdraft from rotary wing aircraft can cause objects and debris to become projectiles with the potential to harm. Damage from Foreign Objects and Debris (FOD) impacting the rotors can be potentially fatal for the aircraft crew. Debris includes loose rocks, plastic bags and drink containers. Landing sites are to be therefore cleared of all debris and superfluous personnel during landing and take-off. Individuals involved in guiding landing helicopters are to wear secure high visibility clothing and eye protection. Headwear should not be worn unless it can be secured

- **Noise.** Aircraft turbines create loud, high pitched engine noise. Acute and/or prolonged exposure to aircraft turbine noise is damaging to hearing and protection is to be provided.

33.   Aviation Services Alcohol and other Drug Testing Requirements

DFES contracted air service providers and DFES staff acting in air crew roles are classified as Aviation Safety Sensitive Personnel (ASSP) and therefore are required to comply with Civil Aviation Safety Authority (CASA) Drug and Alcohol Management Policy (DAMP).

The CASA DAMP outlines a mandatory testing regime for alcohol and other drugs for all personnel involved in the performance of safety-sensitive activities in the aviation industry. Further detail is described at the DFES Alcohol and Other Drugs Management Policy.

34.   CASA Mandated Fatigue Management Processes – Licensed Aircrew

The use of civil aviation resources by DFES Operations for fire and emergency response actions is to adhere to CASA direction regarding the management of crew fatigue[1]. Planning for the continual use of airframes over extended time must assess the need for crew rest and rotation to maintain capability. Further detail is available through contact with the Superintendent Aviation Services or by sourcing the following CASA controlled documents at www.casa.gov.au:

- Civil Aviation Orders Part 48.0 - Flight Time Limitations – General
- Civil Aviation Orders Part 48.1 - Flight Time Limitations – Pilots
- Mathematical Fatigue Modelling in Civil Aviation Fatigue Risk Management (CASA)

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[1] The definition of aircrew applies only to persons licensed by CASA under the Civil Aviation Act 1988.

Directive 3.11	Roles and Responsibilities of Key Air Operations Positions	ANNEX A

The roles and responsibilities of key Air Operations positions are as follow.

POSITION	CONDITIONS	ROLE/RESPONSIBILITIES

Superintendent Aviation Services	Fulltime	**Role: Maintenance of the DFES aerial capability (platform and personnel) to achieve DFES, state and national outcomes.**
		
		Responsibilities:
		• **Branch Management.**
		  – Development and implementation of branch policy, strategy and procedures
		  – Evaluation of branch policy, strategy and procedures
		  – Development and maintenance of contracts and service agreements
		  – Monitoring and management of aviation safety compliance and aviation systems safety protocols.
		• **Personnel.**
		  – Leadership and effective management of branch personnel
		• **Representation.**
		  – Provides aviation advice to AC Operations Capability and DC's
		  – Represents Aviation Services in structuring and implementing strategic direction within the Operations Capability Portfolio
		  – Represents Aviation Services at the State Operations Centre as required

Manager Air Operations	Fulltime 320/8	**Role: Management of the DFES aerial capability (platform and personnel).**
		
		Responsibilities:
		• **Branch Management.**
		  – Negotiation and management of DFES State aviation RW and FW contracts
		  – Management of DFES State aerial operations logistical considerations
		  – Liaison with DFES DO's & regional staff enquiries
		  – Management of the DFES State Aerial Operations Database
		  – Preparation of branch reports
		  – Evaluation and research to enable continuous improvement of DFES State aerial capability
		• **Operations.**
		  – Carry out the functions as described in the joint DFES/DBCA Aerial Suppression Operating Procedure Manual
		• **Personnel.**

ATTACHMENT 14.2.2

POSITION	CONDITIONS	ROLE/RESPONSIBILITIES

		– Goal-setting for branch personnel
		• **Training**.
		   – Management of aerial fire suppression and observation training regimes
		• **Representation.**
		   – Provision of DFES point of contact with DBCA Aviation for fixed wing aerial operations
		   – Contribute to national aerial fire-fighting knowledge:
		      • AFAC aerial fire-fighting operations Training Resource Kit (TRK) development
		      • National aerial fire-fighting contractual and technical committees/groups

Air Operations Officer	Fulltime 320/8	**Role: Deputises to Manager Air Operations and is rostered as Duty Aviation Officer (DAO) in support of IMT in the capacity of the Aircraft Officer during the bush fire season.** **Responsibilities:** • Deputised to all Manager Air Ops and responsibilities during the bush fire season. • Establishment of all crew rosters • Manage rosters daily • Manage crew welfare • Arrangement of pre-season exercises and briefings • Training. • Delivery of aerial fire suppression and observation training regimes • Coordination of pre-season staff employment proficiencies. • In accordance with DAO responsibilities at Annex B

Air Attack Supervisor (AAS)	Seasonal Roster	**Role: Coordination of aerial suppression tasks at incidents**
		
		Responsibilities:
		• **Briefing.**
		   – Obtain briefing from authorizing officer
		   – Conduct daily briefing to all aviation personnel
		• **Tasking.**
		   – Tasking of airborne aerial suppression platforms in order to achieve IC objectives
		   – Liaison with IC/GC to coordinate aerial suppression platform relief and re-tasking
		• **Communications.**
		   – Establishment and maintenance of communications between all aerial suppression platforms at an incident
		   – Establishment and maintenance of communications with GC

POSITION	CONDITIONS	ROLE/RESPONSIBILITIES

		• **Observation.**
		  – Observation and communication of ground hazards and fire behaviour
		• **Safety.**
		  – Maintenance of safe working conditions & protocols for aerial platforms at an incident.

Air Intelligence Officer (AIO)	Seasonal Roster	**Role: Observation, recording and reporting of incident intelligence and risks at incidents**
		
		Responsibilities:
		• **Briefing.**
		  – Obtain briefing from Authorising Officer
		• **Observation.**
		  – Observation and communication of fire behaviour
		  – Observation and communication of ground hazards
		  – Plotting of fire shape
		  – Incident intelligence for any of DFES' HMA responsibilities
		• **Communications.**
		  – Establishment and maintenance of communications between all aerial suppression platforms at an incident
		  – Establishment and maintenance of communications with IMT

Air Desk Officer	Seasonal Roster	**Role:** Manages and coordinate the dispatch of State aerial suppression aircraft within the agreed primary response areas. **Responsibilities:** • Maintain a log of activities • Keep DAO /SAOO briefed on operations and escalating incidents • Monitor number of drops where possible and inform DAO /SAOO for potential sustained operations • Monitor logistical support for state fire-bombing operations • Redirect aircraft as required • Notify DAO /SAOO for repositioning of resources • Provide support to Aircraft Officers if established at an IMT • Monitors aircraft movements and maintains operational awareness during suppression aircraft deployments. • Receive and record flight following details, ensure SARTime or FullSAR procedures are followed. If necessary implement the Aircraft Emergency Action Plan commencing at the uncertainty phase through to the distress phase.

ATTACHMENT 14.2.2

Directive 3.11	Roles and Responsibilities of On-Call Air Operations Positions	ANNEX B

POSITION	CONDITIONS	ROLE/RESPONSIBILITIES

Duty Aviation Officer (DAO)	State On call Roster	**Role: Provide advice and support to SOC hierarchy**
		
		Responsibilities:
		• **SOC/State Operations Air Desk**
		  – Task prioritisation
		  – Advise DAC on release of metropolitan based fire suppression airframes outside of normal operating radii, based on deployment decision matrix
		  – Coordination and procurement of fit for purpose air services for the air deployment of:
		    • Taskforces, strike teams and pre-formed IMT
		    • Equipment considered dangerous goods
		  – Resourcing of Remote Deployments
		    • Landing sites
		    • Refuelling facilities
		    • Accommodation and rationing
		    • On site management
		  – Source CWN and other aerial resources as required
		  – Allocation of DAO to IMT
		  – Liaison
		    • NAFC
		    • National aviation support
		    • State aviation contractor
		    • DFES Media & Public Affairs (provide informed response to enquiries)
		    • On-site DAO
		  – Response to Ministerial enquiries
		  – Maintain log of events

Air/Heli Base Managers	Volunteer/Support Agency DBCA	**Role: Coordinate resources and maintain safety in support of remote aerial suppression deployments**
		
		Responsibilities:
		• **Air Base Establishment**
		  – Coordinate layout
		  – Direct operations

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POSITION	CONDITIONS	ROLE/RESPONSIBILITIES
		– Supervise activities and personnel – Water point security – Source or maintain resources as directed by the DAO, MAO or in support of incident • **Security** – Secure platforms and personnel – Locally secure resources • **Safety** – Ensure safety standards are established and complied with by all persons present at the temporary landing ground – Ensure demarcation of landing zones and separation of personnel and airframes • **Communications** – Establish reliable communications with tasking authority: DAO, MAO or in support of incident – Coordinate pilot information services • **Administration** – Maintain consumption and expenditure records for reconciliation at the completion of the deployment

ATTACHMENT 14.2.2

Directive 3.11	Air Suppression Operators – Selection and Training	ANNEX C

Aerial suppression operators are selected annually to deliver specific capability within the DFES operations portfolio. The entry level of all aerial suppression operators is to be *Air Observer*. The selection criteria and training requirements all aerial suppression positions are detailed as follows.

POSITION	SELECTION CRITERIA	TRAINING

Air Observer	• **Experience**
	  – Minimum level Senior Fire Fighter (or equivalent)
	  – Demonstrated fire line experience
	• **Qualifications.** Possess:
	  – Introduction to AIIMS (or equivalent)
	• **Skills/Attributes.** Demonstrate:
	  – Ability to record data and produce reports using computer
	  – Map reading and navigation
	  – Function harmoniously within small teams
	• **Commitment/Application.** Be prepared to:
	  – Undertake training on specialist airborne and ground based equipment systems
	  – Negate accrued leave entitlements immediately on completion or prior to commencing duties
	  – Study to gain National competencies aligning to the Aviation Training and Certification Program.
	  – Comply with Civil Aviation Safety Regulations Part 99 Drug and Alcohol management plans and testing.
	  – Undertake regional deployments which may entail overnight absences
		• **Induction**
		  – Flight protocols and safety
		  – Map Reading
		  – Navigation from the Air
		  – Communications
		  – National competencies which align to the Aviation Training and Certification Program.
		• **Annual**
		  – Induction Skills Refresher

Air Attack Supervisor (AAS)	• **Experience**
	  – Qualified DFES Air Observer
	• **Qualifications.** Possess:
	  – Current AAS endorsement (or prepared to study to attain)
		• **Induction (5 days)**
		  – Flight protocols and safety
		  – Map Reading
		  – Navigation from the Air
		  – Communications
		  – HUET

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POSITION	SELECTION CRITERIA	TRAINING
	– Current HUET endorsement and or prepared to renew endorsement and undertake associated medical examination. • **Skills/Attributes.** Demonstrate: – Map reading and navigation – Proven team player with the ability to operate in a multi-agency environment – Ability to record data and produce reports using computer – Ability to conduct training, analysis and reporting on operational needs • **Commitment/Application.** Be prepared to: – Attend pre-season AAS currency annual training program – Undertake training on specialist airborne and ground based equipment systems – Undertake HUET and associated medical examination – Negate accrued leave entitlements immediately on completion or prior commencing duties – Study to gain National competencies aligning to the Aviation Training and Certification Program. – Comply with Civil Aviation Safety Regulations Part 99 Drug and Alcohol management plans and testing. – Undertake regional deployments which may entail overnight absences	– National competencies which align to the Aviation Training and Certification Program. – Practical exercise conducted by a DBCA/DFES Senior Assessor: – Calling in RW and FW water drops **Note.** Trainees completing initial induction will still be required to be assessed over a number of active incidents until deemed competent in the AAS operational role • **Annual (4 days)** – AAS Skills Refresher – Practical exercise conducted by a DBCA/DFES Senior Assessor: – Calling in RW and FW water drops – HUET (if due) – ASIC security card renewals

Air Intelligence Operator (AIO)	• **Experience**
	– Qualified DFES Air Observer
	• **Qualifications.** Possess:
	– Current Air Intelligence Equipment endorsement (or prepared to study to attain)
	• **Skills/Attributes.** Demonstrate:
	– Map reading and navigation
	– Ability to enter data into air ops database using computer
		• **Induction**
		– Flight protocols and safety
		– Map Reading
		– Navigation from the Air
		– Communications
		– HUET
		– Equipment/Skills Training:
		  • FLIR
		  • CCD camera

ATTACHMENT 14.2.2

POSITION	SELECTION CRITERIA	TRAINING
	- Ability to conduct training, analysis and reporting on operational needs - Proven team player with the ability to operate in a multi-agency environment - Good interpersonal and communication skills **• Commitment/Application.** Be prepared to: - Undertake training on specialist airborne and ground based equipment systems - Undertake HUET and associated medical examination - Negate accrued leave entitlements immediately on completion or prior commencing duties - Study to gain National competencies aligning to the Aviation Training and Certification Program. - Comply with Civil Aviation Safety Regulations Part 99 Drug and Alcohol management plans and testing. - Undertake regional deployments which may entail overnight absences	- Mapping system, - transmissions of vision (Microwave) - Tracking system - Capture and transmission of mapping shape files (satellite short burst data) **• Annual** - Induction Skills Refresher - HUET (if due) - ASIC security card renewals - Mapping update - PPC Renewal

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jul 11	New Directive created. **Source Documents:** • EM Act 2005 • Civil Aviation Safety Authority Standing Orders • SOP 29 – Aircraft Incidents • SOP 65 – Procedures for DFES Personnel Working with the Emergency Rescue Helicopter Service (ERHS) • SOP 69 – Aircraft Procurement for Incident Support • SOP 71 – Aerial Fire Suppression • Aviation Service internal documentation • National Aerial Firefighting Centre website *All listed SOP/SAP, now retired.*
1.1	Mar 12	Edited Hyperlinks and document history
2.0	May 12	Updated terminology and communication channels
2.1	Oct 13	Updated terminology
2.2	May 16	Updated terminology
2.3	October 2020	Reviewed by Aviation Services, terminology updated throughout. Inclusion of contracted air transport specifications. Inclusion of Aerial Intelligence, Surveillance and Reconnaissance (AISR) information, response and mobilising procedures. Inclusion of Emergency Rescue Helicopter Service (ERHS) mobilising procedures.
2.4	July 2022	Review and update
2.5	Jan 2023	Add referencing to WA AFSOP. ROC updated to RDC

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Application
This Directive is applicable to all DFES personnel and volunteers.

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Document Owner
AC Operations Capability

Related Procedures
SOP 3.11.1 – Aerial Suppression Response
SOP 3.11.2 – Emergency Rescue Helicopter Service Response
SOP 3.11.3 – Landing Rotary Wing Aircraft
SOP 3.11.4 – Aircraft Accident Response
SOP 3.11.5 – Floating Collar Tank Operations
SOP 3.11.6 – Helicopter MEDEVAC Mobilisation
SAP 3.11.A - Aerial Suppression Mobilisation
SAP 3.11.B - Air Transport Procurement
SAP 3.11.C – Air Operations Volunteer Expense Claims
SAP 3.11.D – Aviation Media Approval

Government of Western Australia
Department of Fire & Emergency Services
Operations

DFES
Department of Fire &
Emergency Services

Standard Administrative Procedure 3.1.B
Basis of Allocation Operational Radios

Introduction

The purpose of this procedure is to define the allocation of radios for all DFES operational areas.

1.   Radio Frequency Types
There are a range of radio frequencies used within DFES to support capabilities on an all hazards basis. The various types of radio frequencies covered by this procedure are detailed as follows:

- High Frequency
- Very High Frequency
- Ultra High Frequency

2.   Radio Types
DFES utilises a range of radio types. The type of radio allocated in the DFES Basis of Allocation (BoA) aligns the radio's capabilities with the specific operational role. The various types of radios that are covered by this procedure are detailed as follows:

- Base Station Radio
- Mobile Radio
- Hand Held Radio

Type	Definition	Type	Definition
A	Dual-band VHF High Band/UHF Base Station Radio	J	High Frequency Base Radio – land-based configuration
B	VHF High Band Base Station Radio (may be in portable configuration)	K	High Frequency Mobile Radio – land-based configuration
C	Dual Band VHF High Band and UHF Mobile Radio	L	Marine VHF Radio
D	Dual Band VHF High Band and VHF Mid Band Mobile Radio	M	Marine 27MHz Radio
E	Single Band VHF Mid Band or High Band Mobile Radio	N	High/Medium Frequency Base Radio – marine configuration
F	VHF High Band Hand Held Radio	O	VHF Marine Hand Held Radio
G	UHF Hand Held Radio	P	Airband Hand Held Radio
H	Multi-band Hand Held Radio – UHF & High Band VHF		

3.   Principles
The principles used to develop the radio allocations as defined in the BoA are as follows:
- The specific operational requirements undertaken by the various services within DFES areas of operation.
- The communication capability requirement and operational capability established.
- This BOA is not to be applied retrospectively.

4.   Allocation Criteria

Radio allocation criteria are as follows:

- All radios installed/issued under the BoA are to be available for operation 24/7, 365 days per year.
- Base, mobile and hand-held radios are allocated for the purposes of DFES approved Incident Control Centres, units/bases/stations, appliances/vehicles/vessels, and critical Local Government office bearers only.

Annex A – Basis of Allocation – DFES Radios

5.   Funding

Approved radio allocations are to be funded as applicable through:

- DFES
- Marine Rescue WA Capital Grant Scheme
- The Third-Party Agreement holders
- Contracted service providers for:
  - Aviation services
  - Earth moving and plant services, and
  - Other logistics services

Note: All Marine Rescue WA rescue vessels are governed by the Australian Maritime Safety Authority (AMSA) and deemed Domestic Commercial Vessels and therefore must comply with the National Standards for Commercial Vessels. A vessel's particular survey class determines the minimum requirements for radio or communication equipment that must be on-board to be compliant.

6.   Safety - Breathing Apparatus

Two UHF hand-held radios are required for internal firefighting and breathing apparatus operations due to the frequency characteristics of the allocated radios which enable internal to external communications. A minimum of two UHF hand-held radios will enable communications between the BA team and the Entry Control Officer.

7.   Third Party Agreements

DFES's licencing agreement with the Australian Communication and Media Authority (ACMA) allows Third Party Access to be granted where channels are used to assist DFES in conducting emergency operations.

The ACMA has approved DFES authorising access to third parties including Local Government, industry and private contractors. The procedure is outlined in Annex B.

Annex B – Third Party Agreement (TPA)

ATTACHMENT 14.2.2

ANNEX A – Basis of Allocation – DFES Radios

SERVICE	RADIO ALLOCATION								
	BASE STATION RADIO(S)			MOBILE RADIO(S)			HAND HELD RADIO(S)		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
Bush Fire Brigade / Local Government	Approved Local Government Office[1]	A	1	CESM/CBFCO Vehicle	C	1	CESM	F	1
					E[2]	1			
	Brigade/Station	A	1	1 x DCBFCO Vehicle (DFES approved)	C	1	CBFCO	F	1
					E[2]	1			
	Approved Local Government ICC	A	2	BFS FCO *or* Captain Vehicle (max 2 per unit)	C	1	DCBFCO *or* Captain	F	1
				BFS Appliances	C	1	BFS Appliances	F	2
					E[2]	1			
				Approved Support Vehicle[3]	C	1	Approved Support Vehicle	F	2
					E[2]	1			
				Private Vehicles, LG Plant/Machinery[4]			FES funded BA Operations	G	2

SERVICE	RADIO ALLOCATION								
	BASE STATION RADIO(S)			MOBILE RADIO(S)			HAND HELD RADIO(S)		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
Volunteer Fire and Rescue Service	Brigade/Station	B	1	VFRS Appliance Country	C	1	VFRS Appliance. BA Operations	G	2
					D/E[5]	1			
				VFRS Appliance Metropolitan	C	1	VFRS Appliance (grouped Light Tankers share hand held allocation)	G	2
					E	1		F	2
				Support Appliance Country	C	1			

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SERVICE	RADIO ALLOCATION								
	BASE STATION RADIO(S)			**MOBILE RADIO(S)**			**HAND HELD RADIO(S)**		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
State Emergency Service and Volunteer Fire and Emergency Service	SES (HF with DFES approval)	A	1	Vehicle	C	1	**METRO**		
		J	1		K	1	SES Primary Vehicles	F	2
	VFES Station	A	1	DFES Approved Support Vehicle[3]	C	1		G	1
							Unit reallocation as required (Spares)	F	2
							SES Unit Manager	F	1
							SES Flood Boat	F	2
							Vertical Rescue	G	8
							All-Terrain Unit	F	1
							Search Team Operations	G	3
							COUNTRY		
							SES Primary Vehicles	F	1
								G	2
							Unit reallocation as required (Spares)	G	3
							SES Unit Manager	F	1
								G	1
							SES Flood Boat	F	1
								G	2
							Vertical Rescue	G	5
							SES Search Team	G	3
							All-Terrain Unit	F	1
								G	1
							VFES		
							VFES BA Operations	G	2

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SERVICE	RADIO ALLOCATION							
	BASE STATION RADIO(S)			MOBILE RADIO(S)			HAND HELD RADIO(S)		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
Career Fire and Rescue Service				CFRS Appliance Country	C	1	CFRS Appliance	H	Note 6
					D/E[5]	1			
				CFRS Appliance Metropolitan	C	1	CFRS Appliance	H	Note 7
					E	1			
				CFRS ICV	C	2	For changeover to Standby Appliance	H	4
					E	2			
				Specialised Equipment Tender	C	2	North and South	H	4
					E	2			
				Support Appliance (includes Additional LTs)	C	1	Support Appliance (includes Additional LTs)	H	Note 7

SERVICE	RADIO ALLOCATION							
	BASE STATION RADIO(S)			MOBILE RADIO(S)			HAND HELD RADIO(S)		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
Volunteer Marine Rescue	Base	L	1	Vessel	L	1	Vessel: VHF Marine Radio as DFES Approved	O	1
		M	1		M	1			
		N[7]	1		N[7]	1	Rescue Jet Ski	O	1
		C	1		C[8]	1			

ATTACHMENT 14.2.2

SERVICE	RADIO ALLOCATION								
	BASE STATION RADIO(S)			MOBILE RADIO(S)			HAND HELD RADIO(S)		
	LOCATION	TYPE	No.	POSITION / LOCATION	TYPE	No.	LOCATION	TYPE	No.
DFES	Regional Office Country	A	1	Urban, Rural and Natural Hazard Managers Vehicle (DO/ AO/Supt) HF (K – DFES Approved)	C	1	Urban, Rural and Natural Hazard Managers (DFES Approved)	F	1
		J	1		E^9	1		G	1
					K	1			
	Regional Office Metro	A	1	Urban, Rural and Natural Hazard Managers Vehicle (District Officer/Supt)	C	1	Urban, Rural and Natural Hazard Managers (DFES Approved)	F	1
					E^9	1		G	1
	USAR	A	2	USAR Recon Vehicle	C	1	Recon Vehicle	H	2
		B	2		K	1	Unit Allocation	H	23 [10]
		J	2						
DFES and P&WS	State Operations Air Desk	B	2	Aircraft, Aircraft Support Vehicles[4]					
Specialist Appliances (DFES/LG)				Incident Control Vehicle (Plus additional Mid Band in Metro*) HF where DFES Approved	C	2	Incident Control Vehicle	F	4
					E	2			
					K^{11}	1			

[1]And Mid Band Base Station Radio where currently applicable

[2] Mid or High Band as determined by location

[3] Approved Support Vehicle refers to an Operational or Non-Operational, station-based vehicle that is not privately owned.

[4] Third Party Agreement required. (Annex B)

[5] Either D or E (VHF Hi Band) determined by operational requirements

[6] One Multi-Band Hand Held per functional crew position.

[7] HF if no satellite phone supplied

[8] Primary vessels only

[9] Mid Band if required

[10] Based upon current team deployment structures

[11] Regional ICV only

ANNEX B – Third Party Agreement (TPA)

1.   **General.**   A third party refers to an organisation or individual requesting access to DFES licensed frequencies for vehicles outside of this Basis of Allocation.

Pursuant to section 114 of the Radiocommunications Act 1992, the FES Commissioner or delegated position (Supt. Operational Communications) can authorise third party access to operate DFES licensed frequencies. This is facilitated by entering a Third Party Authorisation Agreement. DFES's licensing agreement with the Australian Communication and Media Authority (ACMA) allows Third Party Access (TPA) to be granted where channels are used to assist DFES in conducting emergency operations. Requests for Third Party Access can be initiated through the regions. This Annex outlines the procedure for regional staff to follow up on receipt of these requests.

2.   **Considerations**   When private vehicles only have a tactical capability, UHF CB should be considered initially. UHF CB channels are programmed on DFES radios and are identified as sector channels on many Regional Communication Plans. Where there may be a requirement for VHF hi band command repeater channels, a TPA would be required.

3.   **Application**   Any requests for access to DFES licensed frequencies from a third party will require justification based on operational requirements. Requests need to be made in writing to the District Officer Operational Communications endorsed by a regional Superintendent. Support Information will provide the basis for operational approval, and should include:
- Channels requested
- Justification for channels requested
- Type of Vehicle and License Plate
- Roles vehicle will conduct
- Justification on how vehicle will assist DFES in response to an emergency
- Relevant skills and qualifications held by the operator.

4.   **Approval**   If approved, documentation outlining conditions and requirements will be forwarded to the requestee for signatures, then submitted to Supt. Operational Communications for final approval. Once approved the TPA will permit a licensed installer to place the agreed frequencies into a radio provided and maintained by the applicant.

5.   **Administration**   Regions will be required to maintain a register of TPA's. In consultation with third parties, annual reviews need to be conducted. It is the region's responsibility to ensure:
- DFES frequencies are being used in adherence to the guidelines in the TPA;
- Access to DFES frequencies is still required; and
- DFES frequencies have been removed from vehicles that have been decommissioned or removed from third party vehicles that are no longer being actively utilised in emergency response and management.
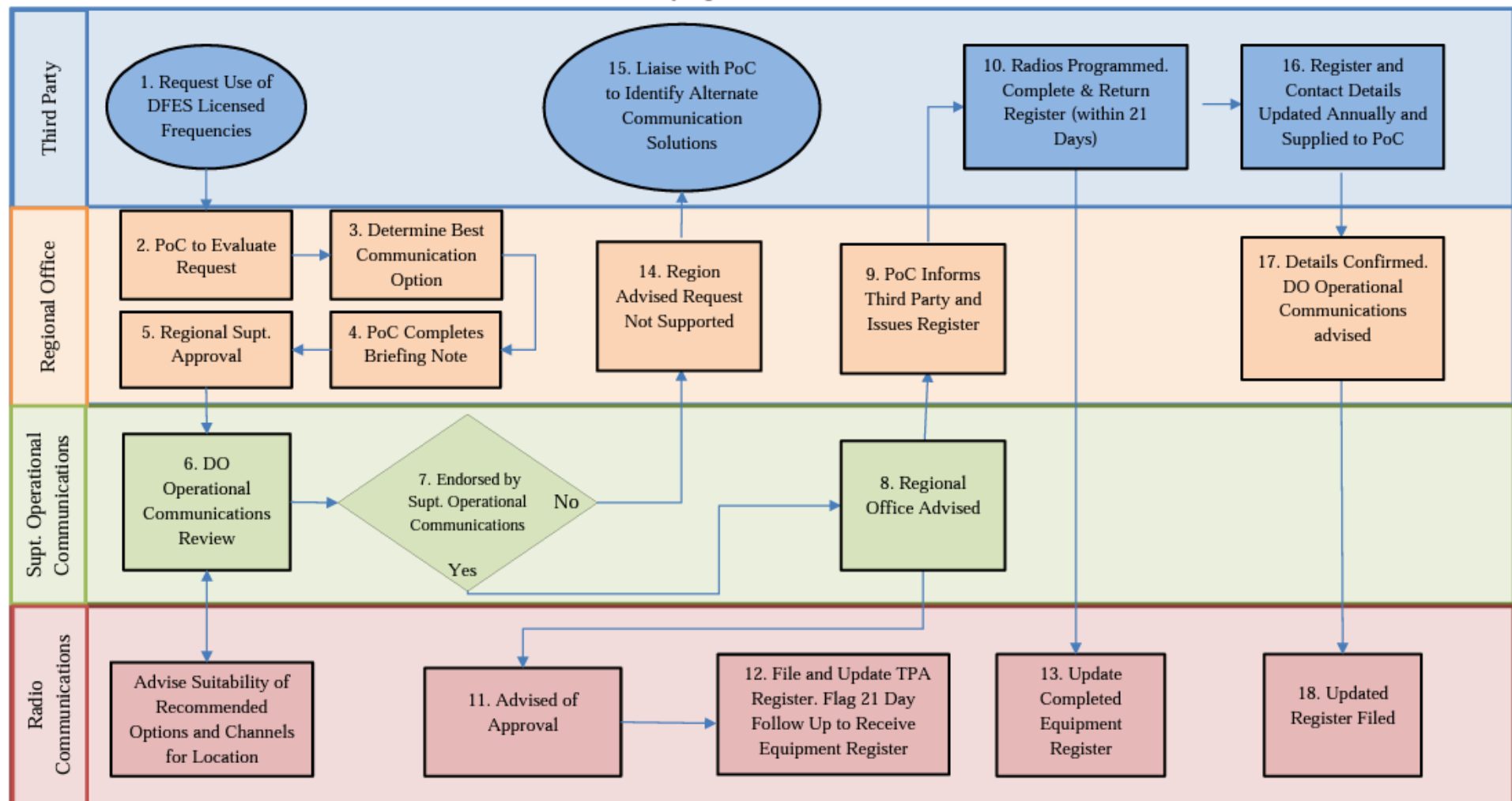
This register should be submitted annually to DO Operational Communications as follows;
- Goldfields/Midlands, Midwest Gascoyne, Pilbara and Kimberley – 30th April
- Upper Great Southern, Great Southern, Lower South West, South West, Metro, South Coastal – 30th October

Further information can be obtained from District Officer Operational Communications.

Third Party Agreement Flow Chart

ATTACHMENT 14.2.2

Third Party Agreement Flow Chart Details

1.   Company or Private BGU identify a requirement to communicate with DFES for emergency response liaises with the local District/Area Officer for advice. As the request progresses this Officer becomes Point of Contact (PoC).

2.   Regional Office evaluate the request based on operational requirements.

3.   Regional Office to determine the appropriate communications requirements against operational requirements and will assess risks. Consider all options, not everyone will need access to DFES channels in all instances. A hierarchy of options to be considered is listed below.
Options:
   a.   UHF CB radio
   b.   Mobile phone
   c.   Simplex WAERN (359 – 369) or Mid Band (46 – 49, 96 – 99) only for Tactical Communications
   d.   Selected WAERN and Mid Band repeaters (local repeaters only) including Simplex WAERN (359 – 369) and Mid Band (46 – 49, 96 – 99)
   e.   Most of WAERN and Mid Band channels minus 6AR & 6IP channels, including Simplex WAERN (359 – 369) and Mid Band (46 – 49, 96 – 99).
   f.   Full suite of DFES channels

Note: DFES cannot approve access to any other agency's frequencies or marine VHF frequencies. E.g. DBCA, WA Police ESC & D, Marine VHF, SJA etc.

4.   PoC recommends authorisation via Briefing Note: Briefing note to include;
   •   Background
   •   Reason
   •   Risk assessment
   •   Recommended option
   •   Communications plan to support the tier of channel options

5.   Regional Superintendent supports the request and forwards to District Officer, Operational Communications for evaluation and progression.

6.   District Officer, Operational Communications assess the request and liaises with the District and Radio communications to assess the suitability of the request, appropriateness of the channels and reviews the risk for DFES. This is then forwarded to Supt. Operational Communications for consideration.

7.   Supt. Operational Communications approval:
   Yes (Go to 8.)
   No > formally advise Region request has not been approved. (Go to 14)

8.   District advised of approval, and Radio Communications sent TPA for filing.

9.   District informs the Company or Private BGU of the approved channels and issues them the register. Company or Private BGU has their radio programmed as per the conditions of the Third-Party Agreement, completes the register and forwards to DFES Radio Communications within 21 days.

10.   (From 8) Radio Communications receives advice from Supt. Operational Communications of the approved agreement.

11.   Radio Communications to file and update Third Party Agreement register and flags the expected receipt of the equipment register within 21 days.

12.   Radio Communications updates TPA with completed Equipment Register.

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13.   (From 7) Supt. Operational Communications advises the District on why the request is not approved.

14.   The PoC liaises with the Company/Private BGU and advise the request is not support and works through identifying alternative methods to communication (Mobile phone, UHF CB radio).

15.   On an annual basis (date as stipulated within the TPA) the Company/Private BGU updates the register and company representative details to maintain record currency. Reviewed details are supplied to PoC for confirmation.

16.   PoC forwards updated register to DO Operational Communications for information and to Radio Communications for filing.

17.   Updated register filed by Radio Communications.

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Feb 2012	New SAP created. New sections created (all): • Basis of allocation of DFES operational radios **Source Documents:** • New Doc ***All listed SOP/SAP now retired***
1.1	Feb 2014	SME review. Inclusion of Safety paragraph.
1.2	Mar 2020	Full review of BoA for all services and all radio types. Updated to include Complex Structural Firefighting Radios.
1.3	Mar 2020	Third-Party Agreement flowchart and details updated to reflect the delegation of authority from the Commissioner.
1.4	August 2020	TPA section updated to reflect all DFES licensed frequencies. Minor corrections throughout.
1.5	September 2021	Statement of Fact change – Delegated authority by FES Commissioner to Superintendent Operational Communications for the purpose of authorising a third party to operate radio communications devices on behalf of DFES as the licensee.
1.6	June 2022	Clarify allocation of radios and remove clause 7 Additional Radio Allocation

Government of Western Australia
Department of Fire & Emergency Services

DFES
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Emergency Services

Standard Administrative Procedure 3.1.D
Telephone Warning System

Definitions

Emergency.   An event, actual or imminent, which endangers or threatens to endanger life, property or the environment, and which requires a significant and coordinated response.

Shelter in Place.   The advice to a community to remain in their location due to the threat. This may be an open space, building, indoors or other suitable place of shelter, usually with additional advice from emergency services as to how to take actions to reduce their exposure to the hazard.

Population at Risk.   A well-defined population whose lives, property, and livelihoods are threatened by given hazards within a defined area. People under stress may struggle to receive and process information and act accordingly.

Introduction

Emergency Alert, known in DFES as the Telephone Warning System (TWS) is a is an application that uses all the Australian telephone networks to send alert messages out to communities during emergencies. The TWS provides warnings to fixed line phones (based on service address) and mobile phones (based on billing address and location based) in a defined geographical area. There is a limitation of 612 characters per text messages; limited number of up to eight campaigns nationally at any one time; a processing efficiency of 500 messages/sec; and reliance on telecommunications infrastructure which can often be impacted or have reduced capacity during an emergency.

It should be remembered that the TWS is only one of the methods DFES uses to alert and inform the community during emergencies. The TWS complements the tiered warnings issued on the Emergency WA website. A TWS should not be issued without a warning being published on Emergency WA prior, unless there are extenuating circumstances requiring the immediate issue of a TWS.

This procedure establishes the guidelines and processes for activation of a community warning utilising the TWS. Further information on Information and Warnings is provided on the DFES Intranet and in Doctrine.
SAP 3.2.B – Information and Warnings

1.   Application
Due to its capacity to target specific groups within the community, the TWS is an important and critical community warning tool which allows the Incident Controller to "push" information to the community.

DFES operates the system to warn and advise communities in imminent danger during an emergency and in bushfire scenarios will be used:

- When the first Emergency Warning is issued.
- When an Emergency Warning area increases in size.
- When the severity of threat changes (from "safe to leave" to "too late to leave").

A TWS may also be used in the following situations:
- At Watch and Act to support impacted communities to make life-saving decisions.
- In circumstances where the Incident Controller deems it necessary.

2. Consistency of Information

Important: Instructions contained in the TWS message must not conflict with instructions in the Emergency Warning e.g., Safe to leave/Too late to leave, direction of travel, etc.

ICs must consider this before requesting the TWS.

3. Key Administrative Appointments

Key DFES Operations appointments in the TWS message release process are as follow.

APPOINTMENT	ROLE
Incident Controller (IC)	IC (or IC delegate) requests the activation of the TWS in support of incidents and emergencies. IC is to provide details required for the message to the District Officer State Situation (DOSS). Regardless of agency, the IC is the requesting authority for the use of the TWS.
District Officer State Situation (DOSS)	DOSS creates and dispatches TWS messages from the details provided and authorised by IC. DO State Situation are the release authority for the TWS.
CS / DCS	The relevant Chief Superintendent (Metropolitan/Country North/Country South) during BAU or Duty Chief Superintendent (DCS) should be consulted by the DOSS during SOC activations, or after hours where a request to issue a TWS message is requested.
SOC Coordinator Public Information (CPI)	The SOC Coordinator Public Information must be notified before a TWS is issued to ensure consistency of messaging between the TWS and what is published on Emergency WA. **Ideally, any request for a TWS should be done simultaneously with the CPI and the DOSS.**

4. Evaluation

All requests for the use of the TWS will be evaluated to ensure the need is commensurate with both the definition of an emergency (as defined in this SAP) and that the proposed release of an TWS message is for an incident where it is identified there is population at risk and its use is considered appropriate.

TWS offers three different message delivery channels and are to be used at the discretion of the IC in conjunction with advice from the DOSS:

- Voice: This will deliver voice messages to all land line phone services in the defined area
- Registered Address SMS: This will deliver an SMS to all mobile services registered to an address in the selected area only.
- Location Based SMS: This will deliver an SMS to all mobile services within the selected area including mobiles travelling through or visiting at the time the TWS was sent.

All 3 channels can be used at the same time, this will mean that some mobile phone numbers can receive duplicate messages if they are in the selected area at the time of the message being sent.

5. Requesting Authorities

TWS messages, initiated by DFES for its HMA responsibilities are only to be requested by the IC or the IC's delegate within the IMT at an incident. The TWS is also available for use by authorised officers of external HMAs and registered organisations for emergencies where the population is at risk.

6.   Authority to Release

The DOSS has the authority to issue a TWS message. In the event of concerns relating to the appropriateness, regarding either the requirement to issue a message using the TWS, or the validity of the request for TWS activation, the relevant Chief Superintendent (Metro/Country South/Country North/Duty Chief Superintendent's) should be contacted for advice.

7.   Release Timing

Once a request for the activation of the TWS is received by the DOSS, activation should be completed within fifteen (15) minutes.

It is critical that the IC and the Incident Management Team (IMT) remain cognisant of the time taken to activate the TWS and factor in the effects of such timeframes at the incident site, including any impact on the actions that the IC would like the community to take.

Procedures

8.   Message Detail First Principle – 'A Considered Approach'

The guiding principle in releasing a message using the TWS is to ensure that implications of releasing the message to the community are considered. Community messages should include the following:

- A description of the warning area location.
- Advice on what immediate actions recipients should take to ensure their safety.
- Details of how to access additional information, either via a website or information lines

9.   TWS activation Request and Release Procedure

Wherever possible, requests for the activation of the TWS are to be made to the DOSS through the TWS activation line – 1300 566 588. In some instances, requests may be made via radio to either the Regional/Metro Operations Centre (ROC/MOC) or the Communication Centre.   The TWS request and release process is described at Annex A and B.

The DOSS will liaise with the SOC CPI (0427 479 499) before the TWS activation to ensure consistency with information published on Emergency WA.

It is important the DOSS and the CPI coordinate messaging. Any inconsistency must be reviewed and resolved by the IMT immediately.

10.   Request Content

Required TWS message content is described at Annex A. The DOSS will construct the TWS Message using the TWS Activation form (Annex C) which is used to assist the accurate transfer of information between IC and DOSS.

Messages should be concise and informative – maximum message length is 612 characters.

11.   All Clear Message

When a TWS message has been issued during a Bushfire and the threat to the population at risk has passed, an 'All Clear' message via TWS <u>may be considered</u>. This may not be a viable option for every incident.

Note: The DOSS must only issue an 'All Clear' TWS once the full incident area has been declared all clear. This will prevent accidental cross-over and confusion of warning types for adjoining areas.

Annexes:

A.   TWS Activation Procedures
B.   TWS Activation Process Flowchart
C.   TWS Activation Request Form (completed by DO State Situation)
D.   TWS Message Script Templates

ANNEX A Telephone Warning System Activation Procedure

Introduction

The following procedures outline the method employed to activate the TWS.

Procedure

Request Content

A request for the activation of the TWS from an IC or authorised officers of external HMAs and registered organisations is to be made to the DOSS 24/7 on 1300 566 588. The requesting IC or authorised officer should provide specific advice detailing the following, which will be recorded by the DOSS in accordance with Annex C.

CONTENT	DESCRIPTION
Purpose	The purpose and context of the alert
Required Action	The action required to be conveyed in the alert
Location	The location and boundaries of the alert area *IMPORTANT: the location description should reflect the area under threat, not the location/name of the incident. Consideration should also be given to using local terminology.*
Timing	The time and urgency of the alert transmission
Contact Details	Requesting officer's contact details

Type of Message Requested

The levels / types of message that can be requested for release using the TWS are as follows:

Hazard	TWS Message
Bushfire	General
	Warning Safe to Leave
	Warning Too Late to Leave
	Watch and Act* (in certain circumstances)
	Advice
	All Clear
Hazardous Materials	Warning
Cyclone	Red Alert Shelter Indoors
	Red Alert Shelter in Safest Place Indoors
	Yellow Alert Prepare to Shelter
Earthquake	Warning
Flood	Prepare to Evacuate
	Flood Evacuate Immediately
Severe Flash Flooding	Very Likely
	Occurring
Severe Storms	Warning
Storm Surge	Relocate Now
Structure Fire	Warning
Tsunami	Warning

Release Procedure

DO State Situation Action

The DOSS is available on a 24/7 basis to receive calls for TWS activations on the TWS activation line – **1300 566 588**. The responsibilities of the DOSS are as follows:

ACTION	DESCRIPTION
Receive	Receives the call for activation and records details.
Notify relevant Chief Superintendent	Inform relevant Chief Superintendent of the request of the alert by IC.
Notify CPI	Inform Coordinator Public Information (CPI) on 0427 479 499 of the impending issue of the alert to allow time for the website and information line to be updated with consistent messaging.
Produce	Completes activation script and confirm information aligns to Emergency WA.
Send	Operates the TWS.
Monitor	Monitors the reporting function[1]

SOC Coordinator Public Information

The CPI (and the SOC Public Information Team, if activated) are to ensure warnings via other public information channels are consistent with the TWS message (i.e. on Emergency WA, DFES social media and 13 DFES public information line).

Relevant Chief Superintendent Action

Where the CS is contacted by the DOSS to discuss a TWS activation request, the following should be considered.

CONSIDERATION	DESCRIPTION
Implications	Community impact/reaction
Consequences	Consequences of the TWS activation request ***NOT*** being approved
Priorities	The required prioritisation of multiple requests

Reporting Procedure

Confirmation of Release

The IC may request a confirmation of release from the DOSS, however once a TWS activation has been requested it is to be actioned within the prescribed time frame as described at Annex B.

Reports

After activation, reports are viewable in 'real time' as results from the broadcast are posted in the reporting window. The IC may request results of the broadcast from the DO State Situation at any time.
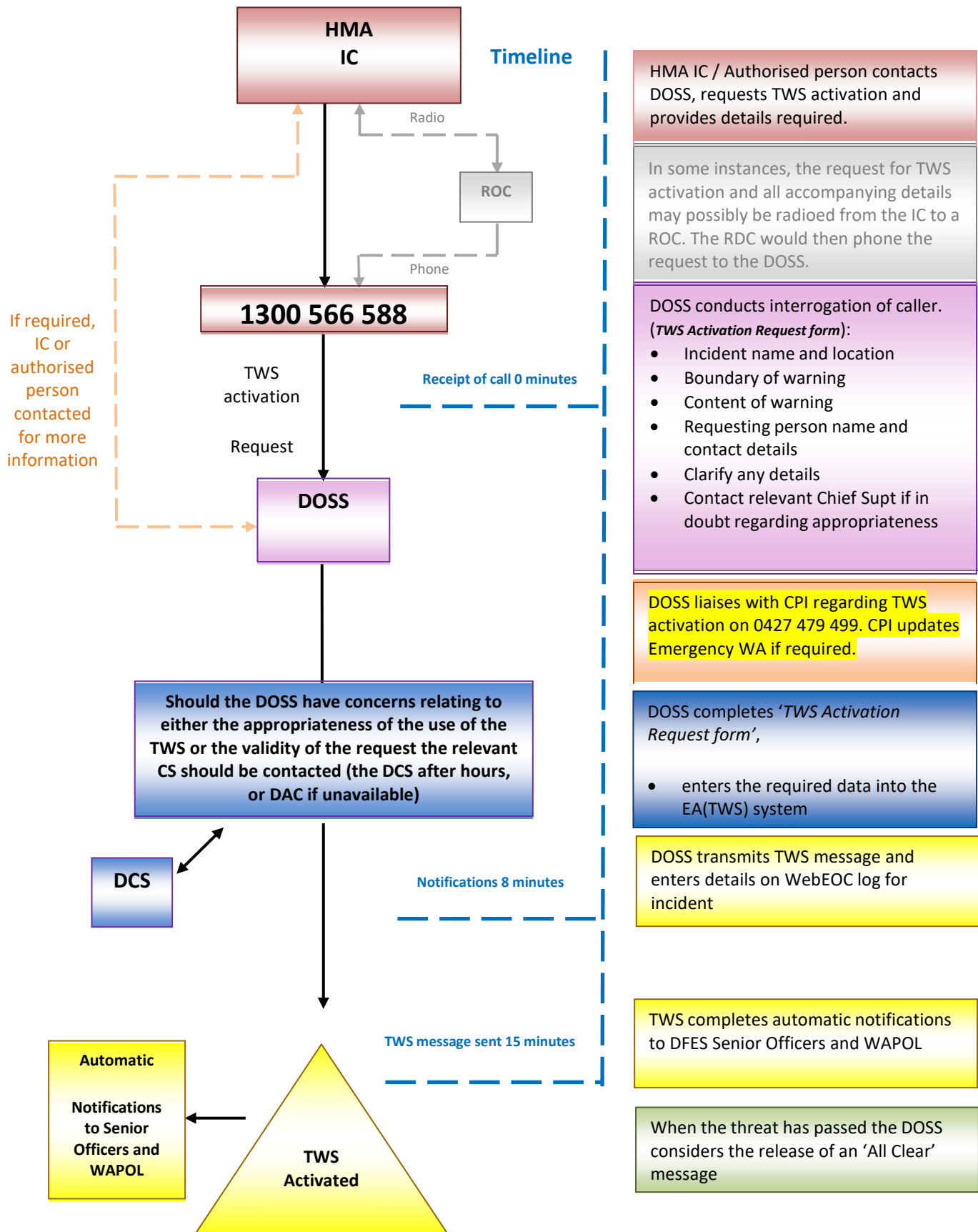
Confirmation

The DOSS should notify the IC and PIO (Public Information Officer) that the TWS has been issued successfully. The IC must be notified in the event of a delivery or system failure.

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[1] Senior Officer and WAPOL notifications occur automatically as a normal function of the operation of the system.

DFES SAP 3.1.D – Telephone Warning System – Version 1.7

ATTACHMENT 14.2.2

ANNEX B TWS Activation Process

TWS ACTIVATION PROCESS

HMA IC

Timeline

Radio

ROC

Phone

1300 566 588

If required, IC or authorised person contacted for more information

TWS activation

Receipt of call 0 minutes

Request

DOSS

Should the DOSS have concerns relating to either the appropriateness of the use of the TWS or the validity of the request the relevant CS should be contacted (the DCS after hours, or DAC if unavailable)

DCS

Notifications 8 minutes

Automatic Notifications to Senior Officers and WAPOL

TWS message sent 15 minutes

TWS Activated

HMA IC / Authorised person contacts DOSS, requests TWS activation and provides details required.

In some instances, the request for TWS activation and all accompanying details may possibly be radioed from the IC to a ROC. The RDC would then phone the request to the DOSS.

DOSS conducts interrogation of caller. (*TWS Activation Request form*):
- Incident name and location
- Boundary of warning
- Content of warning
- Requesting person name and contact details
- Clarify any details
- Contact relevant Chief Supt if in doubt regarding appropriateness

DOSS liaises with CPI regarding TWS activation on 0427 479 499. CPI updates Emergency WA if required.

DOSS completes '*TWS Activation Request form*',
- enters the required data into the EA(TWS) system

DOSS transmits TWS message and enters details on WebEOC log for incident

TWS completes automatic notifications to DFES Senior Officers and WAPOL

When the threat has passed the DOSS considers the release of an 'All Clear' message

ATTACHMENT 14.2.2

ANNEX C Telephone Warning System Activation Request

INCIDENT DETAILS (Completed by DO State Situation during Phone request on 1300 566 588)

Date Received	Time Received	Incident Number
15th September 2013	1530	252066

Requesting Officer	Contact Number	IMT Role
Supt Smith	0412 234 254	PIO

Incident Controller	Contact Number	Location
Supt Jones	0413 235 256	ICC

WebEOC Name	Hazard Type
DFES 13/09/15 BF Bindoon 252066	Bushfire

EMERGENCY ALERT INFORMATION

Hazard	TWS Message Type	☐
Bushfire	Warning – General (to be used where 'safe to leave'/'too late to leave' status is unknown or not required)	☐
	Warning Safe to Leave	☐
	Warning Too Late to Leave	☐
	Watch and Act	☐
	Advice	☐
	All Clear	☐
HAZMAT	Warning	☐
Cyclone	Red Alert Shelter Indoors	☐
	Red Alert Shelter in Safest Place Indoors	☐
	Yellow Alert Act now to stay safe	☐
Earthquake	Warning	☐
Flood	Prepare to Evacuate	☐
	Flood Evacuate Immediately	☐
Severe Flash Flooding	Very Likely	☐
	Occurring	☐
Severe Storms	Warning	☐
Storm Surge	Relocate Now	☐
Structure Fire	Warning	☐
Tsunami	Warning	☐
All Hazards	All Clear	☐

ATTACHMENT 14.2.2

Location/Boundaries of warning area

People in: Bindoon Township- bounded by Gray Rd, GT Northern Hwy, Tea Tree Rd and Ridgetop Ramble Rd.

Suburb/Locality	**X Street**	**Map Reference**
Bindoon		xxxxxxxx

What should people in the warning area do?

E.g: act immediately, leave now, shelter in place

Evacuation route (if required)

E.g: Leave via Great Northern Hwy toward Chittering.

Campaign Mode

SMS – Location Based Message (LBS) ☐   SMS – Service Address Based Message (LBNS) ☐

ADMINISTRATION

	TIME
• *Sent request for approval to relevant Chief Superintendent	Hrs.
• Relevant Chief Superintendent approved use of TWS at	Hrs.
• TWS activated at	Hrs.
• Incident Controller notified of campaign transmission at	Hrs.
• CPI, & District Officer ComCen (DOCC) notified of campaign transmission at	Hrs.

Task Completed by:

Name	Signature	Date

*Note: In the event of any uncertainty regarding either the requirement to issue a message using the TWS or the validity of the request for TWS activation, the DOSS should contact the relevant CS (DCS / DAC after hours) for advice and approval.

ATTACHMENT 14.2.2

ANNEX D TWS Message Script Templates

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Bushfire	General *To be used where 'safe to leave'/"Too late to leave" status is unknown or not required*	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Emergency Warning in the [LOCATION-be specific if possible – include townships, local names and points of interest the community can understand]. You are in danger and need to act immediately to survive. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.	This is an EMERGENCY message. There is a Bushfire Emergency Warning in the [LOCATION-be specific if possible – include townships, local names and points of interest the community can understand]. You are in danger and need to act immediately to survive. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

ATTACHMENT 14.2.2

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Bushfire	Warning - Safe to Leave	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Emergency Warning in the [LOCATION- be specific if possible – include townships, local names and points of interest the community can understand]. You are in danger and need to act immediately to survive. If the way is clear, leave now for a safer place [via X road/street toward LOCATION/LANDMARK]. The bushfire is threatening homes in [description of specific streets/area under threat]. Drive carefully and turn your headlights on. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Emergency Warning in [LOCATION- be specific if possible – include townships, local names and points of interest the community can understand]. [via X road/street toward LOCATION/LANDMARK]. If possible, add location of Evacuation Centre The bushfire is threatening homes in [description of specific streets/area under threat]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

ATTACHMENT 14.2.2

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Bushfire	Warning – Too Late to Leave	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Emergency Warning in the [LOCATION If possible – include townships, local names and points of interest the community can understand]. Act immediately to survive. Seek shelter in your home, close all doors and windows and wear protective clothing. The bushfire is threatening homes in [specific streets/area under threat]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Emergency Warning in the [LOCATION If possible – include townships, local names and points of interest the community can understand]. Act immediately to survive. Seek shelter in your home, close all doors and windows and wear protective clothing. The bushfire is threatening homes in [specific streets/area under threat]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Bushfire	Watch and Act	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Watch and Act warning for the [LOCATION – if possible - include townships, local names and points of interest the community can understand] area. There is a possible threat to lives and homes as a fire is approaching the area and conditions are changing. Leave now if the way is clear. Drive carefully and turn your headlights on. If you are well prepared and plan to actively defend your home, make final preparations now. If you are not at home, do not try to return. For the latest information visit www.emergency.wa.gov.au, call 13 DFES , that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from [CONTROLLING AGENCY]. There is a Bushfire Watch and Act warning for the [LOCATION – if possible - include townships, local names and points of interest the community can understand] area. There is a possible threat to lives and homes as a fire is approaching in the area and conditions are changing. Leave now if the way is clear. If you are well prepared and plan to actively defend your home, make final preparations now. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

ATTACHMENT 14.2.2

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Bushfire	Advice	This is a message from [CONTROLLING AGENCY]. There is a Bushfire Advice for the [LOCATION – if possible - include townships, local names and points of interest the community can understand]. Be aware and keep up to date. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is a message from [CONTROLLING AGENCY]. There is a Bushfire Advice for the [LOCATION – if possible - include townships, local names and points of interest the community can understand]. Be aware and keep up to date. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Bushfire	All Clear	This is a message from [CONTROLLING AGENCY]. An All Clear has been issued for the [LOCATION]. The danger has passed but you need to remain vigilant in case the situation changes. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is a message from [CONTROLLING AGENCY]. An All Clear has been issued for the [LOCATION]. The danger has passed but you need to remain vigilant in case the situation changes. For the latest information visit www.emergency.wa.gov.au, call 13DFES (13 33 37) or listen to local ABC radio.
HAZMAT	Warning	This is an EMERGENCY message from DFES. A Hazardous Materials Warning has been issued for [LOCATION]. Shelter indoors immediately, turn off heating or air conditioners and close windows, doors and vents. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. A Hazardous Materials Warning has been issued for [LOCATION]. Shelter indoors immediately, turn off heating or air conditioners and close windows, doors and vents. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

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Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Cyclone	Yellow Alert – Prepare to Shelter	This is an EMERGENCY message from DFES. A Cyclone YELLOW ALERT has been issued for [LOCATION]. Get ready to move to the strongest, safest part of your home or go to your local evacuation centre at [LOCATION]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. A Cyclone YELLOW ALERT has been issued for [LOCATION]. Get ready to move to the strongest, safest part of your home or go to your local evacuation centre at [LOCATION]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Cyclone	Red Alert - Shelter Indoors	This is an EMERGENCY message from DFES. A Cyclone RED ALERT has been issued for [LOCATION]. Shelter indoors now. It is too late to leave. Stay in the strongest, safest part of the building, away from doors and windows, and keep them closed. Keep your emergency kit with you. Stay indoors until the ALL CLEAR is given. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. A Cyclone RED ALERT has been issued for [LOCATION]. Shelter indoors now. It is too late to leave. Stay in the strongest, safest part of the building, away from doors and windows, and keep them closed. Keep your emergency kit with you. Stay indoors until the ALL CLEAR is given. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Flood	Prepare to Evacuate	This is an EMERGENCY message from DFES. There is a FLOOD WARNING for [LOCATION]. Prepare to evacuate and move to higher ground. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. There is a FLOOD WARNING for [LOCATION]. Prepare to evacuate and move to higher ground. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

ATTACHMENT 14.2.2

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Flood	Flood – Evacuate Immediately	This is an EMERGENCY message from DFES. There is a FLOOD EVACUATION WARNING for [LOCATION]. Evacuate now and move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. There is a FLOOD EVACUATION WARNING for [LOCATION]. Evacuate now and move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Severe Flash Flooding	Very Likely	This is an EMERGENCY message from DFES. Dangerous FLASH FLOODING is likely in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. Dangerous FLASH FLOODING is likely in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Severe Flash Flooding	Occurring	This is an EMERGENCY message from DFES. Dangerous FLASH FLOODING is occurring in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. Dangerous FLASH FLOODING is occurring in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. Do not drive, swim or walk through floodwaters. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

ATTACHMENT 14.2.2

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Severe Storms	Warning	This is an EMERGENCY message from DFES. DANGEROUS STORMS are LIKELY [or are occurring] in [LOCATION]. Stay indoors, secure lose items, stay away from windows and avoid travelling. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio. If your home has been damaged and you can't safely fix it yourself, call the SES on 132 500.	This is an EMERGENCY message from DFES. DANGEROUS STORMS are LIKELY [or are occurring] in [LOCATION]. Stay indoors, secure lose items, stay away from windows and avoid travelling. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio. If your home has been damaged and you can't safely fix it yourself, call the SES on 132 500.
Storm Surge	Relocate Now	This is an EMERGENCY message from DFES. Dangerous STORM SURGE may occur in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. Dangerous STORM SURGE may occur in [LOCATION]. Move to high ground or the relocation point at [LOCATION]. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.
Structure Fire	Warning	This is a message from DFES. There is a [building/structure] fire in [LOCATION]. As a precaution stay inside, close all windows, doors, vents and turn off air conditioning to avoid smoke or fumes. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is a message from DFES. There is a [building/structure] fire in [LOCATION]. As a precaution stay inside, close all windows, doors, vents and turn off air conditioning to avoid smoke or fumes. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

Event Type	Severity	Voice Message	Text Message – Maximum 612 characters
Tsunami	Warning	This is an EMERGENCY message from DFES. A DANGEROUS TSUNAMI could impact [LOCATION]. Move to higher ground immediately. Take only essential items that you can carry. If you cannot leave, take shelter in the upper storey of a solid brick or concrete multi-storey building. For the latest information visit www.emergency.wa.gov.au, call 13 DFES, that's 13 33 37, or listen to local ABC radio.	This is an EMERGENCY message from DFES. A DANGEROUS TSUNAMI could impact [LOCATION]. Move to higher ground immediately. Take only essential items that you can carry. If you cannot leave, take shelter in the upper storey of a solid brick or concrete multi-storey building. For the latest information visit www.emergency.wa.gov.au, call 13 DFES (13 33 37) or listen to local ABC radio.

Document History

ATTACHMENT 14.2.2

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Jan 13	Conversion of SAP 3.5.C – StateAlert to SAP 3.5.C - Emergency Alert
1.1	Jan 14	Update terminology: from Emergency Alert to Telephone Warning System to avoid confusion with Emergency Warning. Moved to 3.1.D. Include hazard types and severity levels. Add agreed notification to online services. Amended and added example to Activation Request Form. Include Earthquake as a hazard. Review administration section of Annex C. Added TWS Message scripts in Annex D.
1.2	Nov 14	Minor contemporisation of text. Replaced DEC with DPaW Changed out the 1300 657209 to 13 33 37 (13DFES) Included SAO Emails Map area / Polygon to DCS
1.3	Feb 15	Made changes from MPA to MCC and additional information in regards to issuing the TWS and the engagement between SAO and MCC
1.4	Jul 16	Added explanation of TWS functionality types – LBNS and LBS. Added provision for issuing of 'All Clear' TWS message following Bushfire.
1.5	May 18	Requirement for SAO to notify Online Services removed from Annex A, section 5 and Annex B flowchart.
1.6	July 2021	Scheduled review undertaken by State Operations. Updated terminology (SAO to DOSS – District Officer State Situation).
1.7	Nov 2022	Review of SAP in line with SAP 3.1D. Changes aligned to Wooroloo Bushfire Review.
1.8	Dec 2022	Corrected heading from operating to Administrative.

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Government of Western Australia
Department of Fire & Emergency Services

DFES
Department of Fire &
Emergency Services

Standard Administrative Procedure 3.1.K
Incident Documentation

Introduction

These procedures will explain the incident documentation requirements when working in a DFES Emergency Operations Centre (EOC) including the State Operations Centre (SOC), Regional Operations Centres (ROC), Metropolitan Operations Centre (MOC) and Incident Management Teams (IMT).

This procedure should be read in conjunction with the WAFES Manual Parts One to Six. The WAFES Manual can be located on the DFES Portal / Extranet – Doctrine – Operations.
WAFES Manual

Information Management

As required by the *State Records Act 2000*, agencies must ensure that records are created, managed and maintained over time and disposed of, in accordance with principles and standards issued by the State Records Commission.

The following documentation types must be collated and stored electronically in Records Manager (RM) at the end of the incident or activation.

- All physical documentation, including incident notes and original incident diary entries
- All electronic documentation
- All emails
- Maps
- Voice recordings
- WebEOC records
- IMS Incident Logs (Y drive)

No documents relating to the incidents or decisions made should ever be destroyed or thrown out. They should all be filed with the incident documentation.

All personnel are responsible for the documentation they produce and must provide the above to the Management Support Officer at the end of each shift.

1.   Source of Truth
The DFES records management system (RM) will be the repository for all DFES incident documents and is to be referred to for post incident analysis and major incident reviews.

2.   FRRA and HRRA
Every Thursday and Monday the Forecast Risk and Readiness Assessment (FRRA) and Heightened Risk and Readiness Actions (HRRA), where they are required to be completed, are to be uploaded onto the relevant monthly WebEOC FRRA and HRRA Incident, the documents are to be electronically recorded in the relevant regional RM file.

3.   Regional/Metropolitan Duty Coordinator (RDC/MDC) Reports

At the end of each on-call week all incident documentation produced or collated by the RDC/MDC is to be collated and scanned with an *Officer's Incident Documentation Pack* coversheet and filed in the Regional/Metropolitan Duty Coordinators Report RM file.

When the ROC / MOC has been activated the relevant RDC/MDC on-call incidents are to be saved in the relevant activation RM files.

4.   Naming Convention for Electronic Documents

All documents produced in an EOC must use the following file naming convention when saving on the IMS Incident Logs (Y Drive). The document should include the shift number and where relevant, the incident number.

Records Manager (RM)

Each EOC has been set up with a generic RM account. The Management Support Officer position is responsible for creating both the physical and virtual RM files for each incident in the case of IMT's or activation in the case of the ROC/MOC/SOC.

Refer to Incident Documentation Knowledge Guides

5.   Related Incidents and Related Documents

It is essential all related incident documentation is recorded correctly. If the EOC or multiple EOCs have been active for either multiple incidents or a pre-emptive activation it is essential the reader is aware the incident files and documents must be read in relation to each other.

It is also important the FRRA & HRRA files for the relevant time period has been related to ensure the reader is provided with a full understanding of the documentation related to the EOC activation.

6.   Complex of Incidents

When multiple incidents are managed as a 'Complex of Incidents' the initial IMT documentation will be kept in their original incident files. A new set of Incident Files (electronic and physical) are to be created (and related to original files) once it has been decided the incidents will be handled as a 'complex'.

The decision to manage a number of incidents as a complex must be clearly documented at the time.

7.   RM Responsibility

The Management Support Officer is responsible to ensure the RM entry is completed. It is recommended the data entry and filing is completed prior to going off shift. All incident documentation must be must be recorded in RM prior to the closure of an activation.

The Management Support Officer should evaluate the situation and request additional resources to assist with incident documentation as required. If the information has been saved on Y drive, it is possible for other personnel to assist with the RM process.

IMS Incident Logs (Y Drive)

All electronic documentation in relation to an incident or activation should be stored on the relevant IMS Incident Logs folder.

Each EOC will create the Incident folder under their Emergency Operations Centre on the IMS Incident Logs (Y drive). A template of the folder structure has been created on the IMS Incident Logs

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drive (Y drive). Please note, it is possible there can be multiple regions with the same filename created for the same incident.

Business Rules include:

- IMS Incident Logs (Y drive) is to be named the same as the WebEOC incident for IMT incidents.
- IMS Incident Logs (Y drive) must be used for all electronic incident related documentation
- Final copies of documents must be saved in a PDF format
- Working documents are to be saved in the IMS Incident Logs so the next shift is able to modify as required
- Documents must be saved using the standard naming convention.

Personal Responsibility

At the end of the shift, personnel working in an EOC must ensure they have:

- Completed the Officer's Incident Documentation Pack Cover Sheet
- Completed the personal incident diary and removed the white sheets
- Collated all documentation in date and time order (including drafts / copies)
- Place all above into the document wallet provided by the Management Support Officer at the start of shift
- Hand in the folder to the Management Support Officer before leaving the incident or EOC.

8.   Multi-Agency Incidents

DFES personnel are encouraged to provide duplicate copies of their incident records to controlling agencies as appropriate. Any Level 3 fire involving multiple agencies will automatically fall under the overall control of the FES Commissioner, and as such, copies of incident records must be requested from external agency personnel as appropriate, following each shift. The practice of collecting record copies from external agency personnel applies to all key stakeholder groups including OASG, ISG, AHLG, HEAT, etc.

DFES will be the custodian of incident documentation for all level 3 fires and will provide electronic copies of incident documents to Department Conservation and Biodiversity and Attractions (DBCA) when required.

Procedures

9.   Documentation

At the beginning of each shift, each officer will be provided with a document wallet to store the documentation either produced or collected during the shift.

Annex A - Creating Activation Files for State Operations Centre (SOC)
Annex B - Creating Activation Files for Regional and Metropolitan Operations Centre (MOC/ROC)
Annex C - Creating Incident Files for Incident Management Team (IMT)
Annex D – Incident Control Vehicles (ICV)

The officer is to record the following details on the cover sheet:
- Name & ID number
- Shift period
- Position
- Related incidents

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The following documentation is to be placed in the folder:
- Original personal incident diary pages
- All documents produced
- All documents received
- All working documents

10.   Incident Diary

All EOC personnel should maintain a personal incident diary. They are to record any action they have been asked to perform, or discussions or directions they have undertaken. The officer is to ensure each page of the diary is correctly completed with the following:

- Incident Name
- Incident Number
- Date
- Officer's Name
- Officer's Service Number
- Position/s undertaken

11.   Message Pads

All phone calls, instructions are to be recorded on the Message Pads provided in the EOC. A copy of the message is to be placed with the officer's incident documentation. EOC should not use general writing pads or sticky notes to record decisions or messages received.

12.   Saving Documents

Final versions of documents are to be saved in a PDF format. This can be achieved within Microsoft Word, Excel and FES Maps applications. Working documents can be saved in their original format.

13.   Emails

All sent and received emails should be electronically saved in the relevant IMS Incident Logs Folder (Y drive) using the above naming convention. All emails must be recorded in RM in the relevant Incident or EOC RM File using the Incident Email form.

14.   Voice Recording

All voice recordings are to be saved as WAV files and saved to the IMS Incident Logs Folder using the above naming convention.

15.   Physical Filing

Either DFES RM files or Lever Arch files can be used for filing incident documentation. For T Card storage something stronger and more secure than an envelope, such as a suitable size archive box, is recommended.

16.   Information Resources

At the end of the incident, all incident documentation is to be saved into RM, and hard copy documents filed correctly and sent to Information Resources on the ground floor Cockburn Emergency Services Complex.

17.   Multiple Incidents

When a document is related to multiple incidents, this is to be reflected in RM using 'Alternatively Within'. The physical document should also clearly state that the file is related to other incident files.

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ANNEX A Creating Activation Files - SOC

SOC Incident Documentation Cover Sheet

SOC RM Physical Files

File Name	Section (file dividers)	Colour	Type of Document
SOC Leadership	DAC	White	• Ministerial Briefing Reports • Section 13 appointment forms • Emergency Situation declaration forms • Minutes (regional teleconferences, joint agency briefings, AHLG, HEAT) • Incident Level declaration forms • Personal Incident Diary pages (DAC) • Personal Incident Diary pages (Exec Officer, DAC Support Officer, Management Support Officer) • Commissioners Briefing Notes
	DSC	White	• Regional Situation Reports • Personal Incident Diary pages
Planning	Planning Resources Situation	Yellow	• Planning Officer documents and personal incident diary pages • Resource Officer documents and personal incident diary pages • Communications Planning Officer documents and personal incident diary pages
Logistics	Logistics Finance	Blue	• Logistics Officer documents and personal incident diary pages • Finance and procurement documents and personal incident diary pages
Operations	Air Operations	Red	• Duty Air Coordinator documents and personal incident diary pages
Public Information and Community Liaison Unit		Tan	• Media releases • Community alerts
Intelligence		Orange	• SAO updates and personal incident diary pages • SOC MET updates and personal incident diary pages • GIS updates and personal incident diary pages
SAO		White	
Other Agencies		Light Blue	• Incident related documentation

SOC IMS Incident Logs folder (Y drive)
A folder has been created under the relevant financial year. The structure is as follows:

📂2015-2016
        📂**State Operations Centre (SOC)**
                📂 [Date] [Activation Reason] e.g. 14/11/2017 Adverse Weather Storm
                    📂Operations
                        📂Shift 1
                        📂Shift 2
                    📂Intelligence
                        📂Shift 1
                        📂Shift 2
                    📂Logistics
                        📂Shift 1
                        📂Shift 2
                    📂Planning
                        📂Shift 1
                        📂Shift 2
                    📂Public Information
                        📂Shift 1
                        📂Shift 2
                    📂SOC Leadership
                        📂Shift 1
                        📂Shift 2
                    📂SAO
                        📂Shift 1
                        📂Shift 2
                    📂Other Agencies
                        📂Shift 1
                        📂Shift 2

SOC Activation RM Files
The SOC Management Support Officer is responsible for creating the one SOC Activation RM file at the beginning of each Activation. (Refer to the Information Resources Knowledge Guides for procedure).

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ANNEX B Creating Activation Files - MOC

ROC Incident Documentation Cover Sheet
MOC Incident Documentation Cover Sheet

ROC / MOC Physical Files
The RM file should have the following sections:

File Name	Section (File Dividers)	Colour	Type of Document
ROC Leadership	RDC And Shift	White	• Ministerial Briefing Reports • Section 13 appointment forms • Emergency Situation declaration forms • Minutes (regional teleconferences, joint agency briefings, OASG) • Incident Level declaration forms • Personal Incident Diary pages (RDC)
	OAM / Regional Superintendent And Shift	White	• Regional Situation Reports • Personal Incident Diary pages
Planning	Shift	Yellow	• Planning Officer documents and personal incident diary pages • Resource Officer documents and personal incident diary pages • Communications Planning Officer documents and personal incident diary pages • Management Support personal incident diary pages
Logistics	Shift	Blue	• Logistics Officer documents and personal incident diary pages • Finance and procurement documents and personal incident diary pages • Travel bookings etc.
Other agencies	Shift	Light Blue	• Incident related documentation
Tasking	Shift	Red	• Tasking if undertaken by the ROC/MOC

Please note: There will be separate RM file number for each of the files created above.

MOC / ROC IMS Incident Logs folder (Y drive)
When the ROC/MOC is activated the folder structure is to be created under the relevant financial year.

MOC/ROC
    The structure is as follows:
    📁 2015-2016
        📁 **Great Southern ROC**
            📁 [Date] [Activation Reason] e.g. 14/11/2017 Adverse Weather Storm
                📁 ROC Leadership
                    📁 Shift 1
                    📁 Shift 2
                📁 Logistics
                    📁 Shift 1
                    📁 Shift 2
                📁 Planning
                    📁 Shift 1
                    📁 Shift 2
                📁 Public Information
                    📁 Shift 1
                    📁 Shift 2
                📁 Tasking
                    📁 Shift 1
                    📁 Shift 2
                📁 Other Agencies
                    📁 Shift 1
                    📁 Shift 2

        📁 **Kimberley ROC**
        📁 **Lower South West ROC**
        📁 **Metro Operations Centre MOC**
        📁 **Midlands Goldfields ROC**
        📁 **Midwest Gascoyne ROC**
        📁 **Pilbara ROC**
        📁 **South West ROC**

ROC/MOC Activation RM Files
The ROC/MOC Management Support Officer is responsible for creating the one ROC/MOC Activation RM file at the beginning of each Activation. (Refer to the Information Resources Knowledge Guides for procedure).

ANNEX C Creating Incident Files - IMT

IMT Incident Documentation Cover Sheet

IMT Physical Files

A set of functional files will be set up for each incident. Files will all have the same file number and be differentiated by their functional title. Additional volumes will be added for each functional area.

File Name	Section (File Dividers)	Colour	Type of Document
Incident Controller documents / Incident Action Plans	Shifts	White	Incident Level Declarations Signed Documents IAPs Minutes (regional teleconferences, joint agency briefings, ISG)
Planning	Shifts Resources	Yellow	Resource requirements
Intelligence	Shifts	Orange	Maps
Public Information	Shifts	Brown	Talking Points Warnings
Operations	Shifts	Red	Resource Summaries Machinery Hours
Investigations	Shifts	Black	Saftey Advisor documents
Logistics	Shifts Machinery	Blue	Equipment Hire Catering plans Medical plans
Finance	Shifts	Green	
Incident Control Vehicle (ICV)	Shifts		T- Cards Radio Logs written Taped radio logs All documents produced
Only required for Level 3 incident.			

File Dividers

Each functional file will be divided by the shift. The dividers should clearly have the **shift date and times** on the cover and tab of the dividers:

- The shift number
- The shift start date/time
- The shift finish date/time
- Incident Controller
- The relevant IMT officer e.g. the Planning File should identify the Planning Officer.

IMT IMS Incident Logs folder (Y drive)

When an incident is created in CAD, an incident folder is automatically populated under the relevant financial year.

IMT

The structure is as follows:

📂 Financial Year
- 📂 Incident Number – Incident Name
  - 📂 Control
    - 📂 Incident Controller
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Liaison
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Safety
      - 📂 Shift 1
      - 📂 Shift 2
  - 📂 ICV
    - 📂 Shift 1
    - 📂 Shift 2
  - 📂 Intelligence
    - 📂 Intel Officer
      - 📂 Shift 1
    - 📂 Predictions
      - 📂 Shift 1
    - 📂 Situation Officer
      - 📂 Shift 1
  - 📂 Logistics
    - 📂 Catering
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Comms Support
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Facilities
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Finance
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Ground Support
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Logistics Officer
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Medical Services
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Supply
      - 📂 Shift 1
      - 📂 Shift 2
  - 📂 Operations
    - 📂 Air Ops Manager
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Division XXXX (copy rename)
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Investigation
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Operations Officer
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Plant Operations Manager
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Staging Area XXXX (copy rename)
      - 📂 Shift 1
      - 📂 Shift 2
    - 📂 Traffic Access Ops
      - 📂 Shift 1
      - 📂 Shift 2

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📂Planning
 📂Comms Planning
  📂Shift 1
  📂Shift 2
 📂LGA Advisor
  📂Shift 1
  📂Shift 2
 📂Management Support
  📂Shift 1
  📂Shift 2
 📂Planning Officer
  📂Shift 1
  📂Shift 2
 📂Plans Unit
  📂Shift 1
  📂Shift 2
 📂Traffic Access Planning
  📂Shift 1
  📂Shift 2
📂Public Information
 📂Community Liaison
  📂Shift 1
  📂Shift 2
 📂Info Warnings
  📂Shift 1
  📂Shift 2
 📂Media
  📂Shift 1
  📂Shift 2
 📂Photos
  📂Shift 1
  📂Shift 2
 📂Public Info Office
  📂Shift 1
  📂Shift 2
📂Situation Mapping
 📂Documents
  📂Shift 1
  📂Shift 2
 📂Maps
  📂Shift 1
  📂Shift 2
 📂Projects
  📂Shift 1
  📂Shift 2
 📂Shape files
  📂Shift 1
  📂Shift 2

The IMT folder structure is an agreed structure to align the requirements for the PFT document sharing with DBCA. When required a new folder is to be created for additional shifts.

IMT Incident RM Files
The IMT Management Support Officer is responsible for creating the one IMT Incident RM file for each incident. (Refer to the Information Resources Knowledge Guides for procedure).

ANNEX D Incident Control Vehicle - ICV
ICV Incident Documentation Cover Sheet
T-Card Sector Cover Sheet

All documentation created or received in the ICV needs to be collected and filed for each shift. This includes:

- Incident Diaries
- Radio Logs
- T-cards
- Maps
- Emails
- Radio recordings

An ICV Incident Documentation Pack cover sheet is to be completed for each shift and all relevant physical documents attached and placed in the document wallet.

Electronic Document Management
IMS Incident Logs folder (Y drive)

An incident number will automatically be created on the IMS Incident Logs (Y drive). All ICV incident documents including T-cards are to be scanned and saved on the ICV folder (Y drive) under the relevant incident number.

T Cards
At the end of <u>each shift</u>, when the T cards have been removed from the incident resource board, the T cards are collated:

- By sector ,
- By shift
- A T-card Sector cover sheet completed
- Scanned and saved to the Y drive'
- Glue the cover sheet on the front of the A4 envelope, place T-cards inside and seal

Place the envelope in the ICV Incident documentation wallet and hand to Management Support at the end of each shift.

For smaller incidents the documents are to be collated and handed to the Incident Planning Officer or Incident Controller prior to departure.

Voice Recording
All voice recordings are to be saved as WAV files and saved to the Incident Drive.

ANNEX D Incident Control Vehicle - ICV

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Jul 16	New document.
1.1	Dec 17	Revised to include Information Resources Guidelines.

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Standard Administrative Procedure 3.2.B
Public Information and Warnings

Introduction

Public Information includes warnings and alerts that are disseminated through a variety of channels so individuals and communities are aware of an incident and can take appropriate action to safeguard life and property.

These warnings and alerts cover all hazards DFES is responsible for including bushfire, cyclone, earthquake, flood, storm, structure fire, hazmat and tsunami.

State Hazard Plan Fire states that one of the Strategic Control Priorities for fire response is providing community warnings and information to the public. Whilst the protection and preservation of life must be paramount when developing incident action plans, accurate and timely community warnings are vitally important as they allow the public to make informed decisions in response to emergencies.

Providing information to the community and key stakeholders outside an Incident Management Team (IMT) is critical to the success of incident management and it is the Incident Controller (IC) who is ultimately responsible for providing public information to the community via the appropriate channels.

Application and dissemination of this vital information occurs through the DFES Public Information framework which uses a range of communication tools to deliver relevant details about an incident or event. Further information can be found in Doctrine.
[Directive 3.2 – Incident Control](#)

Public information can be issued **24 hours a day, 7 days a week**.

Public Information	Coordinator Public Information (CPI) on **0427 479 499 or through ComCen (see Section 6 below)**
Telephone Warning System (TWS)	District Officer State Situation (DOSS) on **1300 566 588**

1. Key Administrative Appointments

Key DFES Operations appointments in the Public Information and Warnings process are as follows:

- **Incident Controller (IC).** Performs functions of Public Information until a Public Information Officer (PIO) is appointed. Must approve all public information and warning content for localised incidents such as bushfire, structure fire and hazmat.

- **Operations Area Manager (OAM).** Performs functions of Public Information for widespread hazards such as cyclone, earthquake, flood, storm and tsunami, until a PIO is appointed. May approve public information and warning content for these types of hazards.

- **Public Information Officer (PIO).** Appointed by the IC or OAM, the PIO provides information to the CPI for dissemination to media, stakeholders and the community.

- **Media Liaison Officer (MLO).** Can act as PIO if directed by the IC. Duties as MLO include liaising with news media at the incident or via telephone, management of media issues, organising media escorts and press conferences.

- **Coordinator Public Information.** Coordinates publication of state-wide public informationduring emergencies, including distribution of warnings to the community, media and stakeholders.

Procedures

2.　　Evaluation

A key priority for incident action planning in the first stages of an incident is to address the protection and notification of community members. Providing information to the community should be considered throughout the incident alongside other operational considerations such as crew deployment and planning.

Various incident situations may require the use of public information and/or warnings, including the following:

- Life or property under threat or imminent threat
- Highly visible flames and or smoke in built-up area which may cause fear and uncertainty in local communities
- Sufficient quantities of smoke or a toxic plume that may have an effect on life or health
- Quantities of smoke or flooding that may cause a traffic hazard or restrict traffic flow
- Severe weather warning or other hazard warning issued by the Bureau of Meteorology

3.　　Authorisation

The IC is to authorise the release of warning for localised incidents such as bushfire, structure fire and hazmat. CPI will issue storm and flood warnings based on BOM warnings, and depending on estimated impact, in consultation with the relevant IC, OAM, PIO or Chief Superintendent.

4.　　Warning Levels

Warnings are specific to each hazard (e.g. bushfire warnings, cyclone warnings etc.) and are built around alert levels that detail the significance of threat to the community and request a 'call to action' by the community.

5.　　Initial Bushfire Advice Only

When an urgent community warning at Advice level is required:

1. During the first informative message (PAFTACS) to COMCEN the IC details the location of the fire, the direction of travel of the fire, and then must request CPI issue an Advice level warning for the incident. The IC must also indicate the boundariesfor the Advice (e.g. streets or suburb).

2. COMCEN notify the CPI via SMS the need to issue an Advice
e.g. "Bushfire advice required for Incident 345657. Please acknowledge by phone call".

3. CPI acknowledges the SMS and interrogates AHIMS State Incident Browser for relevant information, develops and issues the initial bushfire Advice. The CPI may call the IC (or DO ComCen if IC is unavailable) to gather further information prior to issuing the warning if required.

Note: The purpose of an initial bushfire Advice is to inform the community of a developing incident as early as possible. Further public information will be required as an incident escalates, and the CPI must speak with the IC or delegate directly to issue subsequent warnings.

6. Bushfire Warning Levels:

- **Advice:** a fire has started but there is no immediate danger. This is general information to keep the community informed and up to date with developments.
- **Watch and Act:** a fire is approaching, and conditions are changing, people need to leave or prepare to actively defend to protect themselves and their family.
- **Emergency Warning:** people are in danger and need to take immediate action to survive as they will be impacted by fire. An emergency warning may be supported with a siren sound called the Standard Emergency Warning Signal (SEWS). The IC will issue a Telephone Warning System (TWS) message (via the DOSS) as per SAP 3.1D when:
  - ∗ The first Emergency Warning is issued.
  - ∗ An Emergency Warning area increases in size.
  - ∗ The severity of threat changes (from "safe to leave" to "too late to leave").
- **All Clear:** The danger has passed, and the bushfire is under control, but people need to remain vigilant in case the situation changes.

Bushfire Warnings Triggers

7. Cyclone Warning Levels:

- **Blue Alert**: The community is advised to take precautions in preparation for cyclonic weather.
- **Yellow Alert**: The community is advised to take action to prepare for the arrival of cyclonic weather and move to shelter. A TWS may be issued to advise the community to prepare.
- **Red Alert**: The community is advised to remain sheltering. A Red Alert may be supported with a SEWS siren. A TWS may be issued to advise the community to shelter or where there is a storm surge.
- **All Clear**: Wind and storm surge dangers have passed but care should be taken to avoid dangers caused by damage.

It is important the DOSS and the CPI coordinate messaging. Any inconsistency must be reviewed and resolved by the IMT immediately.

Annex A - Cyclone Alerts

Warnings for other hazards including earthquake, flood, storm, structure fire hazmat and tsunami also follow similar stages to those above, i.e. prepare, take action, take immediate action to survive and all clear. Further information on warning levels is available from the DFES website.

8. Required Detail

Information required when requesting warnings be issued via the Coordinator Public Information, or a Telephone Warning System (TWS) be issued via the District Officer State Situation (DOSS), includes the following:

1. Level of warning (i.e. Bushfire Watch and Act)
2. Location of warning area *(clear, simple boundaries using road names and/or local landmarks)*
3. What do you want people to do? *(Be aware and alert? Leave? Defend?)*
4. Specific incident information *(fire direction, time of impact road closures, etc.)*

Remember: community members access warnings in a variety of formats, including audio – therefore warning areas need to be easily understood without the use of a map e.g. "an area bounded by Smith Road, Brown Road, Jones Road and the Swan River" **NOT** "a radius of 1 kilometre around the location of the fire".

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9. Incident Areas[1] on Emergency WA

Warnings may also be accompanied by an 'Incident Area', where one is available and authorised by the IC. In the context of Emergency WA, an incident area indicates the last known area which has been directly impacted by a specific hazard, i.e. burnt areas, flooded areas, storm damaged areas, toxic plume area, etc. The incident Area is geographical data only, it is not a warning area.

- The CPI will ask the IC or PIO if there is an incident area (e.g. fire shape) available on FESMaps.
- The IC can authorise its release to the public.
- All updates to the incident area will occur automatically until the IC or PIO requests manual expiry or when an All Clear is issued for the incident.
- An Incident Area **MUST ALWAYS** be accompanied by a warning area to ensure community members are not making decisions based on the Incident Area alone.
- An Incident Area **MUST NOT** be used as a warning area or the basis for a warning area, or be used to provide specific instructions or directions to the public.

10. Dissemination

The Coordinator Public Information issues warnings via various technologies including the following:

- Emergency WA website
- DFES Information Line (13 3337)
- Social Media (DFES Facebook and Twitter)
- ABC/6PR and other media emergency broadcasts
- Warnings emailed to media and stakeholder lists

Public information can be issued **24 hours a day, 7 days a week**.

Public Information	Coordinator Public Information on **0427 479 499**.
Telephone Warning System (TWS)	DO State Situation (DOSS) on **1300 566 588**.

11. Telephone Warning System

The Telephone Warning System (TWS) is one of the methods used to communicate a warning when the situation is time critical and/or there is an impending or immediate threat to a specific community.

The TWS is a communication tool that delivers emergency community messages to fixed line phones (based on service address) and mobile phones (based on billing address and/or location) in a defined area. Warnings can also be delivered via an SMS to all mobile services within, or travelling through, an area by utilising specific cell towers. The District Officer State Situation (DOSS) issues time critical messages through the TWS. To issue a TWS an IC or PIO must call the DOSS on **1300 566 588**.

Instructions contained in the TWS message must not conflict with instructions in the Emergency Warning e.g. Safe to leave/Not safe to leave. If needed, contact the CPI to update the Emergency Warning to align with the TWS.

SAP 3.1.D – Telephone Warning System

12. Further Information

Further information to assist the community during emergencies should include the following:

- community briefings

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[1] DFES Operations define an incident area as 'the area defined by the Incident Controller for which they have responsibility for the overall management and control of an incident'. However, for the purposes of Emergency WA an Incident Area is the area known to have been impacted by a hazard.

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- evacuation centres
- what are emergency services doing
- reported damage
- cause of incident

The Coordinator Public Information (0427 479 499) is available to provide specialist advice about Public Information (warnings and alerts). Public Information Field Guides are available from Operations Resources. Public Information Talking Points are available from the IM Toolbox.

Field Guide 3.2 – Public Info-Media Points

IM Toolbox – Public Information

Annexes

ANNEX A DFES Cyclone Alert Triggers

LEVEL	When issued	Public Messages
LOW FORMING – Tropical Low forming off the coast	- When a low has formed. - There is no threat to lives or homes.	- You should prepare your home inside and out. - Keep up to date with the development of the cyclone.
BLUE ALERT	- When a cyclone has formed but there is no immediate danger. - There is no threat to lives or homes.	- You need to prepare for dangerous weather. - Secure or remove loose material from around your home. - Ensure your emergency kit is complete. - Read through your family cyclone plan and make sure everyone knows what to do - If you do not have plan, decide what you will do if the situation gets worse.
YELLOW ALERT	- When a cyclone is approaching. - There is a possible threat to lives and homes.	- You need to take action and get ready to shelter from a cyclone. - Pack a relocation kit to be taken with your emergency kit. - Fasten all cyclone screens. - Secure boats, caravans, trailers, garden sheds, outdoor furniture, rainwater tanks and LPG bottles. - Move vehicles under cover - Ensure pets and animals are in a safe area - Be aware that shops may now be closing.
RED ALERT	- When there is immediate danger and the cyclone is about to cross the coast. - There is a threat to lives and homes. - Standard Emergency Warning Signal (SEWS) may be used to get your attention on radio and television (Check BoM alert)	- You need to get ready to move to/go immediately to the strongest safest part of your house or to your closest welfare centre. - Keep your emergency kit with you. - Stay away from doors and windows that should be closed. - Stay inside until the ALL CLEAR is given by authorities.

ALL CLEAR	- When the danger has passed. - It may still not be safe to return home. Emergency services will advise when you can go home.	- Be careful when you leave your place of shelter. - Take care to avoid the dangers caused by damage such as fallen power-lines and trees, broken water and sewage lines, loose roof sheeting and other material. - Some services such as power and telephones may not be working. Service providers will be working to restore these as soon as they can.

DOCUMENT HISTORY

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Jan 15	New procedure.
1.1	Jun 16	Clarification of TWS functionality types.
1.2	May 18	Update from Westplan Fire to State Hazard Plan Fire including Strategies Control Priorities, specifically community warnings and information to the public. Clarification of situations where public information may be required. Clarification of authorisation required for release of alerts and warnings. Inclusion of information for issuing a community warning at Advice level only. Clarification of required detail when public information or warning is requested.Update on information technologies and procedures for timely dissemination of information to the public.
1.3	Nov 2020	Inclusion of Incident Area process and minor updates throughout.
1.4	December 2020	Clarification of Emergency WA Incident Area vs Operational incident areas.
1.5	September 2021	AWS and Bushfire Trigger Updates.
1.6	September 2022	Addition of Annex B inline with Australian Fire Danger Rating Implementation
1.7	Nov 2022	Review of SAP in line with SAP 3.1D. Changes aligned to Wooroloo Bushfire Review.
1.8	Mar 2023	Repair broken link in Part 6

Government of **Western Australia**
Department of **Fire & Emergency Services**

DFES
Department of Fire &
Emergency Services

Standard Administrative Procedure 3.2.C
Incident Action Planning

Introduction

These procedures explain the administrative processes required to support the use of Incident Action Plan templates by DFES Personnel within Incident Management Teams. Further explanation is described at Directive 3.2 – Incident Control and the WA Fire and Emergency Services Manual.
Directive 3.2 – Incident Control
WAFES Manual (Parts 1-6)

1.   Key Administrative Appointments
Key DFES Operations appointments in the Incident Action Planning process are as follow:

- **Incident Controller (IC).** Initiates and authorises Incident Action Plans (IAP). Sets objectives and intent for management of an incident. Determines the appropriate scale of Incident Action Plan.
- **Planning Officer (PO).** Leads the development of the Incident Action Plans.
- **Intelligence Officer (IO).** Undertakes analysis of information and data to inform decision making, planning and situational awareness of the Incident Management Team.
- **Situation Unit Leader (Sit-U/L).** Establishes a Common Operating Picture. Undertakes analysis of incident behavior and predictions.
- **Mapping Unit Leader (Map-U/L).** Develops map products which support incident action planning.

Aide Memoirs per Function

Procedures

The following procedures describe the DFES approach to the development of Incident Action Plans.

2.   AIIMS Incident Action Planning Cycle
DFES utilises the AIIMS Framework for managing complex incidents. Within this framework AIIMS provides an Incident Action Planning Cycle. Incident Action Planning is dependent upon accurate Size Up and Appreciation. The gathering of information and data to support an analysis and determine an appropriate course of action is vital to the success of the planning cycle.
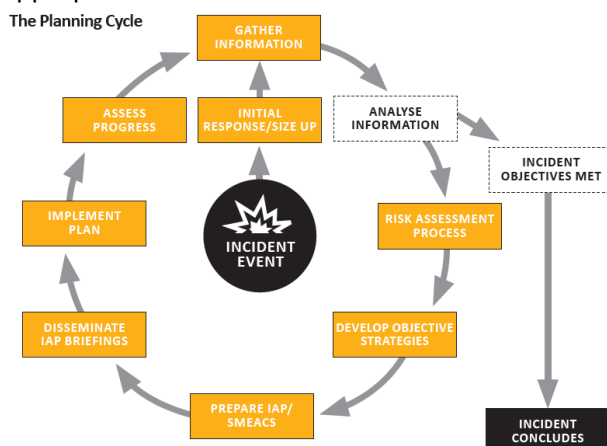
Diagram 3.1 – The AIIMS Planning Cycle (AFAC, 2013)
DFES SAP 3.2.C – Incident Action Planning – Version 1.1   1

3.   DFES Incident Action Plans

DFES utilises three levels of IAP. Each IAP has a specific purpose and is utilised at the discretion of the IC. The IC is responsible for determining or approving the level of IAP utilised. The levels of IAP are:

- Informal IAP
- Operations Prestart
- Incident Action Plan – LITE
- Incident Action Plan

The intent of an IAP is to inform personnel in attendance at the incident. It is not to be used for situation reporting. The function of an IAP is to (AFAC, 2013):

- Specify the overall incident objectives and strategies;
- Identify key threats and risk exposures;
- Establish continuity of command and control;
- Ensure effective use of resources; and
- Identify anticipated resources required.

4.   Incident Situation Reports

An Incident Situation Report (ISR) is separate to an IAP. An ISR is to be completed by the PO in alignment to a reporting rhythm set by the ROC/MOC. The ISR provides an overview of the current situation and progress at the incident. It assists to develop a common operating picture of the incident that informs regional and state planning and logistics processes.

[IM Toolbox Incident Situation Report](#)

5.   Informal IAPs

During the initial and rapidly escalating phase of an Incident DFES does not require the development of an IAP within a formal template. However DFES requires that ICs have a clear and shared set of objectives (SMART) and that IMT members are working towards achieving these objectives. The IC is responsible for determining when the IMT is appropriately resourced to undertake development of an IAP within a formal template. At this level of Informal IAP the use of Personnel Incident Diaries (PID) is compulsory for all IMT members.

As a formal IAP does not exist during this phase, all personnel attending the incident are required to receive a briefing from the Operations Section prior to commencing firefighting activities. This briefing should be recorded by the personnel receiving the briefing on the Operations Prestart. The Operations Officer delivering the briefing is to deliver the briefing in a SMEACS format, ensuring that all information required for the Operations Prestart is provided. During this briefing the Operations Officer must ensure that the information given to personnel is consistent and accurate.

6.   Operations Prestart

Each appliance in WA has been equipped with an Operations Prestart book. The Operations Prestart book is to be completed by the OIC for the appliance/crew during the initial briefing. The Operations Prestart book is a summary of the current situation, strategies, tactics, communications and safety structures. The information is to be provided by the Operations Officer (or their delegate). The Operations Prestart book is the minimum information that must be obtained by the OIC prior to commencing firefighting activities.

The Operations Prestart book includes:

- The Header which captures the incident name, incident number, date and time of briefing, controlling agency, incident level and shift the crew has been assigned.
- A record of who delivered the briefing.
- The State Strategic Control Priorities which define the response to all WA bushfires.

DFES SAP 3.2.C – Incident Action Planning – Version 1.1   2

- Incident Control Point or Operations Point location and communications.
- Sector allocation, communications and information.
- Operational Strategies and Tactics.
- Safety Messages and Priorities.
- A LACES checklist to be completed and maintained by the OIC.
- Space for a Sketch Map of the incident/sector to be completed by the OIC.

Operations Prestart

7.   Incident Action Plan – LITE (IAP-LITE)

Development of an IAP-LITE commences once the IC determines the IMT is appropriately resourced to manage the operational tempo and escalation of the incident and simultaneously develop a documented IAP. The IAP-LITE template has been developed to meet the requirements of both the escalation and de-escalation phases of an incident. The IAP-LITE is a double sided A3 document containing a SMEACS summary of the IAP and an A3 incident map. The PO is responsible for managing the development of the IAP-LITE.

Annex A describes the process for completion of the IAP-LITE.

Annex A – Developing an IAP-LITE

The IAP-LITE has a number of limitations, reaching a limitation of the IAP-LITE is an indicator that the IC/PO should shift to use of the full IAP template. Some of these limitations include:

- Two divisions and ten sectors
- Restricted space for IMT positions
- Restricted space for objectives, strategies, tactics and logistics arrangements.

IM Toolbox IAP-LITE

8.   Incident Action Plan (IAP)

The IAP template is the highest level of DFES IAP. Development of the complete IAP template commences once the IC determines the scope of the IAP-LITE has been exceeded. The PO is responsible for managing the development of the IAP. The IAP may be split into functional components and developed by individual components of the IMT. The IAP is an A4 document in a SMEACS format that contains the following compulsory forms:

IAP Form Number:	IAP Form Name:	Relevant IMT Function:
IAP-01 (AUG16)	Incident Action Plan Cover Sheet	Planning
IAP-02 (AUG16)	Incident Situation	Planning/Intelligence
IAP-03 (AUG16)	Mission and Execution	Planning/Operations
IAP-04 (AUG16)	Administration and Logistics	Logistics/Planning
IAP-05 (AUG16)	End of Shift Instructions and Arrangements	Logistics/Planning
IAP-06 (AUG16)	Organisational Structure and IMT Communications Plan	Planning
IAP-07 (AUG16)	Operations Communications Plan	Planning
IAP-08 (AUG16)	Safety	Planning/Safety/Operations
IAP-09 (AUG16)	Additional Notes	Planning
IAP-10 (AUG16)	Division Plan	Planning/Operations
IAP-11 (AUG16)	Sector Plan	Planning/Operations

Annex B describes the process for completion of the full IAP.

Annex B – Developing an Incident Action Plan

IM Toolbox IAP

9.   Authorisation of the IAP

Prior to publication the entire IAP must be reviewed and approved by the IC. Each member contributing to development of an IAP form must complete the 'Developed By' section at the base of the relevant form.

DFES SAP 3.2.C – Incident Action Planning – Version 1.1   3

Where an IC is appointed as an 'authorised person' under Section 13 of the Bush Fires Act of 1954, the Section 13 appointment form must be included with the IAP and referenced in the Key Messages section of the IAP.

10.   Distribution of the IAP

The Planning Officer is responsible for ensuring that once completed, reviewed and authorised, the IAP is distributed to its intended recipients. The IAP for a specific operational period must be distributed (in printed hard copy) to:

- Members of the IMT
- Division and Sector Commanders
- Appliance OIC/Crew Leaders (Brief Distribute to crew/team members)
- Operations Section Personnel
- Operations Points/Briefing Points
- Forward Control Points
- Relevant Incident Stakeholders

For maintenance of records, and visibility of progress, the authorised IAP must be uploaded to the WebEOC Information Log as soon as practicable.

11.   Supporting Documentation and Forms

The DFES IAP templates provide a summary of the entire IAP and planning process. The planning process, intelligence development, analysis and predictions completed by the IMT all contribute to the development of the IAP. Additional information, forms and documentation can be attached to the IAP if relevant to its intended audience.

Records must be maintained of all work completed by IMT members in accordance with SAP 3.1.J – EOC Administration.

Annexes.

A.   Developing an IAP-LITE
B.   Developing an IAP

ANNEX A Developing an IAP-LITE

The IAP-LITE template is available on the IM Toolbox.

Step One: The IAP Header
The IAP Header is at the top of the A3 Page. It includes the incident name and number, date/time, controlling agency, incident level, operations period and signatures for both developer and approver.

INCIDENT ACTION PLAN (LITE)						Operations Period:	
Incident Name:		Date/Time:	Developed By:		Approved by:	
Incident Number:	Controlling Agency:	Incident Level:	Sign:		Sign:	

The Planning Officer (PO) is to ensure the IAP Header is complete and approved by the Incident Controller (IC).

Step Two: Situation
The Situation component of the IAP-LITE is designed to provide a rapid overview of the current and potential incident situations. The Situation component requires the Planning Officer to undertake analysis of the Spot Weather Forecast, Fire Predictions and Potential Risks.

The following information (in red) should be captured in the Situation component:

SITUATION

Position of the Fire: (ESD, UBD, etc)	Provide an Overview of the fires current location.	Size (ha):	Size in Hectares

Fire Behaviour Analysis:
Utilise the Spot Weather Forecast and develop a fire behaviour prediction (rates of spread, intensity and spotting) provide an overview of potential fire behaviours and their implications.

Community Values at Risk:

Life:	Infrastructure:	Other Community Values:
Describe the threats the incident presents to life.	Describe the threats the incident presents to infrastructure.	Identify any other community values that may be at risk.

Trigger/Decision Points and Contingencies:
Describe any decision or trigger points and their contingency plans.

A suggested process for developing the Situation component is:
- I. Identify the position of the fire
- II. Develop predictions for RoS, Intensity and Spotting
- III. Plot Predictions on a Map
- IV. Identify potential Community Values at Risk (from the predictions)
- V. Decide on Triggers or Decisions that must be made.

Step Three: Mission
The Mission component of the IAP-LITE includes two sections. The FES Commissioners Intent will be provided at times to outline a strategic coordinated intent for the State. The

Objectives section captures the Incident Objectives set by the IC. Objectives should be numbered.

MISSION	
FES Commissioner's Intent:	The FES Commissioner will at times outline a strategic intent for the state.
Objectives (SMART):	

List the incident objectives here. Clearly number them.

1) Objective One
2) Objective Two

'Management by Objectives' is a key function of AIIMS. The objectives are the mission of every person at the incident. The objectives are set based upon the current and potential situation in the context of legislation, policy and Doctrine.

Step Four: Execution

The Execution component of the IAP-LITE provides the strategies, tactics and priorities to achieve the incident objectives.

EXECUTION
Operational Strategies, Tactics and Priorities:

Outline the priorities.

Then outline the strategies to achieve the objectives.

Then outline the tactics to achieve the strategies.

The Execution component of the IAP-LITE provides the PO with the opportunity to link the current situation to the objectives and the objectives to the strategies and tactics. This clearly articulates to the recipients of the IAP-LITE the objective they are working to and the strategy for achieving the objective.

The information provided in the Execution component of the IAP-LITE must be thorough, but is not designed for lengthy discussion. It is an overview of strategies, tactics and tasking to support the recipient in tasking their personnel or team.

Step Five: Administration and Logistics

The Admin and Logs component is designed to capture essential messages related to logistics that are relevant to personnel within the operations section. This component covers catering arrangement, supply arrangements and medical services. In completing these sections where possible, list a point of contact.

ATTACHMENT 14.2.2

ADMINISTRATION AND LOGISTICS
Logistics Arrangements:
Catering:
Where and when is catering being provided? How is it obtained?
Supply:
What supplies are available? Where and when are they available?
Medical Services (including First Aid):
What medical services are available? Where? How are they obtained?

Step Six: Command and Communication

This component provides an overview of essential elements of the incident structure, communications and operations structure.

COMMAND AND COMMUNICATION					
Incident Management Team Structure and Communications:					
Incident Controller:		P:	Planning Officer:		P:
Operations Officer:		P:	Plans U/L:		P:
Logistics Officer:		P:	Resources U/L:		P:
Public Info Officer:		P:	Mngmt Support U/L:		P:
Safety Advisor:		P:	Intelligence Officer:		P:
Incident Communications Plan					
Ops Point Location:					
Communications Plan #:		Command Ch:		Ops Point/ICV Phone:	

Incident Communications Plan - Divisions

Division Name:		Division Channel:		Division Name:		Division Channel:	
Sector:	Sector Commander:	Phone:	Channel:	Sector:	Sector Commander:	Phone:	Channel:

PO are to ensure that all appointed positions are filled and that a contact phone number is provided. There is space for two divisions, each with five sectors. If no divisions have been established the sectors can be utilised but the divisions should be filled with N/A.

Step Seven: Safety

This section allows the PO to capture safety messages relevant to all operations personnel. Safety messages should include a hazard/risk and a risk control. Each message should be numbered.

SAFETY

Safety Messages:

List all Safety Messages here. Ensure they are numbered.

1) Safety Message One
2) Safety Message Two

A reminder: **These are Safety Messages. They are not Red Flag Warnings. The SOP X.X.X describes the process for issuing Red Flag Warnings.**

Step Eight: The Map

Click on the vacant space on the second page of the IAP-LITE and it will prompt you to attach a map. It is suggested that you create a jpeg map from FESMAPs to upload here.
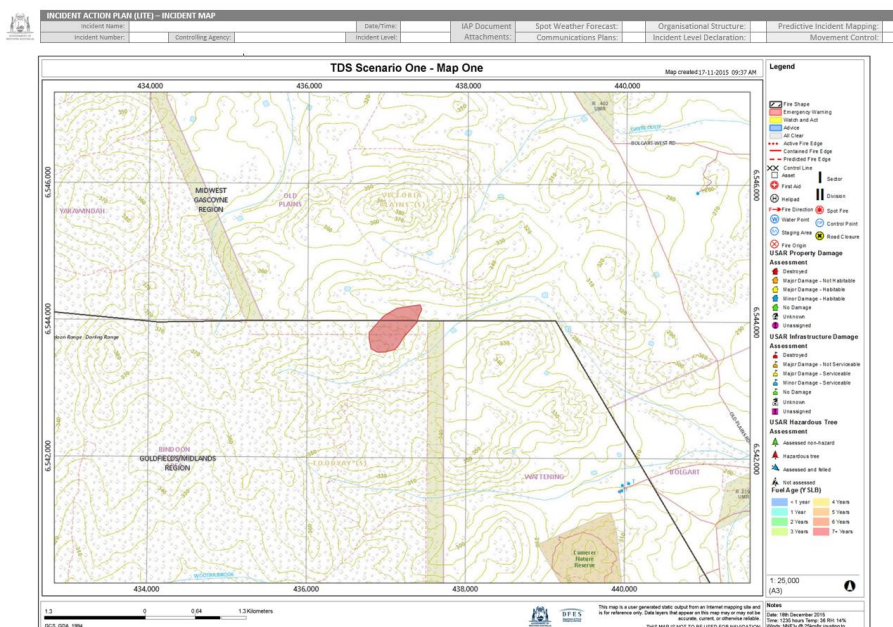
The map should include any information or data relevant to operations section personnel.

Step Nine: Additional IAP Attachments

The Header on the second page provides an opportunity to indicate any attachments to the IAP-LITE. These are not compulsory, but can be considered if of relevance to personnel at the incident.

IAP Document Attachments:	Spot Weather Forecast:		Organisational Structure:		Predictive Incident Mapping:	
	Communications Plans:		Incident Level Declaration:		Movement Control:	

Step Ten: Approval

Prior to publishing the IAP-LITE and distributing it to all personnel as indicated in the SAP. The IC must review and approve the IAP. The IC must indicate this approval on the Header of the first page, by signing in the approval box provided.

	Operations Period:	
Approved by:		
Sign:		

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ATTACHMENT 14.2.2

ANNEX B Developing an IAP

The full IAP template is available on the IM Toolbox.

Step One: The Header
Every page/form of the IAP has a header. The information captured on the header is the same on each page/form. This includes:

- Incident Number
- Incident Name
- Date/Time the IAP was Developed
- Incident Level
- Controlling Agency
- Incident Shift

The PO is responsible for populating the header with the correct information. The header will automatically copy this information to all pages/forms of the IAP.

Step Two: The Developed By Footer
On each page/form of the IAP there is a footer. The footer captures the information of who developed each page/form of the IAP. The PO is responsible for ensuring this is completed by the developer of each form.

Take note that next to each footer is the form number and version control.

IAP 01
AUG 16

Step Three: The Cover Sheet and Contents
The Cover Sheet and Contents page outlines the content of the IAP template. Each section of the IAP is listed with a tick box to indicate that it has been completed and included.
In addition the page includes a section to present the FES Commissioner's Intent, this intent statement is issued at the discretion of the FES Commissioner in response to a strategic risk. The page also includes a section for Key Incident Messages. Key Incident Messages are messages related to the IAP that the IC determines are essential to be communicated on the cover sheet.

Lastly the page contains the IC Approval Section. This is where the IC is required to sign and date to indicate their approval of the completed IAP.

Step Four: Situation
The Situation page provides the IAP reader with a snapshot of the IAP operational period. It provides the current situation, status, impacts, predicted situation and impact, shift timeline and an analysis of fire behaviour.

The first section of the page is the current incident situation and status. Here the Planning Section (or intelligence section) provides an overview of the current situation, the incident size and provides a percentage of the incident that is controlled, contained and going.

ATTACHMENT 14.2.2

SITUATION							
Current Situation:						**Size:**	ha
(Overview of current incident situation)..							
Incident Status:	Going:	%	Contained:	%	Controlled:		%

The second section of the form provides an overview of the current and predicted impacts of the incident. The Planning and Intelligence Sections should utilised the information and data available to determine the probable scenarios and provide an overview of their impacts.

Current Impact on Life, Property and Infrastructure:
(Overview of damage and loss of infrastructure, property and life)..
Predicted Situation and Impact:
(Overview of incident potential and impact)..

The third section is the Incident Shift Timeline. The timeline is an overview of key milestones and events that will occur during the operational period of the IAP. This should provide an overview of IMT and ISG meetings planned as well as key events such as changeovers, situation reporting and shift completion.

Incident Shift Timeline:	
Date/Time:	Milestone: *(ie IMT Meeting, ISG Meeting, Situation Reports, IMT/Crew Changeovers)*

The final section of the page is the Fire Behaviour Analysis (FBA). The FBA is split into a commentary box and a table that described the peak conditions for fire behaviour in the different vegetation types present at the incident.

The FBA commentary provides scope for an additional attachment to be included with the IAP, such as a prediction map or a detailed fire behaviour analysis or prediction.

Fire Behaviour Analysis:	**FBA Attached:**	

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The FBA table captures the peak (maximum) predictions for fire behaviour. This should be informed by the Spot Weather Forecasts issued for the incident.

Fire Behaviour Analysis (Peak Conditions):				
Fuel Type	Fuel Age/Load	ROS (m/hr)	Flame Height (m)	Spot Distance (m)

Step Five: Mission and Execution

So far the IAP has discussed current and predicted situations and incident behaviour. This provides the background which determines the objectives for the incident and the strategies and tactics employed to achieve those objectives.

The Mission and Execution page of the IAP outlines the incident objectives, strategies, tactics, decision points, trigger points and contingencies.

The first section is the incident objectives.

MISSION
Objectives (SMART):

The Second section is an outline of strategies, tactics (where appropriate) and operational priorities.

EXECUTION
Operational Strategies, Tactics and Priorities:

The final section is an overview of key decision and trigger points and the contingencies in place to address them.

Trigger/Decision Points and Contingencies:

Step Six: Administration and Logistics

The Admin and Logistics page/form can be split into Catering Arrangements, Vehicles and Machinery and Medical Arrangements. Each section of the IAP includes the ability to include additional attachments (via the comments page or a separate form).

The Catering Arrangements sections includes space to provide an overview of catering arrangements or an instruction on how operational personnel can obtain catering. The second section provides an overview of the catering timeline, specifically what meals will be provided when and where they will be provided.

ATTACHMENT 14.2.2

ADMINISTRATION AND LOGISTICS				
Catering Arrangements (Meals and Drinks):			**Additional Attachment:**	

Catering Timeline:				
Time Period:	**Meal Type/Level:**		**Quantity:**	**Catering Point Location:**

The Vehicles and Machinery section provides an overview of arrangements to sustain the functioning of machinery, vehicles and plant at an incident. This includes refuelling points and minor service (repair) locations.

Vehicles and Machinery:	Additional Attachment:	
Refuelling Location:		
Minor Service Location:		

The Medical Arrangements section provides space for commentary on key medical or first aid procedures in use at the incident.

Medical Arrangements:	Additional Attachment:	

This section then provides space to overview the locations of first aid points, hospitals and ambulances in the area. The final section of the page/form allows the IMT to provide an overview of arrangements in place to retrieve injured personnel from the fireground.

First Aid Point Locations:	
Hospital Locations:	
Ambulance Locations:	
Fireground Retrieval Arrangements:	

Step Seven: End of Shift Instructions and Arrangements

This form/page provides an overview to operational personnel of the instructions they must be aware of and the arrangements in place for the end of their shift. The sections of the form allow space for commentary on what the personnel should do at the end of their shift. Each section has the space to tick to indicate an additional attachment has been included. The form/page covers time keeping which includes T-Cards and briefings, transport arrangements, accommodation (specifically where this information can be found), and records management.

Step Eight: Command and Communications – Organisational Structure and IMT Communications Plan

The Command and Communications form/page includes two sections. The first section is the Organisational Structure and IMT Communications Plan, and a list to capture additional contacts.

The Organisational Structure and IMT Communications Plan captures every AIIMS position or unit. For each position appointed their name, contact number and organisation must be recorded on the plan.

COMMAND AND COMMUNICATIONS			
Organisational Structure and IMT Communications Plan:			
Position	Name:	Contact:	Organisation:
Incident Controller:			

The Contacts List provides space for the name, contact number and organisation of any additional key contacts.

Contacts List:		
Name:	Contact:	Organisation:

Step Nine: Command and Communications – Operations Communications Plans

This page/form may need to be attached numerous times depending on how many Divisions or Sectors are activated.

The Operations Communications Plan provides an overview of the Operations Section structure at the incident and the communications plan that supports the structure. The first section of the form is an overview of the Operations Section of the IMT and their contacts.

COMMAND AND COMMUNICATIONS					
Operations Communications Plan:					
Operations Point Location:				Ops Point Phone:	
Control (CC↔OP) Channel:		Command (OP↔D) Channel:		Operations Point Fax:	
Position	Name:	Contact:		Organisation:	Other:
Operations Officer:					
Deputy Operations Officer:					
Air Operations Officer:					
Plant Operations Manager:					
Staging Area Manager (1):					
Staging Area Manager (2):					
Investigation Officer:					

The second section of the form is the division and sector structures and communications plan. This includes three divisions and five sectors per division. For each division or sector the form captures the division/sector name, commanders name, location, call sign, radio channels and mobile phone. **It is important to note that the division commander operates**

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on the control and division command channels and the sector commander operates on the division command and sector command channels.

Division Communications:		
	Division	Sector
Name:		
Commander:		
Location:		
Call Sign:		
Radio Channel:	D↔Sectors:	On Sector:
Mobile Phone:		

Step Ten: Safety

The Safety Page/Form captures all key safety messages for the operational period of the IAP. Be aware that **SAFETY MESSAGES ARE NOT RED FLAG WARNINGS**.

SAFETY
Safety Messages:
•
•

Lastly the form captures the key contacts for peer support and welfare for both DFES and P&W.

Welfare and Support Arrangements:		
Support Service:	Contact Number:	*These services are provided at no cost to all personnel (career and volunteer), services are available 24/7.*
DFES Employee Assistance Number (24/7):	1300 307 912 (People Sense)	
	1300 667 700 (Access)	
DFES Chaplain and Peer Support (24/7):	9485 7800	
DPaW Employee Assistance Program(24/7)	1300 307 912 (People Sense)	
DPaW Chaplain	0400 534 134	
DPaW Peer Support	See Chaplain / intranet	

Step Eleven: Additional Notes

The final official page of the IAP captures any additional notes or overflow from earlier forms in the IAP where no attachment was available or included.

If notes are included on this form, it should be made clear in the relevant section of the IAP where they are included.

Step Twelve: Approval

Once the IAP is collated, completed and checked appropriately for accuracy the IAP is to be approved by the IC. The IC must be confident of the IAPs accuracy and currency for the operational period it is issued for prior to its approval.

To approve the IAP the IC must sign and date the approval section on the cover sheet of the IAP.

Incident Controller Approval:			
Incident Controller:		Date/Time:	
Signature:			

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Oct 16	New document developed by DFES State Operations in conjunction with P&W and LG.
1.1	Mar 17	Additional text added to section 6 Informal IAP's. Extra dot point added to section 11.

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DFES
Department of Fire &
Emergency Services

Standard Operating Procedure 2.1.2
Mobilising

Introduction

This procedure outlines the **Initial Mobilisation** and subsequent mobilisation (**upon classification**) for all DFES hazards (including combat roles) and levels of response; as well as the Emergency Management notifications required. Annexures provide additional support and arrangements for Operations. The initial mobilisation of resources is dependent on the information received by the Communications Centre (ComCen) together with any level of threat. The ComCen may alter the initial mobilisation based on Triple Zero (000) or SES (132500) caller interrogation. Whilst Marine Rescue is mobilised by WA Police, Marine Rescue Western Australia is managed by the Department of Fire and Emergency Services (DFES).

The DFES Computer Aided Dispatch (CAD) system utilised for Initial Mobilisation of resources has pre- determined Response Messages as agreed with appropriate stakeholders within all DFES regions.

To deliver services as planned, the District Officer ComCen (DOCC) will ensure that Communications Systems Officers (CSO) review the CAD Response Messages prior to mobilisation. The DOCC will decide on any deviations from the Mobilising SOP or Response Messages as appropriate. The CSO Response Message review process should be conducted as part of the incident creation process and should not delay the initial and subsequent response/s.

When a Brigade, Group, Unit or Service (BGUS) is unable to mobilise, the next nearest BGUS will be mobilised, and the Regional Duty Coordinator (RDC)/Metropolitan Duty Coordinator (MDC) notified of the variation.

Procedures

1.   Incident Response

The CSO, in consultation with the DOCC is to assess incident intelligence and mobilise accordingly. Based on information received while en-route to an incident, the Incident Controller (IC) or DOCC can upgrade Initial Mobilisation as required.

For life critical incidents, ComCen may respond the quickest/closest appropriate resource based on their current AVL location. This decision may result in BGUS/resources responding to incidents which would not normally be in their area of responsibility.

Once classified, a pre-determined set of resources as per this procedure will continue en-route, be mobilised, or stood down to match the classification of the incident.

If an incident is not classified within 5 minutes of arrival of the first appliance, the DOCC/CSO will request the classification from the IC. Where there is no classification forthcoming, the DOCC will classify the incident as per initial mobilisation, mobilise additional resources and implement notifications accordingly.

Requests for additional resources can be made during the "Assistance Required" section of the situation report (PAFTACS/HAULERS/SitRep) to the ComCen/RDC and BGUS. The IC should use local knowledge, plans and information received to determine mobilisation of the appropriate resources for the type, terrain, and location of the incident.

All calls by Direct Brigade Alarm (DBA) will be investigated by the IC to establish the reason/s for activation. Calls by Private Alarm will be treated as per SOP 3.4.7 – DBA and Private Alarms

2.   District Officer ComCen

The DOCC shall have the authority to alter predetermined mobilisation, CAD recommendations and notifications listed in this document based on the intelligence received. This alteration shall be communicated to all initial responding vehicles and noted in CAD. In addition, the appropriate DO (metro)/RDC (country) will be notified when FRS/VFES resources are mobilised out of gazetted fire districts or BFB brigades are mobilised into gazetted fire districts.

3.   Initial Mobilising

Recommended initial mobilising to a range of incidents is outlined in the attached mobilising tables and is subject to the resources being available. Other mobilising plans have been designed for some DFES regions and may include recommended additional resourcing.

4.   Enhanced Mobilising – Property Fire

The intent of enhanced mobilising is to ensure an appropriate weight of response to Triple Zero calls. For standard residential structure fires, three (3) structural capable appliances are to be mobilised where capacity allows. For large/multi storey residential, commercial, and public buildings, an initial response of four (4) structural capable appliances will be mobilised where capacity allows.

As per the mobilising annex, if an incident is not classified within 5 minutes of the first arriving appliance, the DOCC can classify the incident (after trying to contact the IC) as per initial mobilisation and mobilise additional resources accordingly based on identified risk and other reported information.

5.   Enhanced Mobilisation/Zone Response – Bushfire

During high threat periods, enhanced mobilisation is activated. Enhanced mobilising to bushfires is designed to deliver a weighted additional response to reduce fire spread and intensity in the early stages of the fire. Enhanced mobilising will be activated from 08:00 to 18:00hrs during the High Threat Period. This may be extended or reduced beyond these hours depending on risk.

Perth Metropolitan enhanced mobilising consists of three (3) Tankers (at least one being a 2.4/3.4/4.4) on initial turnout.

Zone 2/2A activations are initiated in conjunction with Department of Biodiversity Conservation and Attractions (DBCA), local government bushfire brigades and joint DFES/DBCA air operations. This ensures a response from each agency including Air Operations support as well as ComCen notifications for fire incidents.

Zones 2 / 2A and Metropolitan Enhanced Air Operations Response Protocols

Other zone response arrangements can be invoked or suspended at any time with agreement from the participating stakeholders. These enhanced mobilising details are contained within CAD.

IM Toolbox – Zone Responses
Concept of Operations Enhanced Zone 3 Mobilising
South West Region Zone Response
Capes Zone Response
Donnybrook-Balingup Response Zone Response
Blackwood Valley Zone Response
Greater Albany Zone Response

6.   Air Operations

DFES Operations utilises aviation resources to deliver aerial fire suppression, air intelligence gathering, emergency rescue helicopter services and air transport capabilities. Air Operations mobilising, including Automatic Response Zones, is detailed within SOP 3.11.1 – Aerial Suppression Response

7.   First Arriving

Classification of incident type within 5 minutes of arrival is critical to mobilising and notification processes. The officer of the first arriving appliance is to classify incidents as early as possible to ensure timely activation or stand-down of additional resources and associated notifications. ICs are to request specific fleet types to suit the hazard within the incident classification. DFES ICs are not to request resources from a specific Brigade/Group/Unit.

Local Government (LG) CBFCO, DCBFCO or FCO, and LG or VFES ICs (where approved by LG) may request specific resources or resources from a specific Bush Fire Brigades within their LG. CBFCO and DCBFCO may also request additional specific mobilising of BFB resources to incidents within their LG to incidents in neighbouring LGs at the request of neighbouring CBFCOs or the ComCen.

8.   Appliance Capability

DFES has a range of vehicles that can deliver a capability. Each mobilisation table (excluding Natural Hazards/Logistics) mobilise Primary Appliances (PA) that deliver the capability. PA are generally considered to be:

- Bushfire Vehicles – Tankers. Note pumpers attached to a LT will also be mobilised, which will be included in the appliance count.
- Property Fire Vehicles (PFV) – Pumper, Urban Tanker (UT) with Breathing Apparatus.
- Rescue Vehicles – Pumper with RCR capability, Rescue Trailer, Road Crash Rescue Tender. Some vehicles may have specialised rescue capability, such as Heavy Rescue or Confined Space Rescue.
- HAZMAT Vehicles – Pumper with HAZMAT capability, UT with HAZMAT capability, HAZMAT Trailer.
- Special Risks – These shall generally be PFV, unless risk warrants an alternative capability.

9.   Incident Alarm Classifications

Alarm classifications are used by fire related services to classify an incident. An alarm classification will automatically mobilise pre-determined resources and initiate notifications to pre-determined agencies and stakeholders. The IC can request additional resources/capability beyond the current alarm classification, however, where resourcing reaches the next level of alarm classification, the incident shall be classified at the higher alarm level. Alarm classification tables are found later in this document.

Generally, excluding bushfire, alarm classifications are based on the following principles:

- 1 PA -> 1st Alarm
- 2 PA's -> 2nd Alarm
- 3 PA's -> 3rd Alarm
- 4 PA's -> 4th Alarm
- 5 PA's -> 5th Alarm

Where a capability requires a pumping appliance to deliver or support this function (i.e., Combination Ladder Platform, Foam Trailer) this appliance will not be included when determining alarm classification. Any incident that is not a bushfire with more than 5 appliances in attendance will be maintained at 5th Alarm.

Natural Hazard incidents do not use alarm classifications, but request resources based on current workload. This is usually arranged via the RDC/MDC or onsite DFES IC.

10.   Downgrading Resources

The IC may downgrade the resources at any time. The incident will remain at the highest alarm classification made during the incident. Alarm classifications cannot be downgraded.

11.   Incident Level Declarations

Incident Level declarations are to be in accordance with the *State Emergency Management Procedure* which requires an IC to assess the incident level of each emergency. All incidents are deemed to be Level 1 unless declared otherwise by the IC. Further detail is covered in the WAFES Manual Part Five – Incident Management Teams

12.   Fire Investigation Officer

The on-call Fire Investigation Officer (FIO) will mobilise to incidents as per the Field Guide 3.2.3 – Fire Investigation and is to be notified of all incidents involving injuries or fatalities as a result of fire.

Field Guide 3.2 – Fire Investigation Response

13.   Notifications

All incident notifications are to be carried out as per Annexes J and K of this document.

14.   Country Variations

It is acknowledged that mobilising tables cannot be applied to every incident across the state, due to location and availability of resources and distances. Where initial and subsequent mobilisation cannot be achieved, the RDC shall be contacted to discuss alternative arrangements.

Annexes

A	Outside Fire District Responses
B	VFRS/VFES Mobilisation – Country
C	BFB Mobilisation
D	SES Mobilisation
E	Marine Rescue WA Mobilisation
F	Heavy Rescue
G	Special Operations
H	Shipping
I	Aircraft
J	Notifications from DOCC and DOSS
K	Notification to Other Agencies
L	Turnout Enquiries

ATTACHMENT 14.2.2

	BUSHFIRE		
	INITIAL MOBILISATION		
High Threat Period	Gazetted Fire District	2 x PA **or** Enhanced Mobilising **or** Zone Response	
	Outside Gazetted Fire District	As per 000 Agreement **or** Enhanced Mobilising **or** Zone Response	
Medium Threat Period	Gazetted Fire District	1 x PA	
	Outside Gazetted Fire District	As per 000 Agreement	
	UPON CLASSIFICATION		**NOTIFICATIONS**
	IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL OF FIRST APPLIANCE, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE		
1st Alarm	Gazetted Fire District	1 x PA + 1 x Tanker	
	Outside Gazetted Fire District	1 x Brigade	
2nd Alarm	Gazetted Fire District	2 x PA + 2 x Tankers - up to 6 appliances in total	
	Outside Gazetted Fire District	6 x Tankers - up to 6 appliances in total	
3rd Alarm	Gazetted Fire District	3 x PA + ICV + up to additional 6 Tankers as requested + DO/AO – up to 12 appliances in total	DOSS + MDC/RDC + Supt. (Metro BH/Metro IMT AH)** + CPI + MLO + Utilities + WA Police
	Outside Gazetted Fire District	7 – 12 Tankers/Appliances (as requested) + CBFCO/CESM + ICV + BWC + DO/AO – up to 12 appliances in total	
4th Alarm	Gazetted Fire District	> 12 Tankers/Appliances + ICV + 2 or more DO/AO + Supt.*	As above + Fleet Service Tech*
	Outside Gazetted Fire District	> 12 Tankers/Appliances + CBFCO/CESM+ ICV + 2 or more DO/AO + Supt.*	
NOTE:	1. The DOCC to liaise with the MDC/RDC for additional resources and calling back additional staff. 2. The DOCC may vary mobilisation where there is a known UXO risk in the area of the incident 3. When FIO contacted, notify media separate to MLO on (0409 486 414) * Metro only ** Supt. may mobilise if they deem appropriate		

ATTACHMENT 14.2.2

PROPERTY FIRE			
INITIAL MOBILISATION			
Minor	Mobile Property/Small Structures **	1 x PA **OR** as per 000 Agreement outside Gazetted Fire District (GFD)	
Call by Alarm	DBA/Private Alarm	1 x PA or as per the DBA CAD modifying circumstance	
Residential Building	Gazetted Fire District	2 x PA + 1 x PA where capacity allows	
	Outside Gazetted Fire District	As per 000 agreement + PFV ***	
Commercial Buildings	Gazetted Fire District	3 x PA + 1 x PA where capacity allows	
	Outside Gazetted Fire District	As per 000 agreement + nearest PFV ***	
UPON CLASSIFICATION			**NOTIFICATIONS**
IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL OF FIRST APPLIANCE, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE			
1st Alarm	Gazetted Fire District	1 x PA	
	Outside Gazetted Fire District	LG + 1 PFV***	
2nd Alarm	Gazetted Fire District	2 x PA	Utilities + WA Police. FIO (if undetermined or suspicious)
	Outside Gazetted Fire District	LG + 2 x PFV*** + CBFCO/CESM	
3rd Alarm	Gazetted Fire District	3 x PA + SET **or** 1 x BA Trailer + DO/AO (Urban) + Building Fire Safety Officer[5] (FSO) + 1 x Aerial Appliance (if multi storey structure or requested by IC)*	Above + DOSS + FSO + MLO + MDC/RDC + Supt.
	Outside Gazetted Fire District	LG + 3 x PFV*** + CBFCO/CESM + DO/AO (Urban/Rural) + FSO[5]	
4th Alarm	Gazetted Fire District	4 x PA + SET **or** 1 x BA Trailer + ICV + 1 x Aerial Appliance* + 2 x DO/AO (Urban) + MLO + FSO[5] + FIO	Above + CPI + SOA + Fleet Service Tech*
	Outside Gazetted Fire District	LG + 4 x PFV*** + CBFCO/CESM + 2 DO/AO (Urban/Rural) + FSO[5]	
5th Alarm	Gazetted Fire District	5 or more PA + SET **or** 1 x BA Trailer + ICV + 1 x Aerial Appliance* + 2 x DO/AO (Urban) + 1 x SUPT + MLO + FSO[5]+ additional resources as required	As above
	Outside Gazetted Fire District	LG + 5 x PFV*** + CBFCO/CESM + 2 DO/AO (Urban/Rural) + 1 SUPT ± MLO + FSO[5] + additional resources as required	
NOTE:	1. **FRS resources mobilised outside of Gazetted Fire District – liaison must occur with MDC/RDC, and response must be communicated to CBFCO.** 2. **Confirmed fire in 4 + storey structures = 5th Alarm.** 3. **The DOCC to liaise with the MDC/RDC for additional resources and calling back additional staff.** 4. **When FIO contacted, notify media separate to MLO on (0409 486 414)** 5. **FSO mobilised to Metro based 3rd Alarm or above property fires, HAZMAT/Fires, excluding single/duplex residential property fires** * **Metro only** ** **Small Structures include sheds, fences, rubbish bins, out buildings, etc.** *** **Where available/practical**		

ATTACHMENT 14.2.2

RESCUE			
INITIAL MOBILISATION			
Rescue		2 x PA	
Confined Space		METRO - 1 x PA + 1 x SET + PERTH 1st + Perth 2nd + PERTH VRV COUNTRY – 2 x PA + Local CSR Cache	RDC
Vertical Rescue		METRO – 1 x PA + Perth 1st + Perth 2nd + Perth VRV + DO PERTH (SES VR for Cliff Rescue) + On Call DO NH If SES mobilised COUNTRY – 1 x PA + (SES VR for Cliff Rescue) + DO NH If SES mobilised. Local VR Crews as per RDC recommendation	RDC
USAR		2 x PA + 1 Heavy Rescue Appliance + DO/AO (Urban) + On Call DO NH for SES participation where applicable.	RDC + SOA
Trench Rescue		2 x PA + Trench Rescue* + SET* + DO/AO (Urban)	RDC + SOA
UPON CLASSIFICATION			**NOTIFICATIONS**
IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL OF FIRST APPLIANCE, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE			
1st Alarm		1 x PA	
2nd Alarm		2 x PA	
3rd Alarm		2 x PA + 1 x Heavy Rescue Appliance or Cache (where available) + DO/AO (Urban)	DOSS + SOA + MDC/+ (Metro Supt BH/IMT Supt AH) + CPI + MLO
4th Alarm		3 x PA + 1 x Heavy Rescue Appliance or Cache + 2 DO/AO (Urban)	As above + Fleet Service Tech*
5th Alarm		3 x PA + 2 x Heavy Rescue Appliances or Cache + 2 DO/AO (Urban) + 1 x SUPT + ICV + additional resources as required	As above
NOTE:		1. **The DOCC to liaise with the MDC/RDC for additional resources and calling back additional staff** 2. **One (1) firefighting truck to be sent to RCR** ∗ **Metro only**	

ATTACHMENT 14.2.2

HAZMAT		
INITIAL MOBILISATION		
Hazmat/Fire	2 x PA	
UPON CLASSIFICATION		**NOTIFICATIONS**
IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL OF FIRST APPLIANCE, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE		
1st Alarm	1 x PA	
2nd Alarm	2 x PA + 1 x SET **or** 1 x BA Trailer	SOA (for FLO response and HEAT) + DO (Urban - Metro)/RDC
3rd Alarm	3 x PA + 1 x SET **or** 1 x BA Trailer + ICV + DO/AO (Urban) + MLO	As above + DOSS + MDC/RDC + Metro Supt BH/IMT Supt AH + CPI + LG + FSO*
4th Alarm	4 x PA + SET **or** 1 x BA Trailer + ICV + 2 x DO/AO (Urban) + MLO	As above + Fleet Service Tech*
5th Alarm	5 x PA + SET **or** 1 x BA Trailer + ICV + 2 x DO/AO (Urban) + 1 x Supt. + MLO + additional resources as required	As above
NOTE:	1. **The DOCC to liaise with the MDC/RDC for additional resources and calling back additional staff.** 2. **Hazmat incidents (including Hazmat/Fire) contact SOA for assistance/information support and external agencies support.** 3. **Consider – foam requirements (A, B or Hi-Ex), tankers and BWC.** * **FSO to be mobilised to 3rd Alarm and above HAZMAT/Fires.** * **Metro only**	

ATTACHMENT 14.2.2

	SPECIAL RISKS			
	INITIAL MOBILISATION			
	Ship Fires		3 x PA	Relevant Port Authority
	Aircraft Emergency Level I (up to 18 seats)		3 x PA + 1 x Tanker (2.4/3.4/4.4) + 1 x BWC + 1 x ICV + 2 x DO/AO (Urban)	
	Aircraft Emergency Level II (up to 215 seats)		4 x PA + 2 x DO/AO + 1 x SET* + 1 X ICV + 1 x HR pump + 1 x Aerial Appliance* + MLO	
	Aircraft Emergency Level III (up to 560 seats)		5 x PA + 2 x DO/AO + 1 x Supt + 1 x SET + 1 x ICV + 1 x HR pump + 2 x Aerial Appliances + MLO + additional resources as required Consider – Foam requirement and BWC	
	UPON CLASSIFICATION			**NOTIFICATIONS**
	IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL OF FIRST APPLIANCE, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE			
1st Alarm	**Ship/Aircraft/Clan Drugs**		1 x PA	
2nd Alarm	**Ship/Aircraft**		2 x PA	DO + WA Police + DOSS + DO (metro)/RDC (country) + MLO
3rd Alarm	**Ship Fire**		3 x PA + 1 x DO/AO (Urban) + 1 x SET* + 1 x ICV + 1 x Aerial Appliance* + Hi-Ex Foam Unit + MLO	SOA + MDC/RDC + WA Police + SJA + DOSS + FIO + Regional Supt.
	Aircraft		3 x PA + 1 x Tanker (2.4/3.4/4.4) + 1 x BWC + 1 x ICV + 1 x Aerial Appliance* + 2 x DO/AO (Urban)	MLO + WA Police + SJA + DOSS + MDC/RDC + FIO + Supt.
4th Alarm	**All Incidents**		4 x PA + 2 x DO/AO (Urban) + 1 x SET* + 1 X ICV + 1 x HR pump + 1 x Aerial Appliance* + MLO	As above + CPI + Fleet Service Tech*
5th Alarm	**All Incidents**		5 x PA + 2 x DO/AO (Urban) + 1 x Supt + 1 x SET* + 1 x ICV + 1 x HR pump + 1 x Aerial Appliance + MLO + additional resources as required Consider - Foam requirement and BWC	
NOTE:	1. **The DOCC to liaise with the MDC/RDC for additional resources and calling back additional staff.** 2. **Crash at Perth Airport – Crews report to Emergency Gate 6.** 3. **For all operational notes refer to Annex I. including Country Aerodrome Mobilising.** 4. **When FIO contacted, notify media separate to MLO on (0409 486 414)** * **Metro only**			

ATTACHMENT 14.2.2

SPECIAL RISKS (mixed)				
INITIAL MOBILISATION				
	CBRN		SOA to determine response	
	Special Service		As determined by DOCC	
	Threat of Self-Harm		1 x DO/AO + 1 x Aerial Appliance (from height only)	
	Animal Rescue		1 x PA	
	Boat Incidents		As determined by DOCC	
	Late Calls		1 x PA	
UPON CLASSIFICATION				**NOTIFICATIONS**
IF INCIDENT IS NOT CLASSIFIED WITHIN 5 MINUTES OF ARRIVAL, DOCC WILL CLASSIFY BASED ON RESOURCES EN ROUTE				
1st 2nd Alarms	**CBRN**		SOA to determine resourcing	
	Special Service		As determined by IC/DOCC	
	Threat of Self-Harm		As determined by IC/DOCC (Chemical Suicide – see CBRN 1st Alarm)	
	Animal Rescue		As determined by IC/DOCC	
	Boat Incidents		As determined by IC/DOCC (consider portable pump)	On call Marine Services Officer if Marine Rescue required.
	Late Calls		As determined by IC/DOCC	
3rd Alarm	**All Special Risk Incidents**		3 x PA + 1 x DO/AO (Urban) + 1 x SET* + 1 X ICV	WA Police + SJA + DOSS + MDC/RDC + Metro Supt BH/IMT Supt AH + MLO + CPI
4th Alarm	**All Special Risk Incidents**		4 x PA + 2 x DO/AO (Urban) + 1 x SET* + 1 X ICV + 1 x HR pump + 1 x Aerial Appliances*	WA Police + SJA + DOSS + MDC/RDC + MLO + CPI + Fleet Service Tech*
5th Alarm	**All Special Risk Incidents**		5 x PA + 2 x DO/AO (Urban) + 1 x Supt + 1 x SET* + 1 x ICV + 1 x HR pump + 1 x Aerial Appliance* + MLO + additional resources as required	As above
NOTE:	1. **Mutual Aid will be supported where the request comes from a responsible authority.** 2. **Lock out incidents will only be attended if there is life or property at risk. Police should also be in attendance.** 3. **SOP 3.17.12 – Support to Threats of Self-Harm from Heights. Turn out will be under normal road conditions unless otherwise directed.** ∗ **Metro only**			

ATTACHMENT 14.2.2

NATURAL HAZARDS SEARCH/LOGISTICS		
INITIAL MOBILISATION		
Request for Assistance (RFA)	As determined by Local Manager/Captain/DOCC	
RCR	As per Rescue mobilisation table	
Land Search	DOSS receives request from WA Police and notifies the RDC/MDC, who will mobilise accordingly. Refer to SOP 3.14.1 – Land Search Tasking.	
Vertical Rescue	As per Rescue mobilisation table	
Maritime/Land Air Search	DOSS receives request from AMSA or WA Police and notifies the RDC/MDC, who will mobilise accordingly. Refer to SOP 3.14.2 – Air Search Tasking	
Local Unit Receipt of Call	Unit to discuss with DOCC/RDC/MDC	
Emergency Service (DFES/WA Police/SJA) Calls for Assistance	As determined by Local Manager/Captain/DOCC/RDC	
Ground Support	As determined by Local Manager/Captain/DOCC/RDC	
Communications Support	As determined by Local Manager/Captain/DOCC/RDC	
Flood water/Inland water operations	Unit with Flood Rescue Boat capabilities/RDC	
General	As determined by Local Manager/Captain/DOCC/RDC	
UPON INCIDENT APPRECIATION		**NOTIFICATIONS**
Low Level	Tasking by ComCen direct to Unit.	DO + RDC/MDC
Medium Level	ComCen receives calls and RDCs/MDC manage tasking.	MLO
High Level	DOCC notifies RDC/MDC that ComCen can no longer manage tasking and request the ROC/MOC, or Volunteer Call-Taking Group is stood up.	As above
NOTE:	1. ComCen continues to receive RFAs until the capacity can no longer support the hazard call volume against the other agency responsibilities. 2. This should be read in conjunction with **Annex D**	

ANNEX A Responses Outside Gazetted Fire Districts

Purpose	To provide the DOCC with the protocols to meet requests for FRS/VFES assistance to incidents outside of a Gazetted Fire District (GFD). All fires outside of a GFD are the responsibility of Local Government or DBCA.
Mobilising outside Gazetted Fire Districts	DOCC to evaluate • DFES responsibilities • Capabilities of responding resources • Request from Local Government or DBCA • The impact of sending resources outside the i.e., GFD Current activity within the GFD • The distance outside the GFD • Consideration of the resource capability being mobilised • Expected incident duration
Response to grass/scrub/bush fire	FRS/VFES resources will be dispatched as per existing/special mobilising plans. Notifications as per existing/special mobilising plans. If requested by LG or DBCA and not part of existing/special mobilising plans, the DOCC shall attempt to liaise with the appropriate DO/AO/RDC/MDC/MOO before mobilising resources.
Response to Structure fire (Residential/Commercial)	FRS/VFES will respond at the discretion of the DOCC. The DOCC will: Review the possible need for internal search and rescue/internal structure firefighting and liaise with the appropriate DO/AO/RDC/MDC/MOO The CBFCO and DO/AO responsible for that brigade must be notified if FRS/VFES are mobilised

ATTACHMENT 14.2.2

ANNEX B VFRS/VFES Mobilisation - Country

Purpose	To provide a consistent approach to country Volunteer turnouts.

Mobilisation	As backup for country stations could be several hours away, the following shall apply:
	• Initial VFRS/VFES turnouts outside of GFDs are at the discretion of the DOCC who will consult with the RDC.
	• Appropriate assistance may be sourced from:
	    • Local BFB and DFES BGUs.
	    • Regional BFB and DFES BGUs.
	    • State BFB and DFES BGUs.
	    • Private Brigades

Local Resourcing	Should the local resources be insufficient to deal with an incident, other resources (CFRS, BFB, DBCA and Private Mining etc.) should be considered in consultation with RDC.

ATTACHMENT 14.2.2

ANNEX C BFB Mobilisation

Purpose	To ensure the ComCen contact the LG CBFCO (as per the 000 agreement) and mobilise the appropriate BFB to all incidents within their area of responsibility.
Location of the incident	CSO is required to identify the location of the emergency by: • Interrogation of the Triple Zero caller • Use "Street Search" to target the location • If outside a DFES GFD notify the DOCC • DOCC to determine which LG based on incident information received.
Fire	Bush Fire Brigades are to be mobilised to **all fire incidents** within their area of responsibility: • Turnout procedures as per Triple Zero Agreement for the identified BFB/LG • BFB's/LG's are to be mobilised first on all occasions • Mobilise backup resources if required from LG or as requested by the LG CBFCO • DOCC determines if FRS/VFES resources are to be mobilised – if FRS resources are mobilised the LG representative (CESM/CBFCO) is to be advised. • Mobilise as per seasonal/regional protocols and/or-Enhanced Mobilising. • If incident is determined a Hazmat Fire, see Hazmat notes below.
Rescue	WA Police Force is the HMA for Road Crash and Air Crash Hazards: • FRS/SES/VFES resources to be mobilised as per CAD recommendations • Mobilising procedure as per Triple Zero agreement for the identified BFB/LG if requested by IC.
Hazmat	DFES is the HMA for Hazardous Materials Emergencies (HAZMAT). BFB's may be required to provide assistance at HAZMAT incidents: • BFB's may provide water at HAZMAT incidents for decontamination, if requested. • Mobilising procedures as per Triple Zero agreement for the identified BFB/LG if requested by IC.

ATTACHMENT 14.2.2

ANNEX D SES Mobilisation

Purpose	To provide a consistent approach to SES Units/Sections mobilisation.
Mobilisation	**Natural Hazard** Requests for assistance (RFA) are managed as outlined is SAP 2.2.B – Managing Requests for Assistance within Comcen. Low level of RFAs are received on 132 500 by ComCen and SES resources are dispatched by ComCen as per Unit/Section contact arrangements. Tasking by ComCen direct to Unit. Medium level of RFAs received – DOCC calls DO SWORD and initiates Volunteer Call Taker activation. High level of RFAs being received is more than ComCen/Region/Volunteer Call Takers capacity to answer and dispatch expediently and requires an outsourcing of calls receipt and recording of RFA in the tasking management system. **Road Crash Rescue** Mobilise as per the Rescue Response Matrix, where the SES unit has Road Crash Rescue primary response capability. **Land Search Including from Air** Mobilise as per the Natural Hazards Search/Logistics Response Matrix **Vertical Rescue** Multi-agency response with FRS depending on capability and location. **Maritime Air Search** Mobilise as per the Natural Hazards Search/Logistics Response Matrix **Local Unit Receipt of Call** Unit receives call for assistance and communicates with ComCen/RDC/MDC/MOO re: action required/taken. Unit establishes and maintains effective communications with ComCen and RDC/MDC/MOO. **Emergency Service (DFES, WA Police and SJA) Calls for Assistance** Structural collapse/stabilisation: • Calls received for shoring equipment. **Ground Support.** ComCen and ROC/MOC/IMT/MOO Incident Management support dispatched as requested. **Communications and MOC/ROC Support** RDC/MDC/MOO notifies ComCen of support and unit tasks with providing support. ComCen maintains Unit/Section within information management systems.

	Flood water/Inland water operations Mobilise as per the Natural Hazards Search/Logistics Response Matrix. For life involvement incidents a closer unit (which may not be SES) will also be mobilised. **General** Requests for assistance may come in many forms from community and emergency services. ComCen is to be kept informed of Unit Section response to incidents. **ComCen Actions/Notifications** Receipt of calls including DFES 132 500 call taker utilisation. Tasking at reasonable levels within capacity. Notifications to rostered roles/positions. Logging of events, responders, and comments in management systems. Ongoing support of incidents/events within capacity.
Local Resourcing	Should the local resources be insufficient to deal with an incident then other resources (FRS, VFES, BFB, DBCA, and Private Mining etc.) should be considered in consultation with RDC/MDC/MOO.

ANNEX E Marine Rescue WA Mobilisation

Purpose	To provide a consistent approach to Marine Rescue WA operations and coordination. Marine Rescue WA are a Combat Agency to the WA Police Force under the State Hazard Plan – Search and Rescue Emergency. Marine Rescue WA resources may also be requested to carry out assistance operations in support of other DFES Incidents covered under other State Hazard Plans where it is the Controlling Agency.
Mobilisation	All Marine Rescue WA incidents are reported through the WA Marine Search and Rescue (WAMSAR) Incident Reporting System. Level 2 and 3 Incidents have further requirements stated in SOP 3.14.3 – Marine Search Tasking SOP 3.14.3 - Marine Search Tasking **Level 1 Search and Rescue (SAR) Incidents** • Marine Rescue Groups will be mobilised by WA Police Force or Joint Rescue Coordination Centre (JRCC) via Marine VHF Radio or the groups Duty Officer number • If call is received direct by DFES, they notify WA Water Police Operations Centre (Fremantle) on (08) 9442 8600 **Level 2/3 SAR Incidents** • WA Police Force will notify the DOSS of level 2 or 3 MARSAR incidents. • The DOSS will activate the MSOC as per SDR, as DFES Marine Commander to act in WA Police Force IMT. • The DOSS will notify the relevant MDC/RDC. • If the MSOC is unavailable to turn out, they will delegate to the regional District Manager Marine (DMM). • The MSOC may request further resources via the MDC/RDC **MEDIVAC from Vessel** • Managed in conjunction with WA Police Force and St Johns Ambulance. • Mobilisation as per SAR requirements above **DFES Incident - Logistical and Support Mobilisation** • Requests are to be made through the DOSS. • The DOSS will notify the MSOC via on call number, if no IMT is established • If an IMT is established the DOSS will request the MSOC attend the incident and act in the IMT in the relevant cell as Marine Commander. • If the MSOC is unavailable or geographically unable to attend they will either act remotely in the IMT, and/or request the regional DMM to act in the IMT in their place. • The DOSS will notify COMCEN, to create a CAD Incident Number if one had not yet been created.

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Local Resourcing	Should the local Marine Rescue WA resources be insufficient to deal with an incident, other resources may be requested (FRS, VFES, SES, Other Marine Rescue WA groups, Department of Transport, Port Authority, Surf Life Saving Western Australia (SLSWA). These requests are made to WA Police if the incident is MARSAR. If the incident is related to a DFES HMA incident these requests will be made to the relevant Incident Controller.

Note: All emergency requests for Marine Rescue WA assistance are to be placed through Water Police Operations Centre on 08 9442 8600 and the On-Call Marine Services Officer shall be notified.

ANNEX F Heavy Rescue

Purpose	To provide a consistent approach to maintaining a Heavy Rescue (HR) capability for the Metropolitan area and across the state of WA.
Heavy Rescue Capability	There are numerous HR appliances in the Metropolitan area. There shall always be a minimum of two (2) HR appliances in commission within the Metropolitan area.

There are five (5) HR caches available for deployment by road or air across WA. These are located at the Jandakot DFES Aviation Services base, Geraldton Career Fire Station, Kalgoorlie Career Fire Station, Albany Career Fire Station, and Karratha VFRS/SES. Mobilisation of equipment and crews is as per SOP 3.7.6 – Heavy Rescue Cache. |
| **Maintenance of HR coverage** | Wherever possible, the DOCC will endeavour to maintain an even distribution of HR appliances across the metropolitan area. This may result in the DOCC redirecting HR appliances into other areas to maintain operational service delivery.

In general, the following principles for HR appliances at multi pump stations will apply:
1. The HR appliances take the 2nd pump role at their stations. Out of fire district response to rescue incidents will be responded to by the HR appliance;
2. The 1st pump (non-HR) at 2 pump stations will be used for standing by at other stations. Where the 1st pump is committed, the 2nd pump should be used for incidents within the designated fire district. |

Note: Whilst following the above guidelines, the DOCC is responsible for providing the optimum coverage for all incidents. The DOCC has the flexibility to mobilise other resources as needs arise.

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ANNEX G Special Operations

SOA

The Special Operations Advisor (SOA) is responsible for gathering information and providing advice and a liaison to all response agencies in the event of a HAZMAT/CBRN/USAR incident. The SOA is also responsible for forming the HAZMAT Emergency Advisory Team (HEAT) when required. Additionally, the SOA is the afterhours contact for complex incidents requiring technical advice. The SOA is activated via the ComCen.

FLO

The Field Liaison Officer (FLO) serves as the on-site liaison between the SOA and the Incident Controller, including:

- Provides advice (via HEAT) to the Incident Controller.
- Acts as the direct link between the HEAT, CBRN Technical Group (CBRNTG) and IMT.
- Provide Plume Modelling and Mapping information (GISMapping).
- Liaise with other agencies (DER, Water Corpetc.).
- Liaise with company representatives.
- Provide detector support for SET crews.
- Provide Chemical data information The FLO is mobilised by the SOA.

CSR

Capability for Confined Space Rescue (CSR) incidents within the Metropolitan area shall be mobilised by ComCen. Capability for regional CSR incidents shall be mobilised in consultation with the Regional Duty Coordinator (RDC) who can advise what local CSR capability is available to support an incident.

USAR

DFES has an Urban Search and Rescue (USAR) capability that can be deployed in support of Operations for a number of hazard types including Natural Hazards and Bushfire. On receipt of a request for the deployment of USAR personnel, the DOCC is to contact the Rescue Branch (Rescue Manager/USAR Officer during business hours or the on-call SOA outside of business hours) who will coordinate the deployment of personnel in conjunction with the DCS. To assist in deploying the correct resources, the Incident Controller must provide specific details of the tasks to be performed by the USAR personnel.

ANNEX H Shipping

Mobilising to shipping incidents – equipment available, location of and method of mobilising:

Port area	Equipment cache and location	How to mobilise	Brigade
Albany	Ship FF Cache	RDC	Albany FRS
Broome	Ship FF Cache	VFRS/RDC	Broome FRS
Bunbury	Ship FF Cache	RDC/VFRS	Bunbury FRS
Christmas Island	Ship FF Cache	VFES	Christmas Island VFES
Dampier	Ship FF Cache	VFRS/RDC	Karratha FRS
Esperance	Ship FF Cache	VFRS/RDC	Esperance FRS
Exmouth	Ship FF Cache	VFRS/RDC	Exmouth FRS
Fremantle	Ship FF Cache	DOCC	Fremantle FRS
Geraldton	Ship FF Cache	RDC	Geraldton FRS
Kwinana	Ship FF Cache	DOCC	Hope Valley FRS
Port Hedland	Ship FF Cache	VFRS/RDC	Port Hedland FRS
State-wide	Hi-expansion foam trailer	SOA/RDC	Hope Valley FRS
State-wide	FLO	SOA	State support
Metro	SET	DOCC	Osborne Park and Murdoch FRS

Note:

There are ports that do not have the equipment cache.

SOA is point of contact for advice and special resource requests.

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ANNEX I Aircraft

SITUATION	ACTION
Aircraft Full Emergency	A condition declared when it is known that an aircraft approaching or having departed the airport is, or is suspected to be, in such trouble that there is danger of an accident and requires the response from off airport agencies.
Aircraft Capacity Levels	Aircraft Capacity Level I – up to 18 seats Aircraft Capacity Level II – up to 215 seats Aircraft Capacity Level III – up to 560 seats Perth Airport - Aerodrome Emergency Plan
Aircraft Emergency at Perth Airport	All responding crews to assemble at Emergency Gate 6 – Dunreath Drive.
	Crews can contact ARFF on Channel 99.
Aircraft Crash Offsite	Crews report to designated Control Point.
Aircraft crash at a Rural Aerodrome	Contact the RDC to initiate local arrangements. Mobilise the DO/AO, (Urban), FRS or VFES which are located in the town and also the local BFB and SES in support as determined. Determine aircraft crash on hardstand or in grass/bush surrounds. Mobilise BFB for fire support G/S/B. Consider mobilising nearby town resources depending on the assets required/available. Consider Foam and bulk water supplies if available.
ARFF Presence at Rural Aerodromes	There is ARFF coverage at Broome, Karratha, Port Hedland, and Newman airports at least 15 minutes before the first Commercial Flight and at least 15 minutes after the last Commercial Flight. Note: Contact RDC to enact local arrangements for after-hours incidents.

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ANNEX J Notifications from DOCC and DOSS

Emergency Response Notifications

- **The DOCC & DOSS** will provide situational awareness notifications to the personnel listed and mobilise all personnel required to attend an incident. A member of the BGU (preferably in a leadership role) must acknowledge the message with a phone call or radio message to the ComCen and confirm appropriate numbers for mobilisation and safe response in line with SOPs.

The DOCC must keep the DOSS aware for required notifications as per matrix below.

- **DOSS** will provide situational awareness notifications to the personnel listed in the **matrix below**. This matrix will not necessarily capture every situation and where an element of doubt exists, the DOSS should contact the Chief Superintendent State Operations/DCS for guidance.
- Outside of the notifications to the Major Incident Groups, the **DOCC** or **DOSS** will also provide a notification to the relevant on call MDC/RDC. The relevant MDC/RDC receiving the notification is then responsible for the dissemination of this information and initiating any other actions required as deemed appropriate.

DFES staff and officers are expected to notify up their chain of command as determined appropriate for the incident and the timing of situational awareness.

EMERGENCY RESPONSE NOTIFICATIONS BY DOCC to and from DOSS or stakeholder/s as identified			
CIRCUMSTANCE	**DESCRIPTION**	**NOTIFICATIONS TO AND METHOD**	**TIMING**
Death/Major Injury of an Emergency Responder		DOCC **CALLS** responsible DO(Metro) + **NOTIFIES** DOSS	Immediately
		DOSS **CALLS** relevant AC + CS + Regional Supt. + RDC/MDC + Director HSS	Immediately
		DOSS **SMS's** MIG – State	Immediately
		DOSS **EMAILS** stakeholders + Wellness + HSS + WCIM + relevant Association or UPFU	Immediately
Minor Injury to Emergency Responder	Injury requires/d professional medical intervention off site.	DOCC **EMAILS** responsible DO + **NOTIFIES** DOSS	Immediately
		DOSS **EMAILS** relevant AC + CS + Regional Supt + RDC/MDC	Immediately
		DOSS **EMAILS** stakeholders + WCIM + Wellness + HSS + relevant Association or UPFU	Immediately
Incident declared as Level 2		DOCC/DOSS **NOTIFIES** DOSS/DOCC	Immediately
		DOSS **PHONE** relevant CS + RDC/MDC + Dep State Recovery Coord	Immediately
		DOSS **SMS's** MIG State/Metro as req.	Between 0700 and 2200
Incident declared as Level 3		DOCC/DOSS **NOTIFIES** DOSS/DOCC	Immediately

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EMERGENCY RESPONSE NOTIFICATIONS BY DOCC to and from DOSS or stakeholder/s as identified			
CIRCUMSTANCE	**DESCRIPTION**	**NOTIFICATIONS TO AND METHOD**	**TIMING**
		DOSS **SMS's** MIG State/Metro as req. by relevant CS + **CALLS** RDC/MDC + State Recovery Coordinator	Immediately
Level 2 or 3 MARSAR Incident	WA Police Force contacts DOSS advising of L2/3 MARSAR Incident	DOSS **CALLS** MSOC + RDC/MDC	Immediately
Burnover		DOSS/DOCC **NOTIFIES** as outlined in SOP 3.5.11- Entrapment at Bushfire.	Immediately
50% of a DFES region's resources committed	Metropolitan area should be considered one region	DOCC **NOTIFIES** DOSS	Immediately
		DOSS **CALLS** relevant CS + RDC/MDC	Immediately
		DOSS **SMS's** MIG-State/Metro	As required by relevant CS
Aerial appliance coverage across the Metropolitan area is reduced to one.	Aerial appliance coverage across the Metropolitan area is reduced: This includes when one appliance is out of commission for greater than 3hrs or all in commission aerial appliances are committed at incidents.	DOCC **SMS's** relevant CS/Supt. IMT	Immediately
		DOCC **SMS's** MIG-Metro	As required by relevant CS
Significant Events PESTLE	Events that may result in significant community, media, or political interest or are likely to impact the reputation of the organisation.	DOCC **NOTIFIES** DOSS	Immediately
		DOSS **CALLS** relevant CS	Immediately
		DOSS **SMS's** MIG – Metro/State	As required by relevant CS
DFES vehicle involved in traffic Crash	Any DFES, BFB or SES appliance/vehicle that is involved in a traffic crash regardless of injury to persons. Investigation required to be initiated by Health Safety Services.	DOCC **NOTIFIES** DOSS	Immediately
		DOSS **EMAILS** relevant CS + DO (metro)/RDC (country) + HSS	Immediately
		DOSS **SMS's** MIG – Metro/State	As required by relevant CS
Major equipment failure involving ComCen	Any potential or existing threat to critical services or equipment that will affect service delivery.	DOCC **NOTIFIES** DOSS	Immediately
		DOSS **CALLS** CS State Operations and Supt. State Coordination (B/Hours)	Immediately
		DOSS **CALLS** relevant CS (A/Hours)	Immediately
Death/Major Injury to a member of the public in a DFES hazard management responsibility	Incident occurs in an area where the FES Commissioner is the HMA.	DOCC **CALLS** DO (metro)/RDC (country) + DOSS	Immediately
		DOSS **EMAILS** relevant CS + Regional Supt + Wellness + relevant Association or UPFU	Immediately
Death/Major Injury to a member of the public in a DFES combat agency responsibility	Incident occurs in an area of DFES responsibility as a combat agency	DOCC **EMAILS** DO (metro)/**CALLS** RDC (country) + **NOTIFIES** DOSS	Immediately
		DOSS **EMAILS** relevant CS, + Regional Supt + Wellness + relevant Association or UPFU	Immediately

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EMERGENCY RESPONSE NOTIFICATIONS BY DOCC to and from DOSS or stakeholder/s as identified			
CIRCUMSTANCE	**DESCRIPTION**	**NOTIFICATIONS TO AND METHOD**	**TIMING**
Any injury to emergency responder or public as a result of fire	Where injury occurs, no matter how minor, as a result of a fire.	DOCC **CALLS** FIO	Immediately
Brigade/Group/Unit unable to respond to incident	Brigade/Group/Unit do not respond to incident notification or advise the ComCen that they are unable to respond for any reason	DOCC **EMAILS** DO (metro)/**CALLS** RDC (country)	Immediately

Loss of, or significant damage to, community infrastructure and environment	• Hospitals
	• Accommodation
	• Schools
	• Utility infrastructure
	  • Electricity sub-stations
	  • Water pumping stations
	  • Gas pipelines
	  • Telecommunications
	• Disruption to food supplies
	• Environmental damage
		DOCC **CALLS** DO (metro)/RDC (country) + FIO (where fire was contributing factor) + **NOTIFIES** DOSS	Immediately

		DOSS **CALLS** Relevant AC + CS	Immediately
		DOSS **SMS's** MIG State	As requested by CS
Numbers of RFA in regions increase	RFA numbers in a region hits escalation trigger (20 country/40 metro) as outlined in SAP 3.8.D – RFA Management for BGU.	DOCC **CALLS** RDC/MDC	Immediately
		RDC/MDC to continue to monitor	Thereafter
ComCen no longer able to receive RFAs and have defaulted to Call Taking facility or activated the Volunteer Call Centre	COMCEN do not have the capacity to manage incoming RFA. Refer to SAP 2.2.B – Managing RFAs within COMCEN	DOCC **CALLS** RDC/MDC +**NOTIFIES** DOSS	Immediately
		DOSS **SMS's** relevant CS (if VCC activated)	Immediately
		DOSS **CALLS** DO SWORD (B/Hours only if VCC activated)	Immediately
Weather Warnings advice from BoM including SOCMET	Weather Warnings will be communicated to relevant personnel	DOSS **CALLS** RDC/MDC + CPI, **EMAILS** relevant AC + CS + RDC + MDC + AHLG	Immediately and thereafter
		CPI monitors and updates DFES community warningsmedia@dfes.wa.gov.au	
Major Weather events	State-wide major weather events will be disseminated to the relevant operational personnel	DOSS **CALLS** RDC/MDC	Immediately
		RDC/MDC to continue to monitor warning updates and completes any HRRAs	Thereafter

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ADDITIONAL EMERGENCY MANAGEMENT NOTIFICATIONS BY DOSS[1]		
ACTIVITY	**NOTIFY**	**SCRIPTED TEXT FOR NOTIFICATION**
SOC Phased Activation	MIG State/WebEOC/DFES Cockburn staff via PA (security)	Info only, SOC Phase 2 is now activated, on call SOC staff please respond to SOC from DOSS
SOC Failover to Belmont	MIG State	Info only, SOC has failed over, staff relocating to Belmont from DOSS
Belmont returned to SOC	MIG State	Info only, Belmont closing down and staff returning to SOC from DOSS
Hazard Specific Operations Preparedness Briefing	As determined/planned by relevant CS/AC	*{insert hazard/event/incident}* briefing to occur at *{insert time/date}*
Weather warnings	Natural Hazards Group - as provided	Info only, severe weather warning issued please check email from DOSS
Major equipment failure in MOC/ROC/SOC/ComCen	MIG State as req. by relevant CS	Info only, failure of *{specify equipment}*, impacting *{detail impact}* for *{time period}*
MOC/ROC/SOC/ComCen Normalised	MIG State	Info only Comcen has returned to normal operation from DOSS
ICT Failure	MIG State	Info only, Major ICT failure, failover has been activated from DOSS
ICT Normalised	MIG State	Info only, ICT failure has been resolved, all systems returned to normal from DOSS
MOC/ROC Activated	As req. by relevant CS/AC	Info only, MOC/ROC has been activated (time and date) from DOSS
Total Fire Bans	TFB Group	Info only, TFB has been declared in *{insert regions}*, refer Emergency WA website for more details from DOSS
Emergency Situation Declaration	MIG State	Info only, Emergency Situation has been declared in *{insert location}* from DOSS
Telephone Warning System activated	Relevant CS/AC	Info only, Telephone Warning System has been activated in *{insert location}* from DOSS
Level 2 or Level 3 Incident Level Declarations	MIG State or Metro as req. by relevant CS/AC. RDC/MDC/Dep or State Recovery Coord	Info only, Level 2/3 incident has been declared in *{insert location}* from DOSS
DFES Security Breach	MIG State or Metro dependent on level of breach	Info only, a security breach has occurred in *{insert location}*, relevant CS aware from DOSS
State Bushfire PFT Activation	MIG State	Info only, PFT *{insert team name}* has been activated and is being deployed to *{insert Incident number}.* From DOSS

[1] The DOSS and/or DOCC will discuss the pre-scripted text with the relevant CS and AC to ensure messages are in context with the intent of the notification when sent.

ANNEX K Notification to Other Agencies

General.

Other support and combat agencies are those authorities and agencies deemed central to the maintenance and preservation of life at an incident. These agencies are notified of incidents where either their support to operations is required or where their infrastructure has been, or is likely to be, impacted by the incident. The DOCC is to ensure that the appropriate personnel are notified for response to or activated in support of an incident as soon as practicable. The IC or MDC/RDC is to be advised when another combat/support agency or authority has confirmed their response/activation.

Key/primary support and combat agencies are as follows:

SERVICE	AGENCY
Control/Protection	Western Australian Police Force (WA Police)
Medical/Life Preservation	St John Ambulance (SJA)
Electricity	Western Power/Horizon Power
Gas Supplies	Alinta/ATCO Gas
Environmental Impact	Department of Water and Environment Regulation
Potable Water Supplies	Water C o r p or at i on /AQWEST/Busselton W a te r
Waste Water	Water Corporation
All Hazards - Recovery	Local government to be contacted

Notification of utilities **Western Power/Horizon Power** and **Water Corporation:**

INITIAL NOTIFICATION	SUBSEQUENT NOTIFICATION
2nd Alarm (or LG equivalent)	As per existing SOP trigger
Activation of a Zone Response plan (2-2A-3, SW Response Zone etc.)	Level 2 and/or 3 Incident Declaration

Notifications to Support/Combat Agencies – Triggers.

The following triggers should be considered as an indication to notify agencies of an incident.

TRIGGER	DESCRIPTION
Confirmed Structural Fire *(other than single occupancy residential)*	• Multiple Triple Zero calls received • Activated DBA followed by a Triple Zero call to the same address • Triple Zero call received from a reliable source (e.g., Police, security)
Bushfire	• Potential to impact on civil infrastructure • Likely impact on agency resources/infrastructure
HAZMAT	• Confirmed 2nd Alarm or higher • Potential to impact on civil infrastructure
HAZMAT/Fire	• Confirmed 2nd Alarm or higher • Potential to impact on civil infrastructure and/or community
Natural Hazard (Cyclone/Flood/Earthquake/ Tsunami)	• Confirmed L2/3 incident • Potential to impact on civil infrastructure, community or environment • Likely impact on agency resources/infrastructure

Agency – Essential Information.

The DOCC is to ensure the location of the Control Point and direction of approach is clearly identified to notified agencies as soon as it is known.

Agency Contact List.

The DOSS is to maintain and ensure the security of the Agency Contact List. The Agency Contact List is to detail the contact numbers for all agencies or organisations able to provide assistance during emergencies.

<div align="right">**ATTACHMENT 14.2.2**</div>

ANNEX L Turnout Enquiries

Turnout Enquiries regarding mobilisations are to be completed by the relevant Volunteer or staff member and forwarded to the responsible Area Officer/District Officer using the Turnout Enquiry Form.

The Enquiry should be managed at the lowest level possible.

Where Superintendent State Coordination receives a Turnout Enquiry Form and Part 2 of the Turnout Enquiry Form has not been completed in full by the DO/AO, these forms will be returned to the Regional Superintendent for action.

The process for the investigation and resolution of the enquiry is detailed below. At all stages of the resolution process, actions taken by personnel must be recorded on Content Manager (CM) File 12511 Turnout Enquiries - either by comments on the form or a File Note.

NOTE: An "Activation" may also be considered a Turnout in an SES context.

ACTION	DESCRIPTION
Volunteer/CESM/Staff Member (Initiator) has an enquiry regarding a Turnout	Volunteer/CESM/Staff Member completes Incident Details and Part 1 of the Turnout Enquiry Form and forwards to Area Officer/District Officer.
Region receives Turnout Enquiry Form	DO/AO undertakes initial review. All check boxes and actions should be completed in Part 2 before the Enquiry is considered 'unresolved' and forwarded to Superintendent State Coordination.
Enquiry resolved – Turnout Enquiry Form recorded on file by DO/AO and Initiator advised of the outcome	If the enquiry is resolved at this stage (Part 2), the Turnout Enquiry Form is to be forwarded to Superintendent State Coordination. The Initiator of the Enquiry is to be informed of the outcome.
Enquiry not resolved – Superintendent State Coordination review	The Superintendent State Coordination is to review (or as delegated) the Enquiry to establish the circumstances.
Enquiry resolved	Turnout Enquiry Form to be recorded on CM File 12511 by Superintendent State Coordination. Where appropriate, Superintendent State Coordination will ensure that corrective actions are taken.
Enquiry not resolved	If the enquiry remains unresolved, the initiator of the enquiry is to be advised that they may seek clarification through the Chief Superintendent State Operations.
Note: Where the submission of a Turnout Enquiry Form is determined to be either inappropriate or vexatious, the Regional Superintendent /DO/AO will counsel the person as to the appropriate use of the Turnout Enquiry Form and a note will be placed on the TRIM file.	

Document History

VERSION	DATE	DESCRIPTION of CHANGE
2.0	September 2021	Major review and rewrite. Previous version history archived. Contact Doctrine for previous version history.
2.1	Oct 2022	Page 26 – New DOSS Notification for L3 PFT Activation
2.1	Mar 2023	Repair numerous broken links

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ATTACHMENT 14.2.2

Government of **Western Australia**
Department of **Fire & Emergency Services**

D F E S
Department of Fire &
Emergency Services

Standard Operating Procedure 3.2.3
Making Safe/Rules for Departure

Introduction

The Incident Controller (IC), Officer in Charge (OIC) or Team Leader (TL) has a responsibility to maintain the safety of both emergency responders and the general public. IC shall continue to commit resources until the incident is deemed safe for the community. Making an incident safe requires assessment of risks and consideration of the following:

INCIDENT	DEEMED SAFE WHEN...
Structural Fire	• Rescue complete • Fire extinguished • Ventilation complete • Overhaul complete • Structural collapse potential identified and public access restricted • Exposures safe or removed • Fire cause transmitted to ComCen or if undetermined or suspicious, FIO informed for hand over as designated in FG 3.2 – Fire Investigation Arson FG 3.2 – Fire Investigation Response • Evidence preserved
Bushfire	• Fire perimeter blacked (to a minimum of 20m perimeter or as specified by the IC dependent on weather conditions) • Vertical ignitions extinguished or removed (within 100m of perimeter or as specified by the IC dependent on weather conditions) • Mineral earth break constructed along control line • Fire cause transmitted to ComCen or if undetermined or suspicious, FIO informed for hand over as designated in • Evidence preserved
HAZMAT/CBRN	• Rescue complete • HAZMAT contained • HAZMAT removal and environmental aspects handed over to recovery agent • Decontamination complete • Obstructions removed/exclusion zones re-opened
Rescue	• Rescue complete • All other accessible victims removed • Transfer casualties to ambulance/medical aid • Obstructions removed • Environmental aspects managed • Site safety assessed / or public access restricted
Storm Damage/ Flood/ Earthquake/ Tsunami/ Cyclone	• Rescue complete • Transfer casualties to ambulance/medical aid • Affected persons re-located • Community safety assessment complete and public access restricted • Obstructions removed • Environmental aspects managed • Emergency repairs complete • Temporary repairs organised

Procedures

1.   Rules for Departure
The following tasks are to be accomplished prior to departure:

- Incident area made safe
- Appliance/Vehicle made up
- Crew accounted for
- Scene handed over where possible to:
    - owner/occupier
    - legitimate authority/agency
    - responsible person/out of hours contact
    - FIAU/WAPOL
    - local crews
    - security contractor
- Incident closure message sent

Responsibility for the safety of persons at the site and management of potential risks remains with DFES until a handover can occur. Once a scene is handed over, the responsible person will engage their insurance company to manage risks. On the rare occasion where a responsible person is not forthcoming, e.g. abandoned building etc., responsibility shall be handed over to WAPOL.

2.   Incident Area Safety
Incident areas, defined by the IC as incorporating the localised community or geographical area impacted by an incident, may be potentially dangerous environments. Making incident areas secure is the responsibility of the IC.

The following considerations should be undertaken:

- On arrival, incident area identification and demarcation should be put in place as soon as operationally possible once appropriate risk assessment has occurred;
- The IC should ensure that all personnel located within the incident area are essential to the successful outcome of the incident. Non-essential personnel including on-lookers within the incident area should be removed to safer areas as soon as possible;
- Movement in and out of the incident area should be restricted;
- All personnel working within the incident area must wear appropriate PPC/E and be competent in the use of designated safety equipment;
- Staging area should be located in a safe zone where resources can assemble until required.

3.   Public Access Restricted
Restricting access may take the form of tying demarcation tape as a visual barrier, road closures or restricted access, through to overnight security guard attendance. The IC will need to consider the implications of NOT securing an incident area when making decisions around the level of restrictions put in place prior to departing the scene.

Reasons for securing an incident site may include:

- To restrict access of non-essential personnel
- To maintain public safety
- To protect any valuables or undamaged property
- To preserve the scene for investigation including any evidence
- To enable loss assessors to evaluate damage

DFES SOP 3.2.3 – Making Safe/Rules for Departure – Version 1.3   2

4. Securing Unattended Premises

DFES has a community duty of care obligation[1] to ensure premises forcibly entered by FRS crews or damaged by fire/storm etc. are secured to prevent any unauthorised access. When premises cannot be adequately secured, and all efforts to locate the building owner/representative have been exhausted, the OIC should make arrangements as appropriate.

These may include:

- request attendance of contractor to board-up a window or erect temporary fencing; and/or
- request the attendance of a security guard via the DFES ComCen.

The contracted security company will provide a licensed security guard to the incident within 45 mins of notification by ComCen. This contract covers the Perth metropolitan area, including Mandurah. In regional areas local security companies may be sourced. The role of the security guard is to maintain building security, and if required, arrange for temporary repairs to secure the premises.

The OIC must complete a Post Incident Unattended Building Security Part A and discuss the level of security or temporary repairs required with the security company representative. In most circumstances a window or wooden door repair/replacement will be required. Station/Brigade/Group/Units should keep spare copies of the form on primary appliances.
Post Incident Unattended Building Security Form

The contracted security company shall organise for the repairs to be completed within an agreed timeframe and notify the ComCen on completion, at which time they shall depart the scene and forward the completed Part B of the Post Incident Unattended Building Security form to the DFES Contract Manager for approval and payment by the applicable region.

Where repairs are more complex, a static guard may be required to standby until the next morning. At that time the contracted security company is required to contact the DFES ComCen Supervisor and request confirmation that their continued presence is still required. The decision to handover to WAPol shall be made by the local District Officer; or if on a weekend/public holiday, DO Perth; or if under investigation, by DO FAIU. Costs of securing unattended premises will be recovered by DFES Finance from either the owner or insurer at a later date as appropriate.

5. WAPOL/FIO Attendance

When the Officer in Charge determines that there is deliberate or suspicion of criminal activity, i.e. arson, it is mandated by legislation that WAPol attendance be requested. When the Officer in Charge suspects suspicious activity, and/or cannot determine the cause of fire the OIC must request the attendance of an FIO as per SOP 3.4.14 – Fire Cause Investigation.

When the FIO cannot adequately secure the premises, and all efforts to locate the building owner/representative have been exhausted, the FIO may consider the attendance of a security guard via the DFES ComCen. This will be the case for ongoing investigations, the safety and welfare of the FIO, and the need to maintain community safety until a responsible person or legitimate authority can be sourced. Only in these instances will the costs of scene security be borne by the Fire Investigation Analysis Unit.
SOP 3.4.14 – Fire Cause Investigation

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[1] Occupational Safety and Health Act 1984, Part III, Division 5, Section 23L.

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	May 09	New SOP created. New sections created: • (All) **Source documents:** • SOP 9 – RECEO-VES ***All listed SOP/SAP, now retired.***
1.1	Jul 11	• Content reviewed • Version control Footer inserted • Document History inserted
1.1	Jul 12	Content reviewed
1.2	Aug 14	Content reviewed **Structural Fire** exposures safe or removed Fire cause transmitted to ComCen or if undetermined or suspicious, FIO informed for hand over as designated in: FG 3.2 – Fire Investigation Arson FG 3.2 – Fire Investigation Response **Bushfire** Fire cause transmitted to ComCen or if undetermined or suspicious, FIO informed for hand over as designated in: FG 3.2 – Fire Investigation Arson FG 3.2 – Fire Investigation Response **USAR** All other accessible victims removed **VR** Transfer casualties to ambulance/medical aid **Storm Damage** Personnel rescue complete Transfer casualties to ambulance/medical aid **Flood Damage** Transfer casualties to ambulance/medical aid **Land/Air Search** Forensic task complete **Earthquake** Transfer casualties to ambulance/medical aid Emergency repair complete **Tsunami** Transfer casualties to ambulance/medical aid
1.3	May 17	Review by FAIU Inclusion of guidance as per Safety Circular 2/2007 – Incident Area Safety. Inclusion of guidance as per Operational Circular 83/2011 - Provision of Static Security Guards at Incidents.

Government of **Western Australia**
Department of **Fire & Emergency Services**

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Standard Operating Procedure 3.2.4
Incident Communications

Introduction

These procedures provide guidance for the use of radio networks utilised by DFES Operations.

1.　　　Communications Structures

DFES Operations utilises communications structures designed to optimise dispatch, response and safety. Communications structures are as follows:

- DFES Operations VHF Network Structure – ComCen and designated Control Channels
- Command Structures – Incident Command Channels and Sector Command Channels
- Multi Agency Incident Structures

2.　　　DFES Operations VHF Network Structure

The DFES Operations VHF Network is a *Controlled Network* which operates to a 150km radius along the Perth Metropolitan urban coastal strip. A controlled network identifies a single Network Control Station (NCS) as the approving authority for all traffic on the network. This authority is exercised from the DFES ComCen. The following fundamentals control the DFES Operations VHF Network:

- NCS – DFES ComCen – Call sign 6AR or 6IP.
- The NCS operates on VHF Channel 25/55 (Duplex) which transmits and receives all VHF channels through a repeater network.
- All other stations on the network are to communicate only with 6AR/6IP or request permission to communicate directly with other stations on the network.
- VHF Duplex channels are re-transmitted through repeaters and can be heard by all stations on the network. VHF Simplex channels are not re-transmitted and will only be heard within the range of local radios.
- Within the greater Metropolitan area, all DFES operational appliances/vehicles are to monitor and operate on the *control* channel designated for the area that they are operating within. Control channels are as follows:

CHANNEL	BAND	TYPE	BGU	USE
VHF: 51. 52. 53. 55. 56. 57. 58 VHF: 217. 371. 373. 376. 377. 379. 380	Mid High	Duplex Duplex	ALL	Control channels within Metropolitan Fire Districts (**6AR/6IP**)
VHF: 6. 24. 25. 30. 80. 92 VHF: 105. 205. 207. 220. 246. 263. 328	Mid High	Duplex Duplex	ALL	Control channels outside the metropolitan fire district (**6IP/6AR**)
VHF: 644	High	Duplex	ALL	Air Ops control channels via State Air Desk - Aerial Suppression - Primary
VHF: 621	High	Duplex	ALL	Air Ops control channels via State Air Desk - Aerial Suppression - Secondary
VHF: 369	High	Simplex	ALL	Air Ops control channel - Air Intel

Control channels and incident/sector command channels are available by region from the Communications page in Doctrine Resources.
Radio Communications

DFES SOP 3.2.4 – Incident Communications – Version 1.7　　　　　　　　　　　　　　　　　　　　1

3.   Command Structures

Command channels allow personnel to communicate at incidents. Incident command channels are used for communications from the Incident Controller (IC) via chain of command through to either Division or Sector Commanders. Division command channels are used to communicate within a division. Sector command channels are used to communicate within a sector. Air Operations command channels allows communication between the ground controller and aircraft and/or the Air Attack Supervisor.

Incident communication structures will vary according with need; however each communications plan must reflect the need for the IC to communicate to all sections of the AIIMS structure being utilised. In general, incident communication plans will require a minimum of two (2) levels of communication as follows:

- ComCen to IC
- Incident Command

As an incident escalates so will the numbers of command channels required, and therefore the complexity of the communications plan.

ICs are to request to utilise a VHF Command (Duplex) channel as per a Preformed Communications Plan from the ComCen as soon as the incident requires sectorisation. Further information is available at SOP 3.2.5 – Communications Planning.
SOP 3.2.5 – Communications Planning

4.   Command Repeaters

All Command Repeaters on the WAERN network are owned and operated by DFES (Operations) and are a shared resource for all operational services within DFES.

a) Once a Command Repeater is allocated to an incident through ComCen, the incident shall have access to the repeater **until released** by the Incident Controller (IC).
b) If an additional request for an allocated Command Repeater is made, ComCen will;
   i.   allocate an alternative command channel; and/or
   ii.   mobilise a Portable Repeater (Communication Support Unit - CSU) through the MDC/MOO; and/or
   iii.   both ICs manage with the single command channel until a portable repeater has been established in the relevant area
c) **At no point shall operational staff or current incident operations safety be compromised. Point b). iii. recognises there may be multiple incidents requiring effective communications in the same command channel area. ICs will ensure that, in consultation with ComCen sufficient effective communications are established for all responders as soon as is reasonably possible.**

5.   Training

There is no requirement to contact ComCen for use of a command repeater for training. Before transmitting, the user is required to monitor a considered command channel for a period of 2 mins to ensure it is not currently being used as an active operational command channel. Then a radio communication is to be transmitted over the sought after command channel to confirm there is no current users on that command channel. Current operational incidents will take priority for command channels over training needs.

6.   UHF Incident Channels

If insufficient VHF Simplex channels are available to support the communications plan, then UHF may be used with consideration of the line of sight limitations of these frequencies.

7.   UHF BA Channels

ECO Alpha shall utilise UHF channel 'BA Alpha' during Stage 1 BA operations to enable smooth transition to Stage 2 if required. Radio communications between the BACO, Operations Officer and Sector Commanders during Stage 2 BA operations will be on UHF channel 'Command 1'. UHF channels 'BA Bravo', 'BA Charlie' and 'BA Delta' will be used for subsequent Entry Control Point communications to their respective BA teams during Stage 2 BA operations. Refer to local Pre-formed Communications Plans for accurate channel guidance.

8.   Multi Agency Incident Structures

The ideal communications structure at multi-agency incidents is for other combat agencies to be represented at every level of the DFES Operations communications/command structure (in accordance with the principle of *Unified Command*) and communicate via the command network.

If incidents require the remote operation of combat agencies acting in parallel to DFES Operations, the following procedures are to be instigated by the IC:

- **UHF Emergency Channels.**   DFES Operations handheld UHF radios have in-built common-user channels (ESC and ESD are common to electricity providers, ATCO Gas, St John Ambulance, SES and WA Police) designed to enable inter-agency cooperation. These channels are to be used for IMT*.* Rescue 651/652 liaison is achieved via ESC (Channel 220) from a fixed mobile radio.
- **Incident Control Vehicle.**   Multi-agency operations should be controlled through an ICV.
- **Agency Liaison Officer.**   Combat agencies working in parallel to DFES Operations staff should provide an LO and communications based at the DFES Operations ICV for the duration of the incident. The LO is to provide the IC (or delegate) with an agency internal communications plan.
- **Plant.**   Crewed plant and equipment with or without communications facilities should be supervised when operating within a sector by a dedicated crew at all times with effective radio communications maintained through the Sector Commander. Plant operators should be issued portable communications and Portable Automatic Vehicle Locator by the Sector Commander wherever resources to do so exist.

Communications Procedures

An effective communication system is based upon clearly defined procedures. The following procedures are designed to optimise network traffic and support the safety of personnel at incidents.

Field Guide 3.2 - Radio Communications

9.   Standard Messages

Messages standard to incident response are provided in Learners Manual Incident Controller (Level 1) and shall be applied as required according to incident type and service group.

10.   Message Acronyms

Acronyms are commonly used as mnemonic tools in operational communications due to the efficiency of abbreviation. Common acronyms used by DFES when using radio messages include the following:

PAFTACS (Bushfire)	Position and property threatened, Area, Fuel density and type, Time to control, Assistance required, Communications and control point, Surface wind strength and direction.
HAULERS (Structure Fire)	Height, Area, Use, Lines of hose, Exposures/evacuations, Resources, Staging area.

11.   Message Priorities

Some radio messages will inherently carry more priority than others. Messages detailing operational purpose or safety warnings are always to carry precedence over other more routine traffic. All radio messages belong in one of the following categories:

PRIORITY	DESCRIPTION	EXAMPLE
Routine	Non-operational and/or non-urgent, or of a general service nature	'6AR, Baldivis 2.4 returned to station ... times exchange line. Over'
Priority	All operational transmissions relating to mobilising or directing effort carry priority over routine traffic. Requests for priority may be made if necessary. (The ComCen will direct such priority as the NCS.) *All other users should defer their transmissions to operational traffic*	'6AR this is Rockingham 1st, 66. Scrub fire going well, make 2nd Alarm. Over'
Emergency	Only to be used in cases of extreme emergency. Emergency messages must be preceded by the words 'EMERGENCY EMERGENCY EMERGENCY and must include the name & rank of the person sending the message. *All other users of the radio net are to cease transmission and listen into the message.*	'EMERGENCY EMERGENCY EMERGENCY Station Officer Jones this is Firefighter Smith. Crew person requiring urgent medical attention on Level 8. Over' ***AVL Distress Button is also activated.***

12.   Red Flag Warnings

Red Flag Warnings are a message system that provides a process to ensure critical information (such as unpredicted fire weather changes) is confirmed as received to the lowest levels and understood by all personnel at the incident. Red Flag Warnings are not to be used in the event of an emergency. Further information is available at SOP 3.2.7 – Red Flag Warnings.

SOP 3.2.7 – Red Flag Warnings

13.   Responding to Emergency Messages

Responses to an emergency message where crews are at risk of a burn-over are provided in SOP 3.5.11 – Entrapment at Bushfire. Actions required by operational crews via chain of command upon receipt of an emergency message (excluding burn-over) may include the following, dependent on the incident and situation:

- Acknowledge receipt of message
- Confirm location and situation
- Immediately notify the OIC/ComCen as appropriate
- Respond at the direction of the OIC as required
- Re-establish and maintain contact with sender

SOP 3.5.11 – Entrapment at Bushfire

NOTE: - Automatic Vehicle Location (AVL) fitted appliances/vehicles have an Emergency Distress Button. Utilising the Emergency Distress Button constitutes transmitting an Emergency Message whether it is used to advise or warn of an emergency issue in a burn over or other such medical or life-threatening situation. The activation of the AVL Emergency Distress Button must be accompanied with an Emergency Message as prescribed in the table above. ComCen have a range of actions related to AVL Alerts and operates the primary AVL Alert management process. AVL alerts will be viewed by many other levels of incident management and are to be treated as emergencies by the incident managers.

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14.   Hoax Radio Messages

Hoax radio messages represent risk to operations through the potential to divert attention and resources from timely incident tasking. Hoax messages may be identified by poor RATEL (radio telephone) procedure with incorrect protocol, callsigns and/or terminology, or advising of suspect or incorrect operational procedure. Any station on the radio net may alert the NCS (ComCen or ICV) to a suspected hoax message. Details of the callsign of the hoax message origin are important for an effective investigation. Hoax messages are to be confirmed by the NCS ComCen as follows:

- Verify Callsign
- Request identification
- Request repeat of message
- Report to IC and SCC - **Immediately report to WAPOL if clear identification is made**
- Alert all net stations of hoax message identifying callsign and hoax message/task

15.   Communications Interference

Incidents have on occasions been subject to radio interference whether that presents in the form of system or deliberate. Radio communications subject to interference must be reported as soon as possible so as not to jeopardise Priority and Emergency incident messages or communications. Report all radio communications through ComCen and follow up with a Radio Communications Fault Report.

ICT Service Request - Radio Comms Fault Report

16.   Incident Response and Information system (IRIS)

Appliances with IRIS are to use the device to transmit pre-determined messages to reduce radio traffic. Refer to Annex A – Standard Message Communication Methods for messages to be transmitted via IRIS.

Annex A Standard Message Communication Methods

17.   Incident Control Vehicle (ICV)

An ICV will be mobilised as requested or as determined by the incident classification provided and where available. Once an ICV is operating at an incident, all communications between ComCen, IC and resources allocated to that incident are to be transmitted through the ICV. ICV supplement the output of IMT by providing the following functions:

- Enhanced Incident Communications
  - The requirement for Communications Support Unit is determined
- Staging and Incident Access Control
  - ICV can be utilised to denote staging points to arriving resources and all arriving resources are to stage into the incident via the ICV.
- GIS Mapping
- IMT Meeting Area
- Intelligence Links

18.   Country Regional Communications Procedures

Whilst it is the intent of DFES Operations to standardise communications procedures across the portfolio, the diverse nature of regional operations requires procedural flexibility in order to meet local need. The following procedures relate specifically to country regional communications:

- **Structures, Protocols and Procedures.**   All communications structures, protocols and procedures listed within this procedure apply to country regional operations.
- **Turnout Methods.**   ComCen will turnout regional BGUs through one of the following methods:
  - **Group Notification.**   Through Croup Call and/or SMS activation.

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- **Point of Contact (POC).** Some LG's have designated their Chief Bush Fire Control Officer (CBFCO) as the central POC to coordinate the turnout of local Brigades. Such arrangements place the onus on CBFCO to administer and close incidents. Country regions are responsible for mobilising arrangements and should ensure all arrangements are consistent with ComCen requirements.

- **Channel Allocation.**
  - **Country Communications System (CCS).** CCS provides a limited range VHF to landline retransmission capability for regions to correspond directly with the ComCen.
  - **Incident Channels.** A range of VHF Simplex channels is available for regional use (channels 354-365). Allocation of channels to incident is at the discretion of DO/AO/IC at regional incidents. DO/AOs are required to communicate command channels to ComCen prior to switching command channels and are to periodically update the RDC throughout the incident.
  - **UHF.** UHF is available for control of regional incidents.

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ANNEX A Standard Message Communication Methods

Standard messages listed in the table below are to be communicated to Comcen as outlined in this table. All other messages are to be communicated by the Radio network.

Message	Communication method	
	IRIS Device Fitted to appliance	No IRIS Device Fitted to appliance
Available Station / Available Radio	IRIS device	• CFRS – Radio. • Volunteer – no notification required for routine movements. Notification by Radio when returning from incident.
Delayed / Unavailable[1]	Direct Digital Line or Mobile Phone. ***Radio used as last resort***. Comcen will change appliance status.	• CFRS – as per IRIS Device Fitted. • Volunteer – notification by Radio.
Turnout Notification	IRIS device[2]	Radio
Arrival Codes 44 & 66	IRIS device[3]	Radio
Arrival Code 88	IRIS device **AND** Radio.	Radio
Classification	Radio	Radio
Informative	IRIS[4] or Radio	Radio
Emergency message	Radio	Radio
Support Appliance Arrival Message	IRIS device	Radio
Support Appliance Departure Message	IRIS device	Radio
Code 90	IRIS device	Mobile phone. Radio network to be used when no other communication method is available.
Incident Closure Message	IRIS[4] or Radio	Radio

[1] Supervisor ComCen must authorise any Delayed or Unavailable unit status.

[2] If Station Officer/OIC is different to the staff member logged in to P1 Mobile, ComCen is to be notified via a radio message in addition to the IRIS notification.

[3] If Volunteer BGU are part of the initial response, then the arrival code will be transmitted via the radio in addition to the IRIS device.

[4] Crews may enter the Informative or Incident Closure Message (ICM) into the comments section of P1 Mobile. When this occurs, ComCen shall be notified by Radio to inform them the Informative or ICM has been entered into CAD.

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	May 2009	New SOP created. New sections created: • (All) **Source documents:** • SOP 8 – Communications Procedure • SOP 68 – Red Flag Warnings • ***All listed SOP/SAP, now retired.***
1.1	Jul 2011	• Content reviewed • Para 3, Dot 5 Table. Restructured, content not altered • Para 3. Outer Metro Brigades VHF Channels hyperlink added • Para 7. UHF BA Control Channel amended to SES Ch 20 • Version control Footer inserted • Document History inserted
1.2	Jan 2013	Content reviewed. Added WAERN channels map. Para 13 Table - Red flag warning priority descriptor amended from 'Emergency' to 'Critical Information' to contrast and emphasise the purpose of the Red Flag process.
1.3	Apr 2014	Updated Air Operations radio channels in Para 3 table. New example included for Emergency Message.
1.4	Jan 2017	Included SES control channels. Included link to Doctrine Resources – Communications. Included link to SOP 3.2.5 – Communications Planning. Clarification of BA channels use. Included Message Acronyms. Removed Red Flag Warnings from message priorities table to indicate they are a tool for communicating important information not a priority level. Included link to SOP 3.2.7 – Red Flag Warnings. Inclusion of guidance for responding to emergency messages. Inclusion of actions for communications interference. Removed Annexures A (WAERN VHF Channel Locations map) and B (Standard Radio Messages) to maintain single source in Learners Manual Incident Control (Level 1). Clarification of terminology throughout.
1.5	June 2017	SOP edited for 400MHz Project
1.6	Oct 2018	MDT Paragraph removed and replaced with IRIS Paragraph. Annex A – Standard Communication Methods added All reference to pre 400 MHz UHF channels removed.
1.7	Dec 2022	Update Annex A to include the IRIS may be used for informative messages

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Standard Operating Procedure 3.2.5
Communications Planning

Introduction

The development of communications plans must consider any known factors that could influence the performance of communications systems and processes. These procedures provide guidance on the use of, scalability and transition between communications plans to ensure uninterrupted operational communications during an incident as it escalates and de-escalates.

Directive 3.2 – Incident Control
SOP 3.2.4 – Incident Communications

Procedures

1.   General

Standard communications plans are used to support operational incident management and to provide standardised communications structures.

- Pre-formed Communications Plans
- Initial Communications Plans
- Operations Communications Plan
- AIIMS Reporting Structure

2.   Pre-formed Communication Plans

Incident management personnel use standard templates and pre-formed communication plans for all local government /fire agency regions. These plans provide:

- Local Command Channel
- Five Sector Channels
- Alternative Command Channels

Communications Page

Using pre-identified channels reduces the risk of inadequate communications and provides all personnel information on what channels local resources will be operating on. There are times when pre-formed communications plans may be in use due to multiple incidents in a given area. If this occurs an alternative pre-formed communications plan should be used.

3.   Initial Communications Plan

The Initial Communications Plan allows Incident Controllers (IC) and Operations Officers (OO) to identify resources in attendance and implement a communications plan for incidents that have up to two sectors. These plans provide a means of recording the communications plan as part of the incident history and information management processes. Responding resources should be familiar with the local pre-formed communications plan that is most effective at the incident location.

Initial Communications Plan - Metro
Initial Communications Plan - Regional

By completing and implementing an initial communication plan the Incident Controller will be able to:

- Identify the communications plan and the command channel in use;
- Identify a control point location for all responding resources;
- Identify the Incident Name and the Ground Controller call sign (should one be in place)
- Identify the location of the incident area;
- Name up to two (2) sectors and the appointed sector commanders
- Provide suitable command and communications structures to support up to two sectors
- Identify any stakeholders / agencies that can support the incident

4.   Channels

The channels indicated on the initial communications plan are aligned to standard naming and identification conventions. These channels will be transcribed from the preformed communications plan if in use.

Circle/Symbol	Use
The blue circle (metro only)	Identifies the control or network channel if required
Red circle	The Command Channel
Split circle	VHF High Band command channel is connected to a VHF Mid Band channel
Green circle	Air to ground channel when aerial resources are in use
Black circles	Allow for sector channels (primarily simplex) to be recorded.

5.   Operations Communications Plan

The Operations Communications Plan is to be used where the incident is larger than two (2) sectors or if the incident is predicted to escalate beyond two initial sectors (e.g. Alpha and November). This transition supports AIIMS principles.

Operations Communications Plan

6.   Transition Between Communications Plans

As an incident escalates in size and complexity, the information on the Initial Communications Plan is transposed onto an Operations Communications Plan allowing up to five sectors to be managed. During the planning phase if it is predicted that the incident will escalate beyond 5 sectors, a second Operations Communications plan can be initiated. As sectors are joined to become part of a division, the Operations Communications Plan becomes a divisional form and the division box at the top of the page is completed (e.g. Division 1).

Note: *It is recommended that two Operations Communication forms are used as early as possible if there is a potential that the incident will require larger management structures. In the event that divisions are appointed, this will allow for efficient progression of the structure. Span of control can be maintained by providing one Incident Control Vehicle (ICV) to each division.*

7.   AIIMS Reporting Structure

The AIIMS Reporting Structure is used to identify and maintain contact details for persons operating within the Incident Management Team (IMT). This information will allow functional counterparts (e.g. IMT Planning Officer to MOC Planning Officer) to communicate directly and in turn alleviate the demands on the IC.

AIIMS Reporting Structure

DFES SOP 3.2.5 – Communications Planning – Version 1.1   2

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Oct 15	New document. Amalgamation of DFES/AIIMS communications plans including guidance on up scaling/downscaling incident communications plans. Produced in consultation with Ray Buchan DO Operational Communications, Phil Brandrett DO Manjimup, and DPaW personnel.
1.1	December 2020	Scheduled review undertaken by State Operations.

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Standard Operating Procedure 3.2.6
T-Cards and Incident Management Boards

Introduction

These procedures describe the use of T-Cards and Incident Management Boards for the purpose of providing a standard method of identifying all personnel and equipment at an incident, as per the Australasian Inter-Service Incident Management System (AIIMS) and the State Emergency Management Plans - Westplans.

Westplans

Under the ultimate responsibility of the Incident Controller (IC), the Divisional and Sector Commanders, Incident Management Team (IMT) members, and Incident Control Vehicle (ICV) personnel share the duty of ensuring accurate information is maintained regarding the personnel and equipment in attendance at an incident, at any given time.

1.   Principles/Planning Factors

T Cards, so called due to their 'T' shape, come in various colours to identify resource capability. T Cards are primarily used by the ICV to maintain vision of total personnel and equipment at an incident, however as the incident escalates, the ICV/IMT will use the Incident Resource Management System (iRMS) in WebEOC or a Resource Summary Sheet (when network connection is unavailable) to track resource information. T cards are also used by Sector/Divisional Commanders to manage resources within their sector/division.

Incident Resource Management System (iRMS)
Resource Summary Sheet

The Incident Management Board (IMB), previously known as the Battle Board, is used to track resources through the organised placement of T Cards. The communications plan and IMB should be correlated on a regular basis to ensure all crews are accounted for.

Each appliance/vehicle should carry a supply of T Cards and personnel MUST submit a completed T Card to the Control Point (CP) prior to getting to work. Details recorded on each T Card will provide the IMT with information required to plan for the following:

- Welfare of all personnel, i.e. food and water, rest breaks, shifts length, etc.
- Crew changeovers and extra resource requirements
- Ability to contact individual personnel

Procedures

2.   Immediate Actions
On approach to an incident, the following details should be completed on the T Card by a member of the team:

Team/Appliance Name and Type (e.g. Malaga LT, Roleystone 2.4, Belmont SES, Mandurah VMR)
The name of the Team Leader or OIC
The names of the Team Members/Crew, plus total number of crew
Selcall, Mobile or Satellite phone number
Radio Channel/s

Further guidance is provided at Annexes A and B.

Annex A - T Card Guidelines for Use

Annex B - How to Fill Out a T Card

3.   Pre-Labelling

For quick identification of radio type, a system of colours has been allocated. The colour marking system is as follows:

Black	⚫	Mid Band VHF
Yellow	🟡	High Band VHF & UHF
Green	🟢	High Band VHF & Mid Band VHF

A template for pre-printed stickers is used to quickly indicate Brigade/Station/Unit and contact details, including radio type. The template requires 64 x 24.3mm x (33 per sheet) labels[1] however can be modified to suit any other label.

Where an appliance/vehicle only has one radio installed, you will be required to develop a T Card label with one coloured dot of the appropriate colour towards the left. Where an appliance/vehicle has two radios installed, you will be required to develop a T Card label with two coloured dots of the appropriate colour.

Note: VHF Mid Band can be identified by a two-figure radio channel and VHF High Band can be identified by a three-figure radio channel.

T-Card Label Template

	🟡 ⚫ **BRIGADE/STATION/UNIT NAME** **SCANIA XXXX.** REGO: XXXX XXX **CALLSIGN: "XXXXXXXXX"** SELCALL: ⚫ XXXXX / 🟡 XXX0XX MOBILE: XXXX XXX XXX

4.   Subsequent Actions

On arrival at the Incident Control Centre / Control Point / Incident Control Vehicle, the Date and Time of arrival should be completed by the incoming Crew/Team and the T Card handed to the designated person at the Control Point. The Crew/Team will be briefed on the following:

- Current situation

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[1] Label sheets and coloured sticky dots are available from most stationary suppliers.

- Latest known fire behaviour and/or weather predictions
- Task/s and overall objective
- Area of operations, e.g. Sector and Sector Commander
- Water/resource availability
- Communications plan
- Criteria for abandoning task
- Withdrawal route and rendezvous point
- Safety considerations

The T Card is then placed in the relevant slot within the Incident Management Board.

5.   Changeover of Teams/Crews

When the Team/Crew complete their tasks, are released by their Sector Commander, and book out through the Control Point, their departure date and time are noted on the T Card and the card is filed. It should be noted that it is commonplace for the Vehicle/Appliance to remain at the incident scene and only the Crew/Team to change – when this occurs, the new Crew/Team must complete a new T Card.

6.   Safety

For personnel safety it is imperative that T Cards are completed correctly for all appliances & resources attending an incident. If it is suspected a crew has departed the incident without checking out their T Card, ICV personnel must make every effort to establish contact with the crew. If unsuccessful, the MDC/RDC shall be contacted and tasked with confirming their status. Once confirmed, this information must be reported back to the ICV and the T Card marked accordingly.

7.   Record Keeping

T Cards must be collected and filed against the incident number at the conclusion of the incident. All DFES incident records shall be registered in 'Content Manager' (CM) as per SAP 3.1.K – Incident Documentation

SAP 3.1.K – Incident Documentation
SAP 5.2.B – Record Keeping

8.   Incident Management Boards

The A3 Incident Management Board is suitable for use by Managers and ICV personnel at Level 2/3 incidents. Also available is the Clip Board style IMB used by first arriving appliances/officers during Level 1 incidents and/or Sector Commanders. In order to maintain flexibility across all types of incidents there is no prescribed method of using an IMB, however there are a few simple principles that should be followed:

- Each Resource Unit is represented by one T Card.
- Sectors/Divisions can be clearly identified using the SECTOR/DIVISION T Card (mark a line through that which is not relevant).
- Sectors/Divisions can be established according to function/task OR geographical location.
- Sectors/Divisions can be named by alphabetical, numerical, functional, or geographical indicators, providing naming convention is logical and consistent.
- Sectors/Divisions must be clearly identified with the Sector/Division name and who is commanding it. Use the white SECTOR/DIVISION T Card for this information.
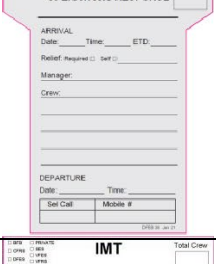
- Once Divisions are implemented, i.e. greater than 5 sectors, each division should be moved to its own IMB and identified using the SECTOR/DIVISION T Card.
- At all times the IMB should relate to the setup of the Operations Section, e.g. 3 sectors in the field shows 3 sectors on the IMB.
- The pockets at the bottom of the board can be used for departed crew/ team T Cards, with the date and time completed immediately. Alternatively, they can be placed in the Incident File, but should never be discarded (note incident number on the reverse side of the T Card).
- The far-left hand column can be used to hold all other resources not yet tasked and/or not represented on the Incident Communications Plan; such as additional resources in the staging area, or local contacts used by the IMT.
- Ensure the IMB is continually updated with any incoming information and confirm with Sector Plans, Situation Reports, Incident Communications Plan and Radio Logs.
- Do not write on the IMB itself; use the reverse side of a white T Card.

Further information is available in the Sector Commander Learners Manual from the eAcademy.

ATTACHMENT 14.2.2

ANNEX A T-Card Guidelines for Use

FRS– Red		For use by all fire & rescue services personnel and/or appliances. Includes C/VFRS pumps and LTs, CLP, SET, ICV, etc. Note: a spare/high season/stand-alone LT without an accompanying pump would therefore use the LIGHT T Card.
SES – Orange		For use by all personnel and/or equipment with SES capabilities. Includes General Rescue Trucks, Flood Rescue Boats, Land Search Teams, Canine Unit, Mounted Unit, etc.
LIGHT – Yellow		For use by all personnel and/or appliances with combined 4WD and < 2000L water carrying capacity. Includes light tankers and 1.4's.
HEAVY - Purple		For use by all personnel and/or appliances with combined 4WD and minimum 2000L water carrying capacity. Includes heavy tanker appliances e.g. 2.4, 3.4, 4.4
WATER - Blue		Used to indicate bulk water supply. Namely 7.2, 9.2, 12.2, collar tanks, fixed tanks, contractors etc.
P&W - Green		For use by DBCA Parks and Wildlife personnel and/or appliances.

AIR – Sky Blue	AIR card	For use by all Air Operations resources.
MARINE – Sea Blue	MARINE card	For use by Marine Services and WA Marine Rescue vessels.
MACHINERY - Beige	MACHINERY card	For use by any machinery – P&W, LG, Contractor, etc.
SPECIAL OPERATIONS RESPONSE - Grey	SPECIAL OPERATIONS RESPONSE card	For use by Special Operations Response teams – USAR Rapid Damage Assessment etc.
IMT – White	IMT card	For use by all members of the Incident Management Team. Call sign is IMT position e.g. Incident Controller, Planning Officer, CLU Team Leader, Air Operations Manager, Safety Advisor, Management Support., VWRO, etc.
SECTOR/DIVISION – White	SECTOR/DIVISION card	Used to define the sector or division and record information such as commander name and contact. As a general rule: Divisions are allocated a numeric code, Sectors are identified by alpha code.
SUPPORT – White	SUPPORT card	For use by all personnel, resources and/or agencies supporting the incident, e.g. WAPol, St John, Western Power, DCPFS, Salvation Army, etc. This card may also be used for spontaneous volunteers who have been approved by the IC.

ATTACHMENT 14.2.2

ANNEX B How to Fill Out a T-Card

T Cards are used to maintain oversight of all human and physical resources on the incident ground. This is vital given that the IC has ultimate responsibility for Personnel safety and resources at the incident. **T Cards are mandatory for all personnel** and should be used to keep track of equipment also. Certain parts of the T Card MUST be completed*, other parts can be used as applicable. T Cards are categorised by capability; therefore personnel qualification, appliance capability, incident type and tasking should be taken into account when choosing the most appropriate T Card at each incident. A certain amount of flexibility is afforded ICV personnel to work within systems in order to achieve operational efficiency.

1.   **ID*.**   The top line is the identifier or call sign, e.g. how will you/your team/your appliance be identified at the incident. Examples include:

FRS – Red	Perth 1st Pump, Welshpool 2nd Pump and LT
SES – Orange	Bayswater Lighting Tower, Armadale General Rescue Truck
LIGHT - Yellow	Quinns Rocks LT2, SWORD LT
HEAVY - Purple	Chidlow 4.4, Quinns Rocks 3.4
WATER – Blue	Baldivis 12.2
P&W - Green	Perth Hills 42, Frankland 34, GT 21, Wellington 52
AIR – Sky Blue	Air Intel
MARINE – Sea Blue	Mandurah VMR, Broome 8.5 RIB
MACHINERY - Beige	Goads D6
IMT – White	Operations Officer, Serpentine-Jarrahdale ICV
SUPPORT – White	Main Roads, Local Emergency Coordinator
SECTOR/DIVISION – White	Alpha/Numeric (cross out Sector OR Division as appropriate)

2.   **Total Crew*.**   In this box write the total number of persons assigned to the T Card.

3.   **Arrival Date and Time*.**   This must be completed as crews/team/personnel check-in at the Control Point, be that an ICV or otherwise.

4.   **ETD.**   This can be used to indicate expected time of departure. For example, a crew may only be able to attend the incident until 10pm to enable time for sufficient rest before having to work the next day, in which case they would write [2200 tonight]. FRS crews may be working to standard changeover times of 0800 and 1800, in which case they would write [shift change].

5.   **Relief.** This is an indicative plan only (not applicable to CFRS) and can be used to note that relief crews need to be organised [Required] or that crews will be self-relieving [Self]. For example, a Brigade Captain may have organised self-relieving including transport for their LT 2 crew which extends through to the weekend, in which case they might tick the [Self] box and write [to 2000 Sun 7/2].

6.   **OIC/Leader/Name/Commander/Manager*.**   This line is used to indicate who is in charge or responsible for the persons/appliance/equipment etc. assigned to the T Card.

7.   **Crew/Team/Driver/Assistant*.**   This line is used to list all other persons assigned to the T Card, except the person in charge. Total number of names on the T Card must equal the figure

in the Total Crew box. Where crew/team number exceeds available space on the front of the T Card, the reverse side can be used providing this is indicated on the front, e.g. [PTO].

8.   **Fuel/Inspection/Damage/Sign-Off.**   These sections are used by the Machinery Supervisor to note any pre-existing damage, fuel level, etc. and provide a briefing including LACES prior to the machinery entering the incident ground.

9.   **Departure Date and Time*.**   This must be completed as crews/team/personnel check-out via the Control Point prior to leaving the incident.

10.   **Sel Call/Mobile Number*.**   Sel Call number and/or Mobile phone number, or any other form of reliable communication method must be provided prior to entering the incident ground.

11.   **Additional Information.**   ICV operators and Sector Commanders may wish to develop a system for flagging important information about the personnel in a sector. For example, a firefighter informs their sector commander that they have a severe allergy to bee stings and carry an Epipen. The sector commander must record this information and may do so by marking the appropriate T Card.

ATTACHMENT 14.2.2

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Feb 12	New SOP Source Documents • SOP 7 T-Cards - retired document • PUAFIR204 Respond to Wildfire V 2.0 January 2012 OPERATIONAL CIRCULAR 01/2012
1.1	Mar 14	Inclusion of link to T-Card pre-labelling info and template.
2.0	Jan 15	Introduction of new T-Card designs including Annex A, instructions for record keeping, and use of Incident Management Boards.
2.1	Jul 16	Update following survey of new T Card designs. Main changes: • New HEAVY and LIGHT T Cards • New WATER T Card • New MARINE T Card • SECTOR and DIVISION T Cards merged • BFB, P&W and TASK T Cards removed Inclusion of procedure for T Cards left at the Control Point. Clarification of record keeping arrangements for multi-agency incidents. Inclusion of Annex B How to Fill Out a T Card.
2.2	Dec 16	Reinstated P&W – Green card. WATER card changed from green to blue.
2.3	June 2021	Updated to reference iRMS. Updated radio recognition and T-Card pre-labelling guidance. Introduced a Special Operations Response T Card.

ATTACHMENT 14.2.2

Government of **Western Australia**
Department of **Fire & Emergency Services**

DFES
Department of Fire &
Emergency Services

Standard Operating Procedure 3.2.7
Red Flag Warnings

Introduction

Operational experience across Australia, in particular during major bushfires, has shown that a lack of access to timely and critical information by personnel at an incident can lead to injuries and fatalities. Red Flag Warnings is a message system that provides a process to ensure critical information (such as fire weather changes) is confirmed as received to the lowest levels and understood by all personnel at the incident.

1. Principles
The following principles apply to all Red Flag Warnings:

PRINCIPLE	DESCRIPTION
Critical Information	Red Flag Warnings are to be precise messages which convey present or impending hazards to emergency responders outside the normal shift or deployment briefings, e.g. weather changes, hazardous materials, fire behavior, structural integrity, equipment failures etc.
Hierarchy Control	Red Flag Warnings are to be initiated within the command hierarchy – IC > Ops Officer > Div. Commander > Sector Commander > Crews.
100% Coverage	Red Flag Warnings must be passed to all personnel at the incident, including those from other agencies or private contractors.
Receive & Acknowledge	At all levels, red flag warnings are to be acknowledged on receipt through confirmation of the message back to the sender.
Record of Event	The transmission, receipt and acknowledgement of Red Flag Warnings is to be logged at each level within the chain of command.
Pager Message Not Acceptable	Paging is not acceptable as a primary method of conveying Red Flag Warnings. Radio communications is preferable as first option, followed by mobile phone, paging may be used as a backup only.

Procedures

2. Text Format
The standard message text of a Red Flag Warning is as follows:

> '**RED FLAG WARNING.** Personnel are advised of *<actual/forecast where appropriate>* conditions that may present a hazard to personnel as follows *<actual/forecast conditions>*. Personnel are to *<describe specific actions required to be taken>*. This message is to be passed to all personnel under your command. **ACKNOWLEDGE**.'

3. Recording, Receipt & Acknowledgement
All Red Flag Warnings issued through the incident chain of command are to be recorded in incident diaries and WebEOC to indicate that they have been received and acknowledged as understood. The aim is to confirm that the message has been received in its entirety throughout the response structure.

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<p style="text-align:right"><strong style="color:red">ATTACHMENT 14.2.2</p>

Additional detail is as follows:

INITIATOR ACTIONS	INCIDENT DIARY/Web EOC RECORD DETAILS
Record Text	• The decision to send • Text of the Red Flag Warning
Detail Recipients	• Recipients
Send Message	• Time sent
Record Acknowledgement	• Confirm acknowledged receipt individually as it is received (log time)
Record Message Passage	• Record confirmation that message has been passed to all subsequent levels and acknowledged back to initiator.
Record Confirmation of Successful Passage	• Time complete
Continuum of Warning	• Record RFW message under Safety in the IAP

RECEIVER ACTIONS	INCIDENT DIARY/Web EOC RECORD DETAILS
Record Text	• Text of the Red Flag Warning
Detail Recipients	• Recipients
Send Message	• Time sent
Record Acknowledgement	• Confirm acknowledged receipt individually as it is received (log time)
Confirm Message Passage Upward	• Confirmation of group receipt and reporting back up the chain of command

DFES SOP 3.2.7 – Red Flag Warnings – Version 1.3   2

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jun 12	Re-write of SOP 68 Red Flag warnings Listed SOP now retired
1.1	Feb 13	Include reference to recording receipt and acknowledgement in Web EOC
1.2	Sep 13	Deleted reference to RDC in Red Flag Warning Hierarchy of initiation of RFW. Consulted with Country for country perspective.
1.3	Aug 16	Clarification of recording, receipt and acknowledgement procedures. Removal of material replicated in TRK.

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Department of Fire & Emergency Services

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Emergency Services

Standard Operating Procedure 3.2.11
Strike Team/Task Force Resources

Introduction

The formation and deployment of Strike Teams (ST) and Task Forces (TF) or mobilisation of additional resources increases the efficiency of incident operations while reducing the incident management workload at significant incidents.

The correct and appropriate formation of resources enables the Incident Management Team (IMT) to implement incident strategies and tactics while maintaining an effective span of control over resourcing at the incident.

This procedure explains the process required and applies to all incidents where requests for resources are made above the initial and standard subsequent response.

The establishment of Strike Teams or Task Force may be at the request of an IMT or by a region following advice of predicted adverse weather conditions or other triggers as determined appropriate by DFES Operations.

Local Governments (LG) who form a local ST/TF are requested to advise the DFES Metropolitan / Regional Duty Coordinator (MDC/RDC). This will ensure operational oversight in the region is maintained.

1.   Definitions
The following definitions are specific to the use of ST/TF:

Additional Resources	Due to the immediacy of additional resource requirements, individual resources responded during the escalation phase shall be mobilised based on the nearest, most appropriate resource identified.
Incident Escalation Phase	The time from incident notification until the establishment of a functional IMT, during which time and/or upon advice from the Incident Controller (IC) should deploy direct from station to the incident. Incident escalation generally requires an immediate deployment of multiple individual and/or strike team resources during the initial attack of an incident which is often time critical. Annex A – Incident Escalation Phases
Requesting Region	The Metropolitan/Regional Operations Centre (MOC/ROC) requesting the supporting resources.
Resource Management Phase	The time between establishing an IMT until incident conclusion which may include demobilisation. Resources deployed during this phase may not be on a "nearest to the Incident" basis as Regional and State Coordination functions will be in effect which considers the need for operational coverage and the potential or actual incidents.

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Strike Teams (ST)	A set number of resources of the same type that have an established minimum number of personnel supported by a minimum of one (1) management resource (Team Leader). ST's are made up of resources of the same type such as: appliances, crew, earth moving machinery, etc.
Supporting Region	The MOC/ROC which is supplying the resources.
Task Forces (TF)	A combination of resources that can be assembled for a specific purpose and have a leader, common communications system and may incorporate a mixture of different resource types.

Procedures

The IMT is to identify the nature and expected duration of the resourcing required and include this information as a part of their request to the MOC/ROC. Strike Teams and Task Force requests are not to be confused with Additional Resources.

Requests to Country Regions for Strike Teams/ Task Forces must follow the regions, Regional Deployment Plan.

2.   Additional Resources
Due to the escalation or the early appreciation of an incident, the IMT may request additional resources to support combat of the incident. These are in addition to the initial resources already mobilised.

Because of the immediacy of the resource requirement, individual resources should deploy to the incident under the direction of DFES ComCen or Local Government.

3.   Strike Team / Task Force Formation
When a decision is made to form a ST or a TF, a Team Leader (TL) will be appointed. The TL will be employed to manage the team in accordance with AFAC Crew Leader, Strike Team Leader and Task Force Leader Aide Memoir standards. The TL shall be responsible for the welfare of the team for the operational period for which they are allocated.

The TL must ensure that a credit card / or similar process is available to enable the welfare requirements of the team be met.

The following table provides examples of recommended ST/TF resources:

URBAN	1 x AO/DO	3 X PUMPS	3 x Light Tankers	1 x 2.4/3.4
RUI # 1	1 x CESM/AO/DO	3 x 2.4/3.4/4.4	2 x HSR/3.4U	1 x 12.2 BWT
RUI # 2	1 x AO/DO	3 x PUMPS	3 x Light Tankers	1 x 12.2 BWT
RURAL	1 x CESM/AO/DO	3 x 2.4/3.4/4.4	3 x LT	1 x 12.2 BWT
NATURAL HAZARDS	1 x CESM/AO/DO		6 x General Rescue Vehicles	
INCIDENT SUPPORT	1 x CESM/AO/DO	2 x ICV		3 x 12.2 BWT

Where possible, the TL may request an operational volunteer to assist with the ST/TF.

4.   Assembly
SF/TF members will be advised of the location of the assembly area. A comprehensive SMEAC brief including detail on expected type and duration of operations, welfare and demobilisation

DFES SOP 3.2.11 – Strike Team/Task Force Resources – Version 1.0   2

arrangements will be made available prior to departure to the incident. Before departure ST & TF members will ensure their next-of-kin details are up to date.

The ST/TF will assemble at an assembly area or IMT location, complete an Operational Prestart before mobilising to assigned sector, and remain under the direction of the team leader until the team concludes operations.

5.   Team Naming Convention

To assist with incident records and tracking of resources, the naming of the Strike Team or Task Force will be in accordance with the following format:
STATE/REGION/TYPE/SEQUENTIAL NUMBER.

Example:

- *Strike Team Metropolitan North East 001;*
- *Strike Team Midwest Gascoyne 003;*
- *Task Force Great Southern 006;*
- *Task Force Metropolitan 002;*
- *Task Force Western Australia 602.*

The team numbering will follow chronologically for each team established. For interstate deployments the first number will be 6 (first number WA postcode).

6.   Team Leader Identification

The ST/TF Leader will be identifiable by tabard with the appropriate identification. The ST/TF Leader will operate from a separate vehicle and will assume the call sign of Strike Team/ Task Force Leader followed by the Team name. The ST/TF Leader's vehicle will be identified through a vehicle magnet where available.

Call sign examples:

- *Strike Team Leader Metropolitan North East 001;*
- *Strike Team Leader Midwest Gascoyne 003;*
- *Strike Team Leader Great Southern 006;*
- *Task Force Leader Metropolitan 002;*
- *Task Force Leader Western Australia 602,*

7.   Strike Team/Task Force Communications

The T/L will establish communications with team members prior to arrival and upon departure from the incident. Incident communications will be strictly in accordance with the communications plan for the incident.

8.   Travelling

Any problems including breakdowns en-route will be managed by the TL, who will make contact with the affected crew. The TL will then contact the ComCen/MOC/ROC who will then arrange for assistance by the agency responsible.

Should a responding ST/TF encounter an emergency incident and no other emergency services are present, a suitably qualified officer will assume the role of the Incident Controller and will notify ComCen/MOC/ROC of their actions. The crews will render assistance to within their operational scope until such time a local response arrives. At this time, the incident will be handed over and the ST/TF will then continue on to the initial incident.

If a ST/TF vehicle is involved in a Motor Vehicle Accident (MVA), the TL will notify the ComCen/MOC/ROC, with the crew involved rendering assistance as required. If only minor damage has occurred, particulars must be exchanged before the ST/TF resumes their journey. If an injury requiring medical treatment or substantial damage has occurred, the crew and the appliance are to remain on site.

If the TL is involved in an accident and unable to continue their duties the next most senior officer or experienced member will contact the appropriate MOC/ROC to advise of the situation and seek direction. The TL will request local assistance and if instructed, and able to do so, will resume their journey with the remaining ST/TF appliances.

9. Convoy Driving Briefing

It is important convoy driving is conducted in a safe and orderly manner. Briefing of team crews should include:

- Departure time;
- Destination;
- Estimated time of arrival;
- Route to be taken;
- Stopping points and length of stops;
- Driver changeovers;
- Team welfare (food/accommodation);
- Fuel;
- Order of vehicle precession;
- Convoy communication channel;
- Road conditions i.e. Fire call/ normal road;

The TL and all drivers are responsible to ensure convoy driving is conducted in a safe and expedient manner. The vehicles should be adequately spaced to enable other road users to overtake them safely if the designated speed limit cannot be maintained.

10. Relief

Where a relief crew is required to replace a deployed team, the following principles are to be followed;

- Requests for relief crews should allow a sufficient lead in time to enable those relieving resources to prepare for incident operations;
- Due consideration need be given to travel time to the incident site, particularly if there is some distance to travel;
- Volunteer relief crews will be coordinated by the Incident Management Team in consultation with the ROC/MOC and where necessary liaise with the LG CBFCO.
- CFRS relief crew will be coordinated by the Incident Management Team in consultation with the ROC/MOC and/or the Communications Centre Supervisor.

To ensure effective tracking of resources, changeovers will be conducted through the T-Card and where established, WebEOC – IRMS systems.

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ANNEX A Incident Escalation Phases
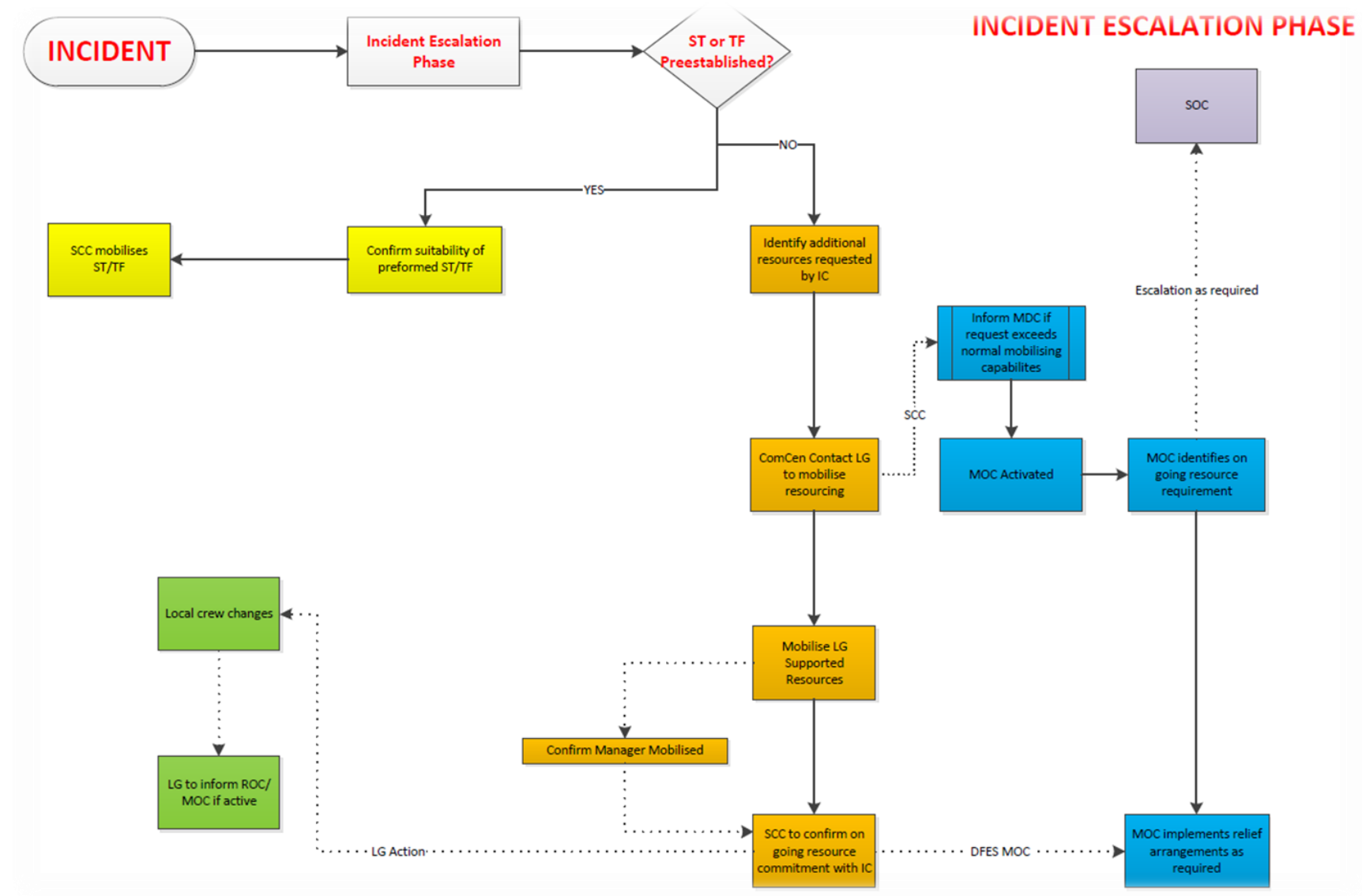
Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Nov 17	New Document

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Government of Western Australia
Department of Fire & Emergency Services
Operations

D F E S
Department of Fire &
Emergency Services

Standard Operating Procedure 3.3.1
Respond Under Emergency Conditions

References
Road Traffic Act 1974
Road Traffic Code 2000

Definitions
Emergency vehicle: A vehicle of a fire brigade on official duty in consequence of a fire or an alarm of fire or of an emergency or rescue operation where human life is reasonably considered to be in danger, as defined in the *Road Traffic Code 2000* (RTC). This includes vehicles operated by an SES or VFES Unit under the Fire and Emergency Services Act.

Introduction
Emergency vehicles are used to respond to an urgent situation. If a vehicle is approved as an emergency vehicle (refer to SAP 4.1.B – Emergency Vehicle Status Applications), and the driver is trained to the required standards, then that person is exempt from certain road laws within the RTC when responding to an emergency.

SAP 4.1.B – Emergency Vehicle Status Applications

The *Road Traffic Act 1974* (RTA) and RTC provide drivers of emergency vehicles, responding under emergency conditions with a defence (exemption) against certain driving offences. Whilst the RTA and RTC may provide 'lawful authority', DFES places additional controls (Departmental Authority) on drivers when responding under emergency conditions.

Annex A provides excerpts from legislation which relate directly to drivers of emergency vehicles.

Where Local Governments do not have a Policy for responding under emergency conditions, DFES recommends that Bush Fire Brigades adopt these procedures.

1.   Qualification Requirements
Drivers of emergency vehicles responding under emergency conditions (red and/or blue emergency beacons and/or sirens) must:

- hold a current driver's license indicating qualification to drive the equivalent class of vehicle;
- have undertaken a DFES approved driving course; and
- have successfully completed the relevant driver/operator assessment for the particular vehicle, if applicable.

Procedures

2.   Departmental Authority to Respond Under Emergency Conditions

Section 61B of the RTA and 281 of the RTC defines the legal requirements and associated exceptions to drive under emergency conditions. DFES places additional conditions on these. DFES personnel are authorised to respond under emergency conditions in the following circumstances;

- request for response has come via DFES Communications Centre (ComCen); or
- an incident is reported/encountered where DFES involvement is appropriate regardless of Hazard Management Agency responsibilities;

IN ADDITION, the incident is of a nature that;

- it is reasonable to assume human life is likely to be in danger; or
- requires an urgent response.

The officer in charge (OIC)/crew leader (CL) of the appliance is to decide if a response under emergency conditions, based on the previous criteria, and any other factors, is appropriate. When deciding if a response under emergency conditions is appropriate the OIC/CL should consider (but not limited to);

- Information from ComCen or Incident Controller
- Available (or lack of) incident intelligence
- Potential for incident escalation/complexity
- Role the appliance/crew/resource will contribute to the incident, and the urgency for the appliance/crew/resource
- Phase of the incident (escalation, consolidation, recovery)

The OIC/CL shall re-evaluate all factors as information becomes available and adjust the requirement to respond under emergency conditions accordingly.

NOTE: Personnel must not drive under emergency conditions for any reason unless Departmental Authority is met. Where authority has not been met, personnel may face disciplinary proceedings. The driver **must** take care when responding to an incident under emergency conditions to ensure the safety of other road users and occupants of the vehicle. No risk is justified if it is likely to jeopardise the safe arrival of vehicle and crews at an incident or the safety of others within the community.

The 1st arriving OIC/CL/Incident Controller shall advise if further appliances are to respond under emergency conditions. This must be continually re-evaluated.

3.   DFES Emergency Driving Standards

The following standards apply to all DFES drivers when driving under emergency conditions:

Blood Alcohol Concentration (BAC)	All DFES personnel must have a BAC of 0.00% when driving under emergency conditions. Where this standard is unachievable, personnel may respond to an incident with a BAC of less than 0.05% and drive normal road conditions, where the class of vehicle allows drivers to have a BAC of less than 0.05%. Alcohol and Other Drugs Management Policy

DFES SOP 3.3.1 – Respond Under Emergency Conditions – Version 3.2   2

Private Vehicles	Under no circumstances is a private vehicle (that is not a recognised emergency vehicle) permitted to be driven under emergency conditions.
Towing Trailers	Under no circumstances shall a trailer be towed at a speed greater than 100km/h.
Provisional (P plate) Driver's Licence Holders	Under no circumstances are P plate drivers to drive under emergency conditions.
OIC/CL Driving Emergency Conditions	The OIC/CL should refrain from driving under emergency conditions when a suitably qualified alternative driver is available. This enables the OIC/CL to oversee a driver's actions.
Railway Crossings	Under no circumstance shall drivers proceed through flashing lights, stop signs, gates, booms or barriers, or past a person controlling railway level crossings.
Restrictions on traffic in pedestrian mall	Drivers shall not drive through a pedestrian or shopping mall, unless proceeding to an incident within the mall, or there is no other way to access the incident. Drivers shall not drive at a speed excessive to the conditions and volume of pedestrian traffic.
Road Works	Drivers are not to exceed posted speed limits through roadworks. In addition, drivers must make every endeavour to comply with the direction given by authorised personnel where: a) a portion of the road is subjected to work being done, over or under it; or b) a survey is being conducted at any point on a road, by a competent authority.
One Way Streets	Drivers are to avoid proceeding against the traffic in a one-way street unless the incident location cannot be otherwise approached without undue delay.

4.   Lights and Sirens

Drivers responding under emergency conditions are to display emergency beacons and sirens as follows:

CIRCUMSTANCE	BEACONS/SIRENS
Driving to an Emergency	Both emergency beacons and sirens. Where there is light or non-existent traffic, beacons only are acceptable at the discretion of the OIC/CL. **Note.** During long-range deployments sirens are to be engaged when traffic is encountered.
Final Approach to an Incident	It is accepted practice to turn sirens off and make final approach to an incident displaying emergency beacons only.
Parked at an Incident	Emergency beacons only.
Operating on a Fire ground	Emergency beacons only.

Consideration must be given to pedestrians, residents and other road users when using lights and sirens. This includes air horns, where limited use is the preferred option.

5.   Speed

Section 61B of the RTA and Regulation 281 of the RTC gives drivers of emergency vehicles certain exemptions when proceeding to an incident if the driver is demonstrating reasonable care[1] and the emergency vehicle is identified by activated emergency beacons and/or sirens.

The OIC/CL will provide oversight of their driver's decision-making regarding speed; however, the driver is ultimately responsible for her/his actions. DFES places additional controls for driving under emergency conditions over and above the defence provided by the RTA (Section 61B) and RTC (Regulation 281), as follows:

Standard	Drivers of emergency vehicles are not to exceed the posted speed limit by more than 20km/h when proceeding to an incident under emergency conditions.
Exceptions	However, where it is reasonable to assume that human life is likely to be in danger and the driver demonstrates reasonable care, the driver may exceed the posted speed limit by more than 20km/h in the following circumstances: • the driver is not the OIC*; and • the driver obtains approval from the OIC*; and • the OIC* has completed a risk assessment prior to providing approval; and • the OIC* continually re-evaluates the conditions following approval. * Drivers of vehicles which do not have an OIC present are not permitted to exceed the posted speed limit by more than 20km/h. The OIC must be a Station Officer or above (career) or a brigade/unit operational officer (volunteer).

Exclusions	**DFES drivers must not** exceed the posted speed limit:
	• When operating on private property
	• Where directed by a member of the Western Australia Police Force
	• Where it is not safe to do so e.g. school zones and road works
	While Section 61B provides a defence, subject to certain conditions, for contravening Section 60A (Reckless Speed), **it is a DFES requirement that DFES drivers must not** contravene Section 60A of the Road Traffic Act, which states;
	1) A person commits an offence if the person drives a motor vehicle at a speed of 155 km/h or more on any other length of road.
	2) A person commits an offence if the person drives a motor vehicle at 45 km/h or more above the speed limit –
	   a) In a confiscation zone; or
	   b) On any other length of road.
	The RTA does not provide ANY defence (exception) for drivers with regards to S61 RTA Dangerous Driving or S62 RTA Careless Driving.

6.   Moving Through Controlled Intersections

Intersections controlled by traffic lights and signage pose a greater hazard to emergency responders as members of the public moving in accordance with traffic signals may be inattentive to peripheral

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[1] Reasonable care is the degree of caution and concern for the safety himself/herself and others an ordinarily prudent and rational person would use in the circumstances. It is a subjective test to determine if a person is negligent, meaning he/she did not exercise reasonable care.
The People's Law Dictionary by Gerald and Kathleen Hill.

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threats. When moving through controlled intersections contrary to the flow of traffic, drivers are to undertake the following:

- Approach controlled intersections with activated emergency beacons **and** sirens sounding.
- Approach controlled intersections at a speed which will enable you to bring the vehicle to a complete stop if necessary prior to entering the intersecting carriageway. The driver shall not continue their course unless they are satisfied that it is safe to do so.
- When travelling in convoy, individually slow and check safety before proceeding as above.
- Air horns (where fitted) may be used to supplement emergency beacons and sirens as required to ensure other road users are aware of the vehicle and intention to proceed. The driver should use discretion when using the air horn. Air horns are to be used sparingly when responding to a DBA where there has not been confirmation of a fire.
- Drivers must never force road users through controlled intersections.

7. Contra Travel

Travel against the flow of traffic poses increased risks to responders and other road users. This is primarily based on public vehicles not expecting a vehicle driving contra flow.

Where the OIC/CL has considered all alternate routes, and deemed that the most effective route of travel is against the flow of traffic, the procedure to follow is:

- The driver and OIC/CL must agree in audible conversation that this is the most effective route;
- All vehicles must proceed with activated emergency beacons and sirens sounding;
- The driver must not proceed unless they deem road conditions are safe to do so;
    - o taking extreme care
    - o at a speed that enables immediate stopping when required
    - o judicious use of air horns; and
    - o ensuring wherever possible, by their actions they do not force other road users to contravene the Road Traffic Code.
- The risk assessment that supports the decision to proceed contra flow has considered:
    - o Life involvement
    - o Classification of emergency
    - o Emergency information available
    - o Weather conditions
    - o Road surface conditions
    - o Traffic conditions
    - o Driver experience; and
    - o Visibility

7.1 Contra Travel on FREEWAYS

Where the OIC/CL has considered all alternate routes and deemed that the most effective route of travel is against the flow of traffic on the Freeway, in addition to the procedure for general contra flow (above), the procedure to follow is:
- Contact ComCen to notify of intentions to travel contra flow.

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ComCen may have access to the Main Roads camera feeds for Perth freeways and may be able to provide clarification of incident details and advice.

ComCen is to contact Main Roads, Road Network Operation Centre to provide detail in relation to emergency contra-travel.

8.   Consequences

Drivers may be liable for driving an emergency vehicle under emergency conditions without following DFES Policy or procedures, or for gross errors of judgement if deemed not to be demonstrating reasonable care. Annex A – Legislation Excerpt from RTA Section 60, 60A, 61 & 62 defines "Reckless, Dangerous and Careless Driving".

Drivers who are in breach of the above procedures may be subject to disciplinary proceedings as detailed in DFES Conduct and Discipline Policy.

[Conduct and Discipline Policy](#)

Annexes

A   Legislation Excerpts

ANNEX A – Legislation Excerpts

Road Traffic Act 1974

Section 60	**Driving in reckless manner** (1) For the purposes of this section, a motor vehicle is driven in a reckless manner if it is driven in a manner (which expression includes speed) that is inherently dangerous or that is, having regard to all the circumstances of the case, dangerous to the public or to any person.

Section 60A	**Driving at reckless speed**
	(1) A person commits an offence if the person drives a motor vehicle at a speed of 155 km/h or more on any other length of road.
	(2) A person commits an offence if the person drives a motor vehicle at 45 km/h or more above the speed limit –
	      (a) In a confiscation zone; or
	      (b) On any other length of road.

Section 61 (no exemptions)	**Dangerous driving** (1) Every person who drives a motor vehicle in a manner (which expression includes speed) that is, having regard to all circumstances of the case, dangerous to the public or to any person commits an offence.

Section 61B	**Defence for certain officers driving at reckless speed**
	The driver of a motor vehicle is not guilty of an offence under section **60A** if —
	(a) either —
	    (i) the driver is on official duty as a police officer and the driving is substantially in accordance with the Commissioner's policies and guidelines relating to driving, applicable at the time of the driving, and any direction given under such a policy or guideline; or
	    (ii) the driver is on official duty responding to a fire or fire alarm; or
	    (iii) the driver is on official duty responding to an emergency or rescue operation where it is reasonable to assume that human life is likely to be in danger; or
	    (iv) the motor vehicle is an ambulance and is being used to answer an urgent call or to convey a person to a place for the provision of urgent medical treatment;
	AND
	(b) the driver is taking reasonable care; and
	(c) the vehicle is displaying a blue or red flashing light or sounding an alarm unless, in the circumstances, it is reasonable for a light not to be displayed or an alarm not to be sounded.

Section 62 (no exemptions)	**Careless driving** Every person who drives a motor vehicle without due care and attention commits an offence.

Road Traffic Code 2000

Regulation 281	**Exemption for drivers of emergency vehicles (other)**
	A provision of this regulation does not apply to the driver of an emergency vehicle that is not being used for official duties by a police officer if –
	(a) in the circumstances –
	    (i) the driver is taking reasonable care; and
	    (ii) it is reasonable that the provision should not apply; **AND**
	(b) the vehicle is a motor vehicle that is moving and the vehicle is displaying a blue or red flashing light or sounding an alarm.

DOCUMENT HISTORY   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	May 09	New SOP created. New sections created: (All) Source documents: SOP 36 – Road Traffic Code SOP 40 – DFES Driver Responsibilities All listed SOP/SAP, now retired.
1.1	Jul 11	• Content reviewed • Version control Footer inserted • Document History inserted
1.1	Jan 13	• Included requirements to re-instate 4WD vehicle for on road driving • New requirement for tyre gauges to be used during re-inflation added
1.2	Apr 13	Included in table Section 3 General DFES Driving Conditions • Seat Belts • Travelling On The Outside Of Vehicles • Ref; RT Code Pt 19 Div. 1 284(1)b)
1.3	Sep 13	Included DoT licensing requirements for heavy vehicles and links to DoT site Included DFES Requirement for completion of DFOA
1.4	Apr 14	Included instruction for vehicle weight when carrying out recovery. Clarification of section 7, Driver Pre-Requisites. Inclusion of Letter of Authorisation to Drive, Annex B.
1.5	Oct 14	Clarification of Maximum Speed Limit. Inclusion of Contra Travel on Freeways. Clarification of procedures for approach to traffic control signals and stop signs.
1.6	May 15	Table under section 3, added row titled Driver
1.7	Jan 16	Inclusion of exception re: provision to exceed posted speed limit, paragraph 11 Speed.
2.0	Dec 16	REVOKED – Incorrect publishing.
2.1	Dec 16	Clarification of Alcohol and Drug policy, specifically volunteer blood alcohol limits. Clarification of speed restrictions when towing trailers. Clarification of requirements for load restraint within vehicles. Clarification of requirement when reversing operational vehicles. Clarification of appropriate use of air horns. Clarification of driver responsibilities, specifically regarding speed. Clarification of procedures for contra-travel on freeways.
3.0	Mar 2020	Major review. Document title changed to Respond Under Emergency Conditions BAC Exemption changed to 0.00% for ALL drivers of emergency vehicles. All information relating to driving normal road conditions moved to SOP 3.3.12 – Driving Standards. New section outlining Authority to respond under emergency conditions DFES Emergency Driving Standards expanded. Removed sections covering Driving Off-Road, Re-Instate Vehicles for On-Road Driving and Recovery. These are all covered in training.
3.1	Mar 2020	Emergency Vehicle definition modified to mirror definition in Act. Words "on road" removed from Qualification Requirements dot point 2. Added speed restriction when travelling through road words. Remove the words "The RTA requirements are that" from the Exclusions portion of the Speed section.
3.2	December 2020	Re-establish guidance for use of air horns when responding to DBAs.
3.3	Feb 2022	Update for Contraflow part 7 and 7.1

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Government of Western Australia
Department of Fire & Emergency Services

DFES
Department of Fire &
Emergency Services

Standard Operating Procedure 3.3.2
Road Hazard Management

Introduction

The Commissioner of Police is the HMA responsible for road transport emergencies and the control of traffic and road closures for all road traffic accidents. However, DFES Operations personnel and LG Bush Fire personnel have legislative powers enabling them to restrict and/or close roadways affecting or affected by incidents. The EM Act 2005, Fire Brigades Act 1942, Bush Fires Act 1954, FES Act 1998, and Road Traffic Code 2000 provide these powers and should be consulted should an officer not be familiar with their provisions.

Personnel are to be aware of their responsibility for the safety and welfare of themselves, their colleagues and the public on roadways during all incidents and whilst working on roads for other operational reasons. These procedures detail the requirements for DFES personnel operating near or on roadways.

1.   Applicable Context
There are two distinct contexts regarding road hazard management addressed in these procedures.

- Emergency incident response: where legislated powers apply.
- Pre-planned activities/events: hazard reduction operations, community events, training, hydrant servicing etc.

Further information on road safety measures for hydrant servicing is available from Operations Doctrine.
SOP 3.3.13 – Road Safety When Servicing Hydrants

2.   Authority to Direct Traffic
The Road Traffic Code 2000 (Part 18, Division 3, Section 272) provides DFES personnel authority to direct traffic, however this authority only exists under specific conditions:

- Signal/direction must be given for the purpose of ensuring the safety of or facilitating movement of traffic or persons at or near the scene of an incident resulting in a dangerous situation
- Signal/direction must be given for the purpose of facilitating the movement of a fire engine, ambulance, or other emergency vehicle.
- Authorised person must be wearing approved reflective apparel (tunic or hi-vis tabard)

Penalties for members of the public who do not follow directions or obstruct operations only apply if the signal/directions were given by a Police Officer. Therefore, it is recommended that if difficult situations arise, or near misses occur, the services of WA Police be requested. When WA Police are unavailable, extra DFES resources may be requested. All near misses/incidents must be reported via the online hazard reporting system.

3.   Authority to Position Road Traffic Control Signage
Any person with authority to act under Emergency Services legislation (as listed above) can install portable road signs.

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Preparedness

4.   Safety Principles

The following principles should be noted whilst working on or near roadways:

Minimise the Risk	Crews not directly involved in emergency operations should position themselves off the roadway, clear of the incident scene and the general flow of traffic for added personal safety.
Increase Visibility	Safety is enhanced by making road users clearly aware of the presence of response personnel and vehicles on or in close proximity to the roadway. IC/OIC/Team Leader is to ensure the following safety precautions are observed when operating on/near roadways: • All crew are to wear high visibility vest/garment. • Vehicles are to display beacons during incident operations OR hazard warning lights during normal business operations. • Appropriate signage, road cones and warning lights are to be used in proximity to the incident/work area.
Early Notification	Advance notification to oncoming traffic of hazards ahead can greatly reduce the risks to personnel working on or near roadways.

5.   Identification of Hazards

While the IC/Officer in Charge/Team Leader is ultimately responsible for ensuring that operational risks are identified, assessed, and mitigated or accepted, *all* personnel are responsible for the identification and reporting of hazards.

Potential hazards common to working on roadways include, but are not limited to:

- Oncoming traffic
- Driver inattention/distraction
- Vehicle speed
- Road congestion/peak traffic times
- Poor visibility
- Unfavourable topography
- Environmental conditions

Where hazards exist that cannot be sufficiently mitigated by mobilised resources, the IC/OIC/TL may request, appoint or liaise with the following resources as necessary:

- Extra crews/vehicles
- WA Police (for traffic control and road closures)
- Contracted Traffic Management
- Local Government
- Safety Advisor

6.   Traffic Management Planning

The IC/OIC/TL is to ensure that appropriate control measures and management structures will be in place to ensure the safety of crews and road users.

Australian Standard 1742.3-2019 states that consideration must be given to adequate protection of workers, provision of adequate warning of the presence of personnel or items on the road, and adequate instruction of road users and their safe guidance past the obstruction.

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When planning traffic management control measures, the following issues must be considered, in consultation with the road owner:

Take into account:	The scale, scope and duration of the incident The likely impact on the public The likely impact on operations The risks involved The communication/notification requirements
To decide upon:	The scale, scope and duration of control measures required to manage the identified risks

7. Traffic Management Control Measures

The following options may be considered while working on or near roadways:

- **Protection.** Protection is best afforded by siting the attending vehicle in a *fend-off* position as a protective barrier to the worksite.
- **Road Traffic Control.** Placement of personnel, vehicles, portable signs and/or road cones so as to notify the public of the incident scene and protect operators on or near the road. Most applicable at small incidents of less than four (4) hours duration on or beside the roadway such as rescues, incidents involving structures and bush lands.
- **Lane Closures.** The protection of an incident worksite may require the closure or partial closure of a carriageway. Such alterations to the natural flow of traffic cause additional hazards to road users and require consideration to ensure early notification of the hazard and local control of speed. WA Police assistance is required if road closures are to be enacted. Diversion of traffic utilising alternative routes can only be authorised by Main Roads Western Australia (MRWA) or the relevant LG.
- **Vehicle Control Points (VCP).** Established to control the flow of traffic into and out of an incident area. Most applicable at any prolonged or complex incident where partial or full closure of roads is required. Where emergency incidents are likely to be longer than four (4) hours duration the IC/IMT is to request WA Police attendance to develop a traffic management plan and implement VCP's. This may require appointment of a Traffic and Access Management Officer. The IC retains responsibility for all decision-making and public notifications concerning VCP implementation and removal however WA Police have the legislated authority to physically implement and remove.
  9.10 Movement Control Document (Request for Police Assistance)
  SAP 3.2.D – Restricted Access Permits

8. Traffic Management Responsibilities

Personnel involved in traffic management activities when road closures are enacted shall consider the following:

- **WA Police to be Informed.** Liaison with the WA Police Commander (usually through the IMT WA Police Liaison Officer) must be established ASAP and maintained throughout the incident. The rationale for partial or full road closure and re-opening must be documented and communicated to WA Police as the implementing authority in accordance with the Vehicle Control Point - Checklist in the IM Toolbox.
  Vehicle Control Point - Checklist
- **Document Decision-Making.** All IC decisions and actions must be clearly documented and communicated to DFES COMCEN or the IMT/MOC/ROC (if established).
  9.11 Notification of Road Status
  9.12 Incident Road Status Summary
- **Risk Assess Re-Opening of Roadways.** The decision to open a road, either partially or completely, must be conducted in consultation with the road owner (E.g. Main Roads, LG) and accompanied by a documented risk assessment and appropriate risk

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treatments, approved by the IC.   The risks and consequences associated with a complete or partial re-opening of a roadway must be assessed and documented in accordance with the suggested Road Opening - Risk Assessment in the IM Toolbox. USAR Tree Fellers are qualified to undertake road assessment.
Road Opening - Risk Assessment
Traffic Management During Emergencies Guide

Procedures - Road Traffic Control (Emergencies)

9.   Positioning of Road Traffic Control at Incidents
The following guidelines should be considered when positioning road traffic signage.

FACTOR	GUIDANCE
Timing of Positioning	Signs to be positioned as soon as possible after arrival once traffic has been assessed as a hazard.
Location	Positioned on both traffic approaches where possible so that hazards are clearly visible to approaching traffic: - Take account of roadside vegetation, shade, weather, existing speed signs and advertising signs that may obscure or confuse the warning - Avoid locating signage where drivers are required to concentrate on other road hazards, i.e. on bends, bridges, railway crossings etc. Not positioned where they may become a traffic hazard to motorists.
Distance from Incident Site	Line of sight for on-coming traffic should be: Greater than 150m in a 60km/h or lower speed zone; or Greater than 250m elsewhere.
Location of Road Cones	Road cones are to be tapered towards the edge of the roadway.
Removal of Signage	Once all hazards to traffic are removed (i.e. smoke and/or debris) and the IC has declared the area safe, all roadside signage must be removed, while maintaining the safety of crews.

All distances are demonstrated in the figures at Annex A.
Road Traffic Warning – Examples

10.   Additional Traffic Warning Measures
The following additional traffic warning measures may also be employed at incidents when vehicles are in a static position and a traffic hazard is present:

- All vehicles are to display emergency beacons
- All vehicles are to display hazard warning lights
- Portable flashing hazard lights are to be utilised in conjunction with road cones at night.

Procedures - Road Traffic Control (Non-Emergencies)

11.   Authorised Signage
Roadside signage (LG or contractor signage) is utilised to warn motorists of crews working on or near roadways for non-emergency work. Traffic signage for all non-emergency work (i.e. hazard reduction burns) should be in accordance with AS 1742.3 and *'MRWA Traffic Management for Works on Roads Code of Practice'.* Local units/brigades should liaise directly to arrange the use of LG signs which

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meet these standards. Where this is not feasible the services of a private traffic management company may be engaged.

12. Positioning of Road Traffic Control Signage at Hazard Reduction Burns

Road traffic control signage warning of hazard reduction burns should be positioned in accordance with the following guidelines:

FACTOR	GUIDANCE
Smoke Management	Where possible, prescribed burns should not be undertaken when forecast winds are likely to blow smoke across major public roads.
Timing Of Positioning	Signs to be positioned prior to the commencement of the hazard reduction burn or training event
Location	Positioning Sequence (radiating from work site): - *Smoke Hazard (if applicable)* - *Workers Ahead* - *Reduce Speed* Positioned on both traffic approaches where they are clearly visible to approaching traffic: - Take account of roadside vegetation, shade, weather, existing speed signs and advertising signs that may obscure or confuse the warning - Avoid locating signage where drivers are required to concentrate on other road hazards, i.e. on bends, bridges, railway crossings etc. Not positioned where they may become a traffic hazard to motorists
Calculation of Distance from Incident Site (D-Distance from incident/next warning in metres) (S-Speed Limit in km/h)	*'Smoke Hazard Ahead'* **Signage** Calculation to burn edge: D=2xS *(i.e. 2 x 110 km/h = 220m. Position signage 220m from edge of burn)* *'Workers Ahead'* **Signage** Calculation to smoke hazard sign: D=0.5xS *(i.e. 0.5 x 110 km/h = 55m metres)* *Position signage 55m* before "Smoke Hazard Ahead" sign *'Reduce Speed'* **Signage** Calculation to workmen ahead sign D=0.5xS *(i.e. 0.5 x 110 km/h = 55m metres)* *Position signage 55m before 'Workman Ahead' sign*
Removal of Signage	Once all hazards to traffic are removed (i.e. smoke and/or debris) and the OIC has declared the area safe, all roadside signage must be removed, while maintaining the safety of crews.

13. Additional Traffic Warning Measures

The following additional traffic warning measures may be employed where a traffic hazard is present:

- All vehicles are to display hazard warning lights
- Portable flashing hazard lights are to be utilised in conjunction with road cones at night

Annexes

A   Guidance for the Use of Road Traffic Management Measures

ANNEX A Guidance for the Use of Road Traffic Management Measures
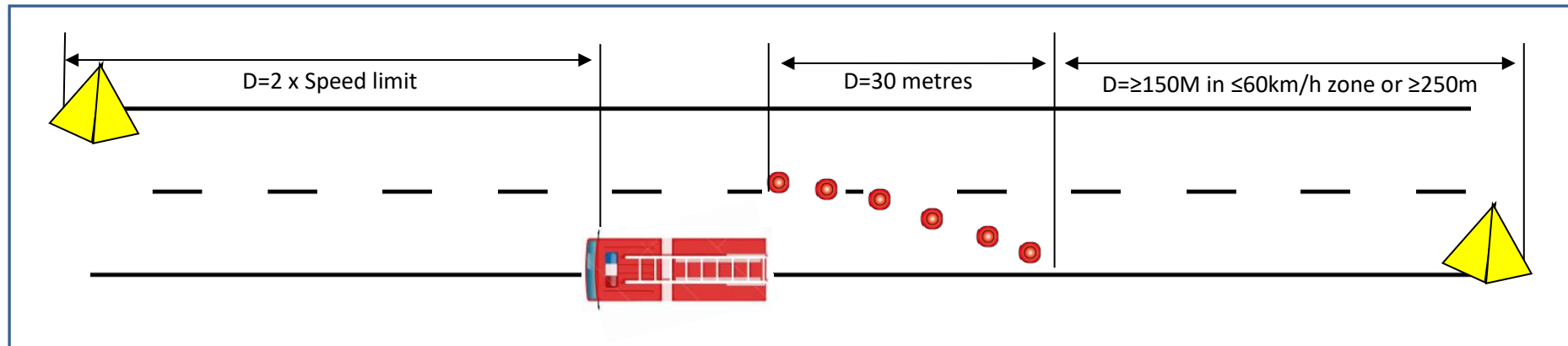
Figure 1 – Road Traffic Control Measures in support of General Emergency Roadway Setup (where practicable)

'≤' = Less than or equal to. '≥' = Greater than or equal to.
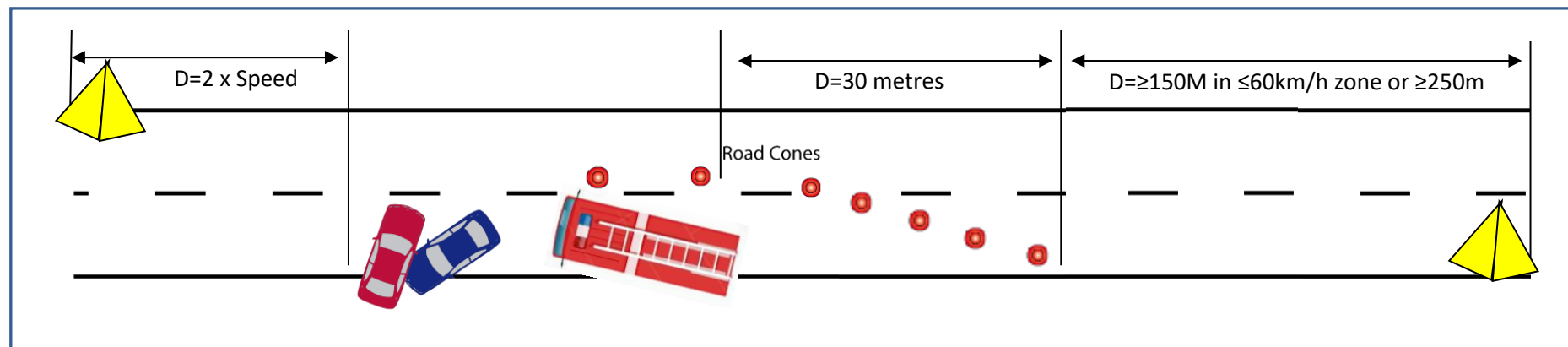
Figure 2 – Road Traffic Control Measures in support of Incident and Fend-Off Position (where practicable)

Legend:

	Primary emergency response vehicle		Emergency Worker Ahead tri-pod sign		Road cone

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
Draft	May 09	New SOP created. New sections created: • (All) **Source documents:** • SOP 35 – Operational Safety on Roadways ***All listed SOP/SAP, now retired.***
1.0	Sep 11	Updated footers and released document
1.1	Apr 13	7. Clarification of Traffic Management Training requirements. 21. Removal of "and/or emergency beacons" to align with Road Traffic Code 2000.
1.2	Jul 15	Removed Annex B and C and placed in IM Toolbox
1.3	Feb 17	Clarification of authority to direct traffic. Clarification of process to establish Vehicle Control Points and re-opening of roads. Clarification of sight distance to initial warning device for short term work in traffic in line with AS 1742.3-2009. Clarification of traffic plan considerations. Clarification of requirements for crew safety while servicing hydrants.
1.4	May 17	Inclusion of potential hazards common to working on roadways. Review of terminology to enable OIC to make decisions appropriate to the situation. Clarification of required procedures vs extra risk mitigation strategies which may be suitable for reducing risk when servicing hydrants.
1.5	July 2021	Moved hydrant servicing content to new SOP 3.3.13 – Road Safety When Servicing Hydrants. Updated reference to AS1742.3 -2019 (previous version 2009)

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Standard Operating Procedure 3.3.7
Hazard Isolation Tagging

Introduction

All personnel have a responsibility to identify hazards likely to place persons at risk. OIC's are responsible for ensuring hazards are identified, mitigated and communicated. Utilities such as electricity, gas and water, as well as equipment that may be damaged or faulty, pose a unique hazard to operational personnel.   In these circumstances, isolation may be the best method for controlling the hazard according to the Hierarchy of Control. These procedures provide guidance on safe work practices when using tags for the purpose of notifying personnel of isolations and out of service equipment.

1.   Hierarchy of Hazard Control
The following table lists the hierarchy of hazard control measures.

CONTROL MEASURE	PREFERENCE
Elimination	1. Most preferred method
Substitution	2.
Isolation	3.
Engineering controls	4.
Administrative Controls	5.
Personal Protective Equipment (PPE)	6. Least Preferred method

2.   Isolation Points
All energy sources must be identified, isolated wherever possible, and the risk of their inadvertent re-connection eliminated via the use of tags. This is especially important to emergency responders who may not be familiar with a building or plant and the technical complexities involved. Additionally, faults or damage to equipment and/or vehicles will also require isolation and tagging. Hazards that may require tag and isolation include:

- Electricity (mains, solar, generator)
- Fuels (gas, liquid)
- Heat / Steam
- Pressure vessels (water, air, hydraulic)
- Stored energy devices (batteries, springs, capacitors)
- Mechanical/Gravity/Radiation
- Faulty/damaged equipment and vehicles

Principles/Planning

The following principles/planning factors apply to tag out procedures:

PRINCIPLE	DESCRIPTION
Crew Safety	Energy sources left unchecked can create a risk. Isolation and tagging can reduce the risk to responders.
Hazard Control	Hazards need to be controlled to reduce risks to responders. Control measures need to consider the "Hierarchy of control" in sequence.

PRINCIPLE	DESCRIPTION
Responsibility	The person who removes any tag must be authorised.
Use of Tags	A tag is not in itself an effective isolation device. It is only a means to provide information to personnel about the isolation or warn personnel against using the equipment to which the tag is attached.

3.   Personal 'Danger' Tag (Red and White)

Used to tag out isolated equipment for the duration of the exposure.   A Personal Danger Tag on an isolation device denotes danger to personnel.   It is a warning that the equipment or energy source is in an unsafe condition and that operation of that equipment may endanger personnel. These tags are crew specific and must be replaced when crews working on the equipment or in the isolated area are changed over. A tag alone is not an effective isolation device, and therefore must not be relied upon to provide personal protection.

NOTE: The person who places and signs a 'DANGER' tag must be the only person who removes the tag.

Figure 1 – DFES 'DANGER' Tag

4.   Out of Service Tag (Yellow and Black)

Out of Service tags indicate that the item to which it is affixed is unserviceable and should not be used. Out of service tags are intended to convey a clear DO NOT OPERATE warning and the failure to comply may result in damage to the equipment and/or could cause injury. A tag alone is not an effective isolation device, and therefore must not be relied upon to provide personal protection.

Out of Service tags must be used in conjunction with appropriate reporting and documentation which may vary between service groups and local governments.

NOTE: Only appropriate service personnel, technician or supervisor may remove the tag once the equipment is deemed safe after repair and testing.

Figure 2 – DFES 'Out of Service' Tag

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Do Not Operate tape can also be used when an *Out of* Service tag cannot be affixed to a piece of plant or equipment.

Figure 3 – DFES 'Do Not Operate' Tape

Procedures

Procedures for identifying, isolating and tagging electrical, gas, water and mechanical hazards and faulty/damaged equipment are at <u>Annex A – Tag Out Procedures</u>.

5.   Danger Tag Left on Site

When a Danger tag has been utilised by an OIC they must undertake one of the following actions prior to leaving the site:

- Remove their Danger tag (when the hazard no longer exists)
- Swap out Danger tags (when handing over to oncoming OIC or other responsible person)
- Replace their Danger tag with an Out of Service tag (when the hazard is associated with the use of faulty equipment)

The following procedures describe the actions to be taken if the OIC named on the tag has departed the incident and left their Danger Tag on an isolation device.

ACTION	DFES CREW ON SCENE	NO DFES CREW ON SCENE
1. Attempt to Contact Tag Out OIC	OIC or delegate is to phone the Tag Out OIC's home station or request turnout through COMCEN	Person on scene contacts OIC/home station on phone number listed on tag
2A. OIC on duty and returns to remove tag	• Original Tag Out OIC is required to return to the site of tag out. • The situation is to be assessed. • The original Tag Out OIC is to remove the 'DANGER' tag and replace it with an 'OUT OF SERVICE' tag where appropriate. • Situation is resolved, go to step 5.	
2B. OIC not on duty	• OIC or delegate is to contact the COMCEN to arrange for a DO to attend • DO is to attend site for assessment and remedial action	• Home station is to attend site • OIC or delegate is to contact the COMCEN to arrange for a DO to attend • DO is to attend site for assessment and remedial action
3. Assessment	The crew at the incident should investigate thoroughly the reason for the tag being in place.	DO or responding station is to liaise with the on-site personnel and ascertain the presence of continuing risk
4. Remedial Action	If safe to do so the DO may remove the 'DANGER' tag and/or replace with an 'OUT OF SERVICE' tag where appropriate. If another crew are working in the same area, their OIC shall apply another 'DANGER' tag.	
5. Record Actions	Record in incident diary, station occurrence book and incident report.	

Note: This procedure should be a last resort and ***crews are to ensure they remove or swap 'DANGER' tags*** with relieving crews prior to leaving an incident.

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Safety Notes

6.   Consider a Sentry

Tagging is only a means of communicating isolation with others that have been trained in these procedures. Members of the public may not understand this and may reconnect isolated supplies so consider a **SENTRY** if in a non-secure location.

7.   Stored Energy

While some stored energy devices can be isolated with a switch or valve, in other cases the energy needs to be discharged prior to the commencement of work. This is particularly common with capacitors, springs and gases under pressure. Technical advice may be required to ensure complete isolation of potential energy prior to undertaking operations. Further guidance is provided at Annex B – Stored Energy Hazards.

Annexures.

A.   Tag-Out Procedures

B.   Stored Energy Hazards

ATTACHMENT 14.2.2

ANNEX A Tag-Out Procedures

PROCEDURE	HAZARD				
	ELECTRICITY	**GAS**	**WATER**	**MECHANICAL**	**EQUIPMENT / VEHICLE**
1. Identify Hazard	**Identify the area effected by the electrical hazard or machine**	**Identify the source of the gas hazard**	**Identify the source of the water hazard**	**Identify the source of the mechanical energy hazard**	**Identify faulty or damaged equipment or vehicle (Includes a vehicle involved in a burn over)**
	If required, seek local knowledge or technical advice via ComCen.				
2. Isolate	• Identify and turn off main switch, circuit breakers and/or remove fuses. **Note.** It is good practice to also locally isolate electrical equipment.	• Identify and shut off gas valve	• Identify and turn off water valve • If possible drain pipes to ensure isolation	• Seek qualified advice • Identify and turn off starting mechanisms	• Remove from service • Isolate and bag if involved in incident/near miss
3. Confirm Isolation	• Confirm power has been isolated	• Confirm gas has been isolated	• Confirm water has been isolated	• Confirm mechanism has been isolated	• Inform Supervisor and crew
4. Tag	• Complete **'DANGER'** tag and attach to isolation mechanism when reversal of isolation will endanger personnel. Complete **'OUT OF SERVICE'** tag and attach to isolation mechanism/equipment to indicate item must not be operated.				
	• Fix tag to *switch/circuit breaker or fuse* by using string or tape • Fix 'DO NOT OPERATE' tape over exposed fuse bases.	• Fix tag to *valve* by using string or tape	• Fix tag to *valve* by using string or tape	• Fix tag to *mechanical starting mechanism* by using string or tape	• Fix tag to equipment or vehicle steering wheel
	Tag must remain in place for the duration of the hazard.				
	If crew changeover occurs, 'DANGER' tag needs to be replaced by new crew before releasing current crew.				
	On incident completion replace 'DANGER' tag with 'OUT OF SERVICE' tag or 'DO NOT OPERATE' tape if hazard remains.				
5. Document	Enter detail of where tag was fitted in incident diary/comments section of incident report.				• Complete VFR • Enter details into occurrence book – where applicable

ANNEX B Stored Energy Hazards

Stored energy is accumulated energy, which can release suddenly, potentially causing serious injury or death. Stored energy has many forms, including pressurized gases and liquids, stored mechanical energy, stored electrical energy, and gravitational potential energy. Stored energy is particularly dangerous because the hazard still exists when the original source of energy is removed. This guidance note will explain the various forms of hazardous stored energy, how these energies can cause damage or injuries, and how to prevent stored energy accidents.

Pressurized Gas Stored Energy

Gases such as air, carbon dioxide, nitrogen, are compressible. In a closed vessel, a gas that is pressurized will remain pressurized until it is released, or used as a source of energy to power a machine. Compressed air is often used in factories to power equipment. If maintenance is attempted on a pressurized line without isolating the line and relieving the pressure, the sudden release of the pressure can propel fittings or rupture lines or vessels. Buses and tractor-trailers typically have a split rim wheel that can explode if pressure is not relieved in the tire before disassembly.

Mechanical Stored Energy

Stored mechanical energy occurs in springs. Some springs do not store energy, instead acting as shock absorbers such as springs in bed frames, or are used in force measuring devices like bathroom scales. Small springs that store energy are harmless such as springs used in writing pens, or latches on suitcases. Larger springs can hold tremendous energy with the potential for serious injury. Springs used on shock absorbers for vehicles hold large amounts of energy, and some power presses have components held under extreme pressure from springs. Overhead doors also use large springs with large amounts of stored energy.

Figure 1: Overhead door springs are a dangerous source of stored energy.

Flywheels are another source of stored mechanical energy. Anything with elasticity can hold stored mechanical energy and can act as a spring. Trees that have been partially downed by other trees are an example. This energy can release violently when the tree that is loaded is cut. Steel in brake presses or other forming machinery can store energy that can suddenly release, until the yield point has been reached in the material.

Gravitational Stored Energy

Gravitational stored energy occurs due to the gravitational forces acting on all objects. This potential energy only becomes hazardous if the object becomes unsupported or released from an elevated position. A dump truck with its bed in the elevated position, a car being raised by jacks, a jet flying through the air, a raised garage door, and a raised scissor lift all have large amounts of potential energy acting on them. The amount of energy depends on the height of the object above the ground or floor surface, and the mass of the object.

Hydraulic Stored Energy

Hydraulic stored energy occurs when a liquid is pressurized and contained within a vessel. The liquid can be water, oil, or other fluid. While liquids themselves have a very limited ability to be compressed, pressure is created by flow from pumps and resistance to this flow, by a compressed gas, or due to gravitational potential energy such as the pressure that is experienced the deeper one dives in an ocean or body of water. An example of stored hydraulic energy that could present a hazard of injury is a pressurized hydraulic reservoir. Removal of a hose or fitting without removing the source of pressure, and relieving the pressure, can result in a violent release of the hydraulic energy which would propel the fitting or hose at a high velocity.

Electricity

Electrical energy can be stored in batteries and capacitors. Contact with this electrical energy can be extremely hazardous.

Potential Energy and Safety

Stored energy must be managed carefully. There is always a way to safely control stored energy. Manufacturers are responsible for building safe ways to release hazardous energy in the products or machinery that they build.

Reference

http://www.experts.com/Articles/Stored-Energy-Hazards-Accidents-By-John-Ryan

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 10	New SOP created. New sections created: • (Nil) **Source documents:** • SOP 73 – Hazard Isolation Tagging *All listed SOP/SAP, now retired.*
1.1	May 12	Development notification.
1.2	Dec 12	Para 3. New. Principles/Planning Para 5. New. DANGER tags and updated procedures with handover procedure. Para 7. Insert point 6. Renew tagging with new crew Para 9. New. Danger Tag Inadvertently Left on Departure. **Source:** • Review by Rescue Branch and SO Harrison
2.0	Dec 15	Expand use of Out of Service Tag to include faulty or damage equipment and vehicles. Change title numbering from SOP 3.4.9 – Hazard Isolation Tagging to: SOP 3.3.7 – Hazard Isolation Tagging.
2.1	Jan 18	Clarification of procedures for Danger tag inadvertently left on site. Inclusion of guidance material on stored energy hazards at Annex B.

ATTACHMENT 14.2.2

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Standard Operating Procedure 3.3.11
Automatic Vehicle Location

Introduction

These procedures explain the processes required to support the Automatic Vehicle Location (AVL) system by DFES personnel.

AVL and associated software is used to display, report, communicate with and track AVL equipped vehicles and portable AVL units. The AVL Emergency Distress Button (EDB) is used by DFES and some external agencies to raise an alarm to the Comcen so they can co-ordinate a timely and appropriate response to personnel experiencing a life-threatening emergency.
AVL Portal

1.   Key Administrative Appointments
Key DFES appointments for AVL processes are as follows:

AVL Support Specialist	Access requests and password resets. Business Hours only.
ICT	Technical Support. Business hours only.
DO State Situation	After-Hours Emergency AVL access and technical support.
Operational Information Systems (OIS)	Reporting AVL Data in monthly DO reports.
ComCen	View, Manage and Clear Emergency Distress Alarms.

2.   Schedule
The OIS / AVL Support Specialist will provide monthly reporting, advice and support services direct to Regional Superintendents.

3.   Authorisation
Access to the AVL system is determined based on Position/Rank and AVL Role as shown in the table below. Access is requested by completing the AVL Access Request form.

AVL Access	AVL Role
View only	All DFES, BFB & SES Volunteers Identified Internal / Key External Stakeholders Emergency Operations Centres Fleet and Equipment Services
Update Viewer	Station Officers CESM's and above Identified Key IMT Members ICV's SES Local Managers BFB Captains and above DFES DOSS
Admin L2	DFES ComCen Monitoring Account

4.   Scheduled Outage

There will be times when AVL will need to be offline due to maintenance of the system. When this outage is known the AVL Administrator will follow the ICT notification process. This will include notification to key stakeholders with access to the system.

5.   Unscheduled Outage During Business Hours

If a user of AVL notices that AVL does not seem to be working, they are to contact the AVL administrator who will assist to see if it is a local or network wide issue. If it is a network wide issue the AVL Administrator will follow the ICT process until resolution.

6.   Unscheduled Outage After Hours

If a user notices that the AVL system may be offline they are to contact the District Officer State Situation (DOSS) to ascertain if this is a local or network wide issue. The following actions may be taken:

- Local Issue – The DO State Situation will contact ComCen and the Regional Duty Coordinator (RDC) of the area informing them of the issue. The DO State Situation will also raise the issue with the on-call ICT Support.
- Network Wide Issue – The DO State Situation will notify ComCen and all RDC's of the issue and ask them to notify personnel in any active incident. The DO State Situation will also contact the on-call ICT Support to action AVL's after-hours response.

Procedures – Operational Use of AVL Equipment

The following procedures explain when the AVL equipment is to be used. This includes the Emergency Distress Button and the Restricted View Switch.

7.   Emergency Distress Button (EDB) Activation

The EDB is used for the protection of DFES Staff & Volunteers by notifying ComCen that a situation is occurring requiring possible emergency assistance. Once activated the EDB will alarm and show the location of the vehicle that has activated the EDB. The EDB can be activated in the case of:

1. A life threatening or serious injury to you or your crew.
2. A burn-over situation.
3. A serious road accident causing injury or death of DFES Personnel.
4. A serious medical condition of DFES Personnel such as a suspected heart attack.

The EDB should be used in conjunction with the emergency messaging procedure as set out in SOP 3.2.4 - Incident Communications.

SOP 3.2.4 - Incident Communications

NOTE: - When Personnel with AVL equipped vehicles come across an incident that requires attendance of other Emergency Services, the EDB can be used to assist with calling for emergency assistance when no other forms of communication are available.

8.   Responding to an Alarm

When an AVL alarm is activated all computers logged in to the AVL software will sound an alarm. ComCen are responsible to react to the alarm and will follow the process outlined in Annex A. Where the activation has occurred at an incident, or the IC will attend to activation with resources on scene, they will notify ComCen of the reason for activation and actions taken.

Annex A – ComCen Alarm Activation Process

9.   Restricted View Switch

Restricted View Switch when activated, allows only authorised personnel to select and view a restricted vehicle within the system. Vehicles equipped with AVL and a restricted view switch can activate restricted view by pressing the momentary switch. When undertaking personal tasks, such as driving to/from home, personnel may choose to activate restricted view. When undertaking business activities, personnel are to ensure restricted view is <u>NOT activated.</u>

A red LED indicates Business Mode, and a blue LED indicates Restricted Mode has been activated, meaning only limited authorised personnel can view the vehicle.

10.   Incident Management Teams

The Incident Controller (IC) has responsibility for the safety and welfare of all resources within the incident area. Whilst the ComCen is responsible for the acknowledgement, mobilising to, and clearing of an AVL alarm, the IC remains responsible for all incident resources. As soon as practicable, the IC must use an AVL interface to monitor the activity as required of incident resources that have allocated AVL devices.

11.   Portable AVL

When a portable AVL device is issued at an incident, the person issuing the portable AVL device must ensure that the online AVL tracking program is updated with details of the vehicle/machinery/driver using the portable device. Once AVL has been updated, the COMCEN must be notified of the Portable AVL device name so that they can attach the device to the incident. When the portable AVL device is no longer in use at the incident, the information must be reset and COMCEN notified to un-attach the Portable AVL unit from the incident.

Regions may, from time to time, issue portable units out for long term use i.e. by a Community Emergency Services Manager who does not have AVL installed on their vehicle. It is the responsibility of the region to ensure that the portable unit details are updated in the AVL software system and also the DFES Computer Aided Dispatch (CAD) system whilst it is issued.
[AVL Update and View Manual](#)

12.   Naming Appliances

Appliance names are maintained within the DFES CAD system and must comply with the DFES Agreed Operational Appliance Name (OAN) convention. The DFES Vehicle Commissioning and Vehicle Movement Processes must be abided by to ensure OANs are maintained correctly. All OAN queries and requests for change will be managed by the CAD Administrators and once changed in CAD, will filter to downstream applications such as RMS and AVL.

13.   Appliance Grouped Location

All vehicles with AVL units installed will have an Appliance Name/OAN. These vehicles will be grouped within AVL by region and subsequent brigade/group/unit type that corresponds with the RMS region and location information. All AVL groups are determined by RMS therefore any group changes to vehicles must be submitted to OIS to ensure RMS details are correct.

Procedures – Testing and Maintenance

Both in-vehicle and portable AVL units must be tested monthly to ensure the equipment is maintained and functioning as intended during operations. The AVL Test Procedures are available at [AVL Training Material and Support](#). If the test doesn't work as expected, refer to the [troubleshooting guide](#).

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14. Fault Reporting

If an AVL unit appears faulty, log a Vehicle Fault Report (VFR) and send to ICT Service Desk via MyICT (where available) and phone 9395 9489 (BH Only). Send the following information (if known) to ICT Service Desk;

- *Vehicle Registration*
- *Vehicle Name*
- *Asset ID*
- *AVL Tracker ID*
- *Fault*

An Out of Service tag must be affixed to the button or unit. Crews must follow local procedures to ensure that other drivers are aware of the AVL fault. Under no circumstances are units to be opened in the field and attempts made to repair.

The AVL administrator is available during business hours to assist and may be able to correct any suspected faults.

15. Feedback

Feedback is welcomed via avladmin@dfes.wa.gov.au and is logged on the AVL portal for consideration.

Annexes.

A. ComCen Alarm Activation Process

DFES SOP 3.3.11 – Automatic Vehicle Location – Version 1.0   4

ANNEX A ComCen Alarm Activation Process

DO ComCen views alarm and initiates contact

Contacts Vehicle

- Determine current situation
- Type of emergency
- Number of people involved

Unable to contact vehicle

EMERGENCY

False Alarm

Receive confirmation of false alarm

Incident Related

Determine location of vehicle in relation to incident.

Contact IC (if appliance on scene or within range of incident) and determine if IC can respond to activation.

Create CAD incident if IC unable to respond, or vehicle not within range of incident.

On arrival, responding resources provide a SITREP, DO ComCen monitors situation and provide further assistance as required.

Non-Incident Related

Create CAD incident to the location of the unit in distress.

Mobilise weighted response of nearest contactable resource to render assistance.

On arrival, responding resources provide a SITREP, DO ComCen monitors situation and provide further assistance as required.

Notify

Provide the Incident Number and action taken to:

- DOSS
- Metro   - MDC, Regional DO or On Call DO (a/h)
- Country - Regional DO or RDC (a/h)

Clear Alarm

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Dec 2019	New procedure developed by Operational Communications.

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Standard Operating Procedure 3.3.12
Driving Standards

References
Road Traffic Act 1974
Road Traffic Code 2000
DFES Leased Fleet Policy

Introduction

Driving vehicles as part of your duties imposes additional responsibilities on the driver and officer in charge (OIC) if present. Drivers and OICs are accountable for the use, operation, security and maintenance of their vehicles and the adherence to procedures in the event of an accident.

SOP 3.3.1 – Respond Under Emergency Conditions provides drivers with additional guidance when responding to incidents under emergency conditions.
SOP 3.3.1 – Respond Under Emergency Conditions

Procedures

1.   DFES Driving Standards
Drivers of vehicles are subject to all regulations and laws detailed in WA Road Traffic Legislation. Additionally, all drivers of DFES vehicles, are to adhere to the DFES driving standards as stipulated below:

Fatigue	Drivers should avoid driving between midnight and 0600hrs (excluding operational requirements), or when the driver has been awake for 17 hours or more. When driving for extended periods, drivers should take a 10 minute break every two hours. Where extended driving time is required, drivers are to plan realistic driving schedules including an overnight stay where necessary.
	Refer to the DFES Fatigue Management Policy and the Safe Driving – Guidelines for Western Australia Government Agencies document for further guidance on managing driver fatigue.
	Fatigue Management Policy
	Safe Driving – Guidelines for Western Australia Government Agencies
Medical Conditions	Drivers must notify DFES of any medical condition that could affect their driving ability, as described in SAP 1.1.B – Injury Illness Death. Drivers with a medical condition and/or who are taking any medication that may affect their ability to drive, must notify the Department of Transport.
	SAP 1.1.B – Injury Illness Death
No Smoking	Smoking is not permitted within any DFES vehicle.
Onus for Traffic Infringements Notices	Drivers are personally responsible for any parking or traffic infringement notices.

DFES SOP 3.3.12 – Driving Standards – Version 1.2   1

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Headlights On	Drivers are to ensure that vehicles are driven with headlights on during country travel.
Faults	Faults to DFES vehicles are to be reported as outlined in Directive 4.3 – Recovery & Repair. Directive 4.3 – Recovery and Repair
Traffic Crash	Vehicles involved in a traffic crash shall be reported as outlined in SAP 4.3.A – Operational Vehicle Accidents and Breakdowns. SAP 4.3.A – Operational Vehicle Accidents and Breakdowns
Cleanliness	Vehicles are to be kept clean and tidy both internally and externally at all times.
Travelling on the Outside of Vehicles	Personnel are only to ride on the outside of vehicles when the vehicle is specifically designed for that purpose and only when engaged in direct firefighting activities.
Extraordinary (E Plate) Driver's Licence Holders	E Plate holders are not to drive any DFES vehicle. "Loss of license" provisions, as outlined in SAP 1.2.A – Traffic Infringements and Loss of Licence, will apply to E plate holders. SAP 1.2.A – Traffic Infringements and Loss of Licence
Learner's Permit	Learner's Permit holders are not to drive any DFES vehicle.

2. License Requirements

Personnel are to hold a current license, considering any license conditions and restrictions, indicating qualification to drive the equivalent class of vehicle.
www.transport.wa.gov.au

3. Provisional Drivers Licence

Provisional (P plate) driver's license holders are bound by the following restrictions when driving DFES Operations vehicles:

- Must display 'P' plates while driving
- Provisional licence holders **MAY NOT** drive the following:
  - **Any type** of emergency vehicle when using emergency lights and sirens.
  - Any vehicle after 2200hrs unless in possession of an 'Authorisation to Drive' letter and copy of brigade/group/unit roster, and only if travelling to or from station and home.
    'Authorisation to Drive' Letter

4. Responsibilities

All drivers are responsible for ensuring vehicles in their care are driven in a courteous and responsible manner, refuelled, cleaned, serviced and available for pool car bookings (where applicable). The custodian is to ensure regular routine maintenance is undertaken. Vehicle log sheets or occurrence books (whichever is applicable) are to be completed at the conclusion of travel. Vehicle log sheets are to be forwarded to DFES Finance monthly.

CFRS pumps and associated light tankers are to conduct non-operational travel together to ensure mobilising protocols are achievable.

5. Reversing

Drivers of vehicles are to be assisted by crew members at all times as described in the DFES On-Road Driving Student Resource, who shall assist reversing movements while ensuring the surface is appropriate for the vehicle. Where assistance is not available or practicable, the driver shall take all reasonable precautions to ensure the rear of the vehicle is clear before reversing.

6.   Vehicle Security

It is the responsibility of each driver to ensure the security of DFES vehicles.

- Vehicles must be locked when not in use and no one is present (excluding operational vehicles).
- Operational vehicles must be secured during non-emergency activities and no one is present.
- Where possible, valuables and DFES documents must not be left in sight when the vehicle is parked.
- Fuel cards must be stored inside the vehicle glove compartment or similar.
- When not in use outside of working hours, vehicles should preferably be parked in a safe and secure place.

7.   Request from the Public to Assist at an Incident

There may be circumstances where DFES personnel are driving vehicles fitted with emergency beacons, sirens and/or operational radios, yet are not trained or qualified to operate this equipment (as outlined in SOP 3.3.1 – Respond Under Emergency Conditions). If personnel encounter an incident or are requested by the public to assist at an incident, they shall;

- **NOT** operate emergency beacons and sirens
- **NOT** use operational radios, unless trained in use of this equipment
- Park vehicle in a safe position
- Operate hazard lights, if required
- Contact the appropriate emergency service by the most expedient means. This should be by phone (work, personal or other person's phone) in the first instance.

Document History　　　　　　　　　　　　　　　　　　　　**ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Mar 2020	New SOP created by extracting relevant information from SOP 3.3.1 – Driving Emergency Vehicles. Major review of content. Expanded content in table under section 2 - DFES Driving Standards. Vehicle Security and Request from Public to Assist at an Incident added.
1.1	Mar 2020	Traveling on outside of vehicles is now restricted to direct firefighting activities.
1.2	Aug 2021	Reference to student resource on how to assist with reversing

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Standard Operating Procedure 3.4.1
Structure Fire Response

Introduction

The objective of an emergency services response to a structural fire incident is to protect members of the community by containing and rendering the incident safe. Further information is provided at Directive 3.4 Structural Fire.

1.   Principles/Planning Factors

The following principles/planning factors apply to all structural fire incidents.

PRINCIPLE	DESCRIPTION
Crew Safety	Approach and treat the fire in a manner that ensures the safety of the emergency response crew. Isolate or mitigate known/observed hazards prior to commencing firefighting operations
PPE	Afford crews the required protection at all times
Water Supply	Establish a secure supply of water for firefighting operations
Entry Control	Only commit BA crews through an appointed Entry Control Officer operating from an identified Entry Control Point
Rescue	Prioritise rescues through information provided from reliable sources
Public Exposure	Apply resources to prevent the spread of the fire and associated hazards in order to minimise further risk to the public
Site Control	Isolate areas of risk from public access (HOT, WARM and COLD zones) and enforce entry control. Request WAPOL assistance if required
Confirm Site Safe for Departure	Conduct thorough overhaul to ensure all sources of reignition are eliminated

Procedures

2.   Arrival

Approach and arrival to structural fires by appliances must be undertaken so as not to expose crews to the hazard.

3.   Approach

Approaches to structural fire incidents are to be as follows:

- Turnout and approach is to be by the quickest and safest known route under emergency call conditions (beacons and sirens activated)
- Final approaches (after last known traffic hazard) may be under emergency beacons only
- Appliances are to be located in a safe position adjacent to the structure where there is no risk of the appliance becoming involved in the hazard

4.   Initial Actions

Upon arrival at a structural fire incident, IC is to undertake the following:

- Provide arrival code to the ComCen based on first visual impressions
- Provide initial incident classification to the ComCen
- Assess the scene (initial size-up) and secure the area
- Effect rescue if safe to do so

DFES SOP 3.4.1 – Structure Fire Response – Version 1.2   1

5.   Initial Size-Up

Initial size-up of structural fires are to consider the following:

CONSIDERATION	NOTES
Life Involvement/Exposure	Rescue Requirements Seek local knowledge. Ask: • Who is involved? • Where are they? • What happened? • How did it happen?
Property Involvement/Exposure	Task indirect attack
Location of Seat of Fire	Attack and access options. Is entry required?
Observed Hazards	Ensure initial objectives are safe to achieve: • Isolate mains power to structures prior to commencing firefighting operations • Isolate mains gas • Seek knowledge of internal layout and internal hazards • Structural materials: asbestos, fibreglass sheeting, tilt-up construction (SOP 3.4.9) • Inspect structure for signs of collapse
Entry Options	Safe and shortest possible to fire seat
Entry Control	Locate and designate ECO
Communications	Maintain contact with firefighting crews and ECO
Incident Site Control Requirements	Public Vehicles/Traffic
Additional Resource Requirements	Mains Electricity Isolation Mains Gas Isolation Water Supply Personnel

6.   Initial Objectives

The initial objectives at a structural fire are as follows:

- Ensure the safety of occupants and adjacent members of the public
- Treat hazards
- Contain and extinguish the fire

7.   Incident Classification

Initial incident classifications may be confirmed, upgraded or downgraded at any time during an incident.   IC is to re-assess their initial classification at the conclusion of their size-up and when the evolving situation demands.

Actual methodologies at a structural fire will vary in accordance with the situation however IC is to prioritise their actions in accordance with RECEO-VES.   RECEO-VES is not a substitute for individual size-up and appreciation of an incident by an IC.   RECEO-VES prioritises the following actions:

- **R**escue
- **E**xposures
- **C**ontainment
- **E**xtinguishment
- **O**verhaul

- **V**entilation
- **E**nvironment
- **S**alvage

RECEO-VES priorities are further described at <u>Annex A – RECEO-VES Priorities</u>.

8.   Communications

Communications plans for structural fires and Stage 2 Entry procedures are at Annex B.

Annex B – Communications Plans

9.   Safety

Safety considerations are detailed at Directive 3.4 – Structure Fire.

Annex.

A.   RECEO-VES Priorities

B.   Communications Plans – Complex Building Emergency Operations and Stage 2 Entry Control

ATTACHMENT 14.2.2

ANNEX A Structure Fire – RECEO-VES Priorities

ACTION	PURPOSE	REQUIREMENT	REMARKS
RESCUE	To ensure that persons trapped or exposed to the fire are located and protected in place or evacuated to a safe environment.	• Locate and protect or remove person/s involved in the incident. • If access is not immediately available, take measures to protect the person/s until access has been achieved.	**Rescue Priority** 1. Most severely threatened person/s first. 2. The largest number of persons. 3. Any remaining person/s in the incident area. 4. Any person/s in exposed areas.
EXPOSURES	To ensure that any persons or property exposed to the fire are managed in a manner that will prevent further exposure.	Protect life and property through reducing the direct effect of the incident on its surrounds.	Apply offensive or defensive tactics to reduce the spread of fire and harm to the community.
CONTAINMENT	To ensure steps are taken to prevent the spread of fire.	Apply resources to prevent enlargement of the incident through spread and further exposure.	
EXTINGUISHMENT	To ensure that the appropriate type and amount of extinguishing media is used to eliminate the fire.	Apply appropriate resources in sufficient quantity to extinguish the fire as quickly and safely as possible.	Attack the fire using the most appropriate: • Isolation/cooling method • Extinguishing media • Amount of extinguishing media • Equipment (branch and hose size)
OVERHAUL	To ensure the fire is not at risk of re-igniting.	Completely extinguish any fires by searching for and extinguishing hidden pockets of fire and heat.	Utilise TIC if available Try to establish the cause of the fire. • Notify the Fire Investigation Officer if the cause of fire cannot be determined.
VENTILATION	To ensure the removal of heat, smoke and gases from a structure to increase safety and visibility for internal operations and reduce heat and smoke damage.	Remove products of combustion and prevent potential life threatening backdraughts and flashovers.	Ventilate during a fire when all of the following are in place: • The seat of the fire has been located. • Crews are ready to enter with charged lines of hose. • Communications have been established.
ENVIRONMENT	To minimise the potential damage caused to the environment by emergency mitigation actions.	Consider the protection of the environment and community from the effects of: • Run-off • Toxic plumes	• Request SET for bunding if required (Perth Metro) • Request DEC pollution control/WaterCorp if required
SALVAGE	To ensure the protection of a building and its contents from heat, smoke and water.	Undertake *Preventative, Protective* and *Recovery* Salvage to minimise loss.	• Preventative and Protective salvage take place simultaneously with fire fighting to reduce the amount of avoidable damage. • Recovery salvage commences once the fire has been extinguished. Salvage concludes with the handing over of the premises to the owner or occupier, their agent or the police.

ATTACHMENT 14.2.2

ANNEX B Communications Plans – Complex Building Emergency Operations and Stage 2 Entry Control

COMPLEX BUILDING EMERGENCY OPERATIONS – COMMUNICATIONS PLAN

STAGE 2 ENTRY CONTROL – COMMUNICATIONS PLAN
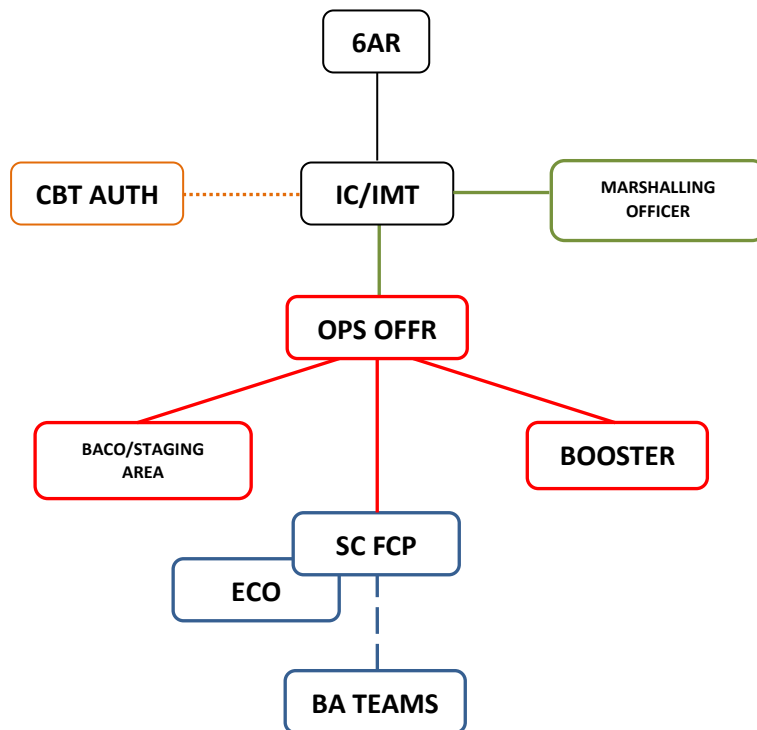
	PURPOSE	METHOD/CHANNEL
	Incident Control	Designated UHF Channel
	Command	ECC phone + designated VHF/UHF backup
	Dedicated BA	*BA Alpha (For non 400MHz radios Ch. SES 20)*
	Other CA	UHF – Emergency A/B

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 10	New SOP created. New sections created: • (All) **Source documents:** • SOP 4 – Complex Building Emergency Operations • SOP 9 – RECEO VES • SOP 10 – Wearing BA • SOP 11 – BA Control Procedures • SOP 37 – Driving Emergency Vehicles ***All listed SOP/SAP, now retired.***
1.1	Sep 12	Content reviewed for currency
1.2	Jul 17	Annex B updated with new 400MHz channels, BA Alpha, BA Bravo, BA Charlie, BA Delta.

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Government of **Western Australia**
Department of **Fire & Emergency Services**
Operations

D F E S
Department of Fire &
Emergency Services

Standard Operating Procedure 3.4.8
Electrical Hazards

Introduction

Contact with live electricity at incidents is a potentially deadly risk to firefighters. This SOP details the procedures to minimise the risk of live electricity to responding crews.

Isolating power means disconnecting power to the site – this can only be done by the energy provider. Firefighters can only turn off the power within the structure at the switchboard. The energy provider is to be mobilised through the ComCen in the first instance, in order to assess and isolate the risk.

IMPORTANT NOTE: Incident Controllers should restrict work as a far as practical to that required to protect life or prevent dangerous expansion of the incident after conducting a dynamic risk assessment. Consideration should be given whether benefits of undertaking the work outweigh the risks.

1. Safety Considerations – ALL INCIDENTS

At every incident involving electrical infrastructure, or where the potential for electrical energy to exist, the following safety considerations shall be considered.

- Consider all electrical components, including support structures (which includes wooden poles) as live until isolations are confirmed.
- Electrical wires should only be cut by qualified electrician. In situations where electrical wires are to be cut due to imminent threat to life (i.e. Breathing Apparatus entanglement), all reasonable efforts must occur to ensure power is isolated prior to wires being cut.
- To meet requirement of the Occupational Safety and Health Regulation 1996, section 3.59B (3) personnel are not to enter any roof space until power has been isolated.
- Where incident involves power poles there is no requirement to supply a power pole number (unless specifically requested by energy provider). Approaching damaged power poles may present a risk of electrocution.
- Where personnel receive an electric shock, no matter how mild, IMMEDIATE medical attention must be sought. Effects of an electrical shock to your body may not present until sometime after the event.

2. Isolation Considerations

- Electricity should be isolated form the electrical network to control hazards associated with the following considerations. Use the Delsar AC Hot Stick (where available) to aid in the detection of unshielded AC power sources.
- High voltage isolations (e.g. power lines) can only be affected by licensed personnel.
- Isolate whole building or just fire affected areas (consider lifts, lighting, air handling etc.)

- Damage to a structure may expose wires and cause conductive material in contact with them – e.g. gutters, downpipes, Air Cond ducting, cladding, fences – to become live.
- Water in contact with exposed wiring or electrical components act as a conductor and will become live and hazardous to responding crews.
- Prior to isolation, take note of (if any) circuit breakers tripped or fuses blown for fire investigation information. (Consider taking a photo).
- Apply tags to isolation points as soon as possible as per SOP 3.3.7 – Hazard Isolation Tagging.
- There may be more than one switchboard for the site - Look for a remote isolation point (pole mounted meter boards or external distribution boards in complexes)
- When power is switched off at the switchboard/meter box, wires from the power network remain live. This cable can be an overhead supply or an underground supply and can pass through the roof and/or wall space from the supply authority to the point of isolation.
- A structure may have illegal wiring e.g. Clandestine drug laboratory. Wires may be uninsulated, be hidden or unpredictable.
- There may be alternate power sources at the premises. I.e. Solar panels, wind turbine, uninterruptable power supply (UPS).
- Beware of damaged power poles and electrical installations. Working or positioning appliances near damaged infrastructure may be hazardous.

[Delsar AC Hot Stick](#)

3.   Isolation Method
- Identify an electrical hazard exists including alternate power sources. Use the Delsar AC Hot Stick (where available) to aid in the detection of unshielded AC power sources. IMPORTANT: The AC Delsar Hotstick will not detect DC power produced by an alternate energy source such as a solar panel array.
- Locate the electrical supply switchboard or appropriate isolation point. Seek local knowledge, as it may not be appropriate to isolate the entire structure.
- Turn off circuit breaker, isolator or remove fuse's where possible. Operate all switches and remove fuses at arms' length, with gloves on.
- Take precautions to avoid possible flash injuries (shield face, turn head away).
- Confirm the hazard has been isolated. If isolation was unsuccessful, consider alternate isolation point/s or consult with electrical provider (e.g. Western Power)
- Communicate isolation with all personnel at the scene.
- Apply tags to isolation points as soon as possible as per SOP 3.3.7 – Hazard Isolation Tagging.
- If the IC is not completely satisfied with the isolation, consideration should be given to a defensive strategy until hazard is dealt with by the appropriate electrical authority or professional.

4.   Structural Fire Isolation Procedures

CIRCUMSTANCE	PROCEDURE
Isolation of Alternative Energy Systems	Alternative energy systems (AES) include solar power systems, wind turbines, methane systems, generators, and uninterruptable power sources (UPS). Only an electrician can completely isolate an AES as it involves disconnecting wiring from the source. The presence of an AES may not be obvious. It should be indicated through signage within the main electrical board, to which the system is connected, however this may not always be the case. They may also

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CIRCUMSTANCE	PROCEDURE
	be identified by local or specialist knowledge. A UPS may automatically start when the power from the network is isolated, re-energising wires within the structure.

Alternative Energy Systems

Solar Panels (PV Array):
A Photo Voltaic Array (PV Array) or solar panels, exposed to sunlight will produce DC electricity despite being isolated at the switchboard. Wires between the solar panels and the inverter will be live. Artificial light such as flood lights and light emitted by fire can generate DC electricity at night.
As soon as the presence of a solar system is suspected or confirmed, an electrical exclusion zone should be considered until the system is made safe. Damage to the structure during fire or other emergencies such as storm, may expose wiring or the internal cells of the solar array, and cause conductive material – e.g. guttering, downpipes, metal roof sheeting, ducting - in contact with them to become live. Solar panels affected, and in contact with floodwaters, may cause the water to be electrically "live". The Delsar AC Hotstick WILL NOT detect DC electricity produced by solar panels.

The following procedure to isolate solar electrical systems must be followed to ensure crew safety:

- Locate, isolate and tag out the mains AC power source using the Isolation Method, this will also shut down the Inverter/s in grid connected systems.
- If required and able to do so, locate and operate the Solar Array isolation switch next to the solar panels (there may be more than one). If there is no isolation switch, cover solar panels, where possible, with black plastic salvage sheet or non-light penetrating material to interrupt sunlight. Ensure the covering remains secure throughout the duration of the incident.
- If unable to completely isolate the solar array, consideration should be given to a defensive strategy until isolation can take place by an electrical professional.

Guidance Note – Photovoltaic System Types

Battery Energy Storage Systems (BESS):
A BESS uses stored energy, collected from a solar array, wind turbine or fuel powered generator for use in either a stand-alone system or an Electricity Grid Connection with battery storage. Stand-alone BESS are commonly used in remote areas. A Grid connected BESS may be found in commercial and residential systems including some high-rise residential premises. These systems use batteries to store energy for use when there is high demand and will continue to supply energy (UPS) when the grid system fails or is isolated during an incident. The batteries of these systems need to be isolated to make the systems safe at an incident.

The following procedure is how to isolate these systems:

CIRCUMSTANCE	PROCEDURE
	- Isolate and tag out the AC power main switch. - Locate and isolate the system and its associated control equipment (usually near the alternate power supply generator (PV array, wind turbine, generator)). - If the power supply is solar, the pv array should be further isolated, where possible, as outlined above. - Isolate the battery input into the inverter (usually 12-48v DC) by removing the battery fuses between the batteries and the inverter. - If isolation is unable to be completed or the IC is not satisfied of complete isolation and safety, consult electrical professional or electrical supply company. Note. Live electrical components involved in fire should be extinguished with electricity compatible extinguishing agents. However, solar panels can have water applied safely from a minimum distance of 6 metres from the structure provided the AC power has been isolated using a broken water stream. Incident Controllers are to determine the cause of the component fire where possible and inform the Fire Investigation Officer in all cases where solar energy systems are involved in fire. Guidance Note – Battery Energy Storage Systems
Direct Current Power (DC)	- DC Power is the continuous, uni-directional movement of electrons through a conductive material such as metal wire. It is important to note that an earth is not required to allow the electrical current or stream of electrons to flow, only the completion of an electrical circuit. Alternate Energy System's will produce DC electricity until they are fully isolated. - An electrical professional should be consulted if the IC is concerned that DC will pose a risk to crews and is unable to be isolated. - A proximity non-contact device such as the Delsar AC Hotstick will not detect DC electricity. Guidance Note – Direct Current (DC)

5.   Electrical Hazard Procedures (All Hazards)

CIRCUMSTANCE	PROCEDURE
When an electrical hazard is found	**Immediately** inform OIC and all crew members. ***Don't apply water as a fire suppressant on any AC power until the hazard has been isolated.*** - Maintain a safe distance for emergency service personnel and equipment. - Demarcate and isolate the danger area as soon as possible, observe and monitor residual water flows. - Maintain a minimum safety distance of 30 metres for members of the public.
Location of a broken or downed wire	On arrival at an incident treat all wires in contact with the ground as though they are energised. Fallen power lines in contact with the ground may transfer electricity to the ground.

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CIRCUMSTANCE	PROCEDURE
	- Request the assistance of the energy provider. - While maintaining a minimum safe distance, locate the length of the fallen wire in both directions, in order to determine the total size of the danger area. Power lines under tension may move or break increasing the size of the hazardous area. - Ensure the energy source is not being transferred through another conductor e.g. steel fence, vehicle body etc. - Demarcate the area, keep bystanders away and Where possible and safe to do so, isolate source using the **Isolation Method** or await the arrival of the energy provider for isolation. Note: When wire and cable products are exposed to water or excessive moisture, e.g. following flooding or storm damage, the components may be damaged resulting in insulation or termination failures.
Pole top fires	- On arrival at an incident treat all electrical components, including poles, as though they are energised. **Do not apply water until isolation has been confirmed.** - Do not park under or work in the fall zone of the power lines as the pole may be weakened or burn through causing the lines to fall. - While maintaining a safe distance, demarcate the area, keep bystanders away and request the assistance of the energy provider. - Once the area has been made safe by the energy provider, firefighters can apply water to the pole.
Substation Fire	- On arrival at a substation fire, **do not** enter the substation. - Notify the energy provider for advice. - Firefighters should prepare and standby ready to protect adjacent properties. Western Power/regional energy provider personnel will advise firefighters when the substation has been made electrically safe. Only then can firefighters enter and proceed with conventional firefighting methods.
Persons in contact with electrical wires	- Do not attempt to aid any casualty unless safe to do so, or until the electrical supply has been isolated. - If possible, isolate the power source using the **Isolation Method** or alternatively, request the assistance of the energy provider for isolation and/or advice to render the hazard safe.
Vehicle accidents involving electricity	Where a vehicle has collided with a power pole or is in contact with electrical wires: - Request the assistance of the energy provider via COMCEN - Maintain a safe distance (minimum of 6 metres) until power has been isolated. - Do not stand, work, park appliances or position equipment beneath power lines or poles as they may fall during the incident. - Demarcate danger area and keep bystanders away.

CIRCUMSTANCE	PROCEDURE
	• If safe to do so, occupant/s should remain in the vehicle and must be advised to remain calm, stay still and avoid touching any metal on the vehicle until power is isolated. • If the occupants must evacuate the vehicle due to the risk e.g. fire, they need to be instructed to not touch the vehicle and the ground at the same time, as this may create a path for the electricity to flow through their body, resulting in electrocution. They should jump clear of the vehicle with their feet together and shuffle at least 6 metres away to a safe area. • Rescue by crews can only be affected once the power supply has been isolated. • Vehicle tyres may catch fire or explode due to overheating when in contact with live voltage wires or other electrical equipment. This may occur after the vehicle is removed if the temperature remains within the tyre.
Electric or Hybrid Vehicles	Electric or Hybrid vehicles may include an internal combustion engine, generator/alternator, high voltage battery, electric motor, fuel tank or a combination of these. • Immobilise the movement of the vehicle by turning off ignition, chocking wheels engaging park brake. • Disable the vehicle by turning off the ignition, disconnect the negative terminal from 12V battery, pull high voltage fuses and remove high voltage battery service plug or operate isolation switch if fitted. • If a proximity key is used and can be located, remove key away from the vehicle to at least 5m. If unable to locate the key, it will be disabled once the 12V battery is disconnected. Guidance Note – Battery Powered Vehicle Fires

6. Reconnection Procedures

CIRCUMSTANCE	PROCEDURE
Reconnecting Power in a Structure	Electricity may remain connected, or be re-connected at the OIC's discretion, provided it's safe to do so after a risk assessment. Consideration for the reconnection of power should be given: • When conducting search and rescue operations • To provide lighting, run fire pumps, air handling systems or lifts etc. • When deemed necessary **Note.** Reconnection should be undertaken in consultation with a licensed electrician, unless the IC deems that it is safe to do so prior to consultation. Extreme caution must be taken, and all personnel must be made aware of the presence of live electrical wiring.

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VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 10	New SOP created. New sections created: • (Nil) **Source documents:** • SOP 20 – Electrical Hazards V5 May 10 ***All listed SOP/SAP, now retired.***
1.1	Aug 11	New sections created • Persons in contact with electrical wires • Vehicle Accidents and Electrical hazards *Note that these will be removed and added to Rescue SOP once completed*
1.2	Jan 14	Addition of paragraph – Pyrolysis in vehicle tyres, as per Western Power Work Practice Manual 2.18.
1.3	Jan 16	Review of SOP, Changes and additions include Isolation method, Substation fires, Pyrolysis in vehicle tyres and Solar energy systems. Inclusion of links to PowerPoint training materials.
1.4	August 2020	Review undertaken by Special Operations Response. Changes and additions include Isolation method, Substation fires, Pyrolysis in vehicle tyres and Solar energy systems. Safety Considerations – ALL INCIDENTS added to capture guidance within Safety Circulars 5/2018, 19/2019 and 4/2020.

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Standard Operating Procedure 3.4.14
Fire Cause Investigation and Reporting

Introduction

The Incident Controller (IC) of a fire scene has a number of responsibilities for the containment and extinguishment of fires attended. Part of that responsibility involves establishing the origin and the cause of the fire prior to departure and if required, initiating and maintaining scene security to preserve all evidence until the scene is handed over to either WA Police or Fire Investigation and Analysis Unit (FIAU) representatives.

Correct determination of fire origin and cause plays a major role in the reduction of arson and other fire hazards in the community. Correct scene preservation assists WAPol prosecution of offenders and plays a vital role in the development of targeted hazard reduction programs.

1.   Principles
Establishing the origin and cause of a fire will show if the fire started as a result of an accident or deliberate actions. Fire Services and other agencies can then take steps to reduce further occurrences.

The actions and observations of operational firefighters is key to establishing the cause of fires. Using modern firefighting techniques ensures the least amount of damage caused during fire suppression and overhaul operations. The less damage done to the scene, the easier the determination of the origin and cause will be.

A Fire Investigation Officer (FIO) may be assigned to support operational crews if the cause cannot be established at structural or bush fires. The guidelines for attendance are detailed in the response matrix criteria for FIOs located within Field Guide 3.2 – Fire Investigation Response.
Field Guide 3.2 – Fire Investigation Response

2.   The Role of the FIO
The role and duties of Fire Investigation Officers (FIO) are detailed on the Fire Investigation and Analysis intranet page.
Fire Investigation and Analysis Unit

3.   The Role of the FIAU
The DFES Fire Investigation and Analysis Unit (FIAU) assists in the determination of fire origin and cause, and analysis of resultant data to identify trends and reduce the impact of fire upon the community.

Procedures

IC responsibilities for all structural and bush fires attended are as follows:
- Ensure fires are extinguished.
- Establish and maintain scene security.
- Preserve the fire scene evidence.

- Determine:
  - the area of origin
  - the source of ignition
  - material that ignited first
  - the act, defect or omission that brought the ignition source and the material that first ignited together, and therefore the cause of the fire
- Communicate the origin and cause of the fire to COMCEN prior to departing the scene
- Call for a FIO if required
- Release community safety message to the media
- Accurately document the origin and cause plus other fire information into the FIRS

4. Reporting Suspicious Fire Behaviour

If the IC determines or suspects that the cause of fire is suspicious but is unable to determine that it is a deliberate act, the FIO should be requested, and the scene should be secured. If the IC is able to determine that the fire was a deliberate act, then WAPol should be requested.

Suspicious behaviour, either observed or reported to OIC/IC by witnesses, is to be reported to the following agencies:

- **COMCEN.** For entry onto IRS (this information is transferred daily to WAPOL).
- **FIAU.** Email fio@dfes.wa.gov.au
- **WAPOL.**
  - By calling Crime Stoppers on 1800 333 000 to report arson, any suspicious activity or fire lighting.
  - By email to WAPOL Arson Investigation Unit at arson.investigation@police.wa.gov.au with a copy to the FIAU at fio@dfes.wa.gov.au.

5. Speaking to the Media

The IC is responsible for communicating with the media for fires where DFES is the HMA. This responsibility may be designated to the responding FIO or MLO as required. The following guidance is provided to assist Managers deliver consistent messages according to cause of fire:

Undetermined	IC/FIO message: "This fire is UNDETERMINED, FIAU will be in attendance and will be able to answer upon completion of their investigation"
Accidental	A fire can only be classified ACCIDENTAL if the cause IS KNOWN. Otherwise it is UNDERTERMINED. IC/FIO to release appropriate community safety message.
Natural	IC/FIO to release appropriate community safety message.
Suspicious	SUSPICIOUS is NOT a cause of fire, the cause is UNDETERMINED with an element of suspicious circumstances. WAPol Arson and FIAU attend collaboratively, at the termination of the investigation the fire cause is deemed Deliberate, Accidental or remains Undetermined. Suspicious is only utilised in IRS which is a national database for statistical purposes. IC/FIO message: "This fire is UNDETERMINED, FIAU will be in attendance and will be able to answer upon completion of their investigation."
Deliberate	Deliberate fires are the responsibility of WAPol. IC/FIO must refer media to WAPol representative.

Note: Fires involving life threatening injury and/or fatality are also the responsibility of WAPol.

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6.   Observation and Evidence Preservation at the Scene

Recognising, preserving and protecting fire indicators and evidence at the fire scene assists investigations. Preservation of the fire scene literally means protecting everything, as evidence may not only be in the immediate area of origin but elsewhere in surrounding areas. The smallest piece of evidence may fit into the larger picture so the preservation of evidence and scene security is a major priority for all members of Fire Services as it may assist in any subsequent prosecution.

7.   Firefighters Should Endeavour to Observe:

- **Enroute:**
  - Vehicles leaving with haste.
  - Barricades restricting fire service access
  - Colour of smoke and size of smoke plume
  - Groups of people or individuals leaving the scene

- **On Arrival:**
  - Fire and burn patterns on the structure, fixtures, fittings and furniture
  - Physical evidence – broken glass, notes, cans, tools, clothing
  - Trace evidence – blood, skins, hair, body fluid, fibres
  - Possible witnesses – obtain names, date of birth, address and contact details prior to FIO and Police attendance
  - Flame height
  - Smoke colour

- **During Suppression:**
  - Fire resisting extinguishing media (hard to put out)
  - Unusual smoke or flame colour
  - Any forced entry present or undertaken by fire crews
  - Fire shape, location of multiple ignition points
  - Rate of spread for the head fire
  - Any persons hindering suppression efforts

- **Following Extinguishment**:
  - Fire and burn patterns on the structure, fixtures, fittings and furniture
  - Physical evidence – broken glass, notes, cans, tools, clothing
  - Trace evidence – blood, skins, hair, body fluid, fibres
  - Electrical appliance make/model if applicable
  - Do witness accounts match fire patterns?

8.   Secure the Scene

Personnel are required to preserve any identified evidence and secure the scene using whatever means available:

- Secure the area of origin at the time of arrival
- Once fire ground objectives are being met, establish and maintain the scene security by zoning the scene of the fire with demarcation tape (see zones layout in Annex A)
- Secure the premises from unauthorised or unnecessary entry. Use contracted security services or Police assistance as required (Section 58 of the Fire Brigades Act.)
  - ➢ Limit/Control the access of occupiers and owners
  - ➢ Prevent non-essential or curious firefighters entry into the scene

- ➢ Restrict media from entering scene until the cause has been established and if the cause cannot be established do not allow media inside demarcation tape
- ➢ Keep a record of persons entering the scene both during and after the fire
- Protect and preserve physical evidence and fire indicators during suppression and overhaul
  - ➢ If necessary, photograph items in situ prior to their movement
- Prevent contamination of the fire scene and physical evidence
  - ➢ Use caution with the use of power tools and refuelling on scene
  - ➢ Do not discard gloves, masks, drink bottles or other items at the scene.

9.　　Determination of Fire Origin and Cause

Analyse all of the available evidence inclusive of witness accounts and physical fire indicators to determine:

- The ignition source
- Material first ignited
- The act, defect or omission that enabled the ignition source to come into contact with the material first ignited.
- From the information above determine the fire cause

Origin and cause considerations are provided at Field Guide 3.2 – Fire Investigation Arson.

10.　　Initial Fire Cause Classification and when to Mobilise a FIO

Fire cause classification is required as soon as practicable. This classification is to be communicated to the COMCEN and the attending Police Officer. The initial classification categories are:

- Accidental – Heating, cooking, welding, electrical, spontaneous combustion etc.
- Undetermined – All other causes have been ruled out
- Natural – Lightning or earthquake
- Suspicious – All accidental causes ruled out and suspicious indicators located
- Deliberate – e.g. Multiple fire seats, accelerant found, etc.

Incidents involving fatal or life-threatening injuries, whilst not a cause also need to be communicated. A FIO is to be requested to assist the crew with origin and cause determination if the initial classification of the fire cause is one of the following:

- Undetermined;
- Suspicious; OR
- Fatal / Life threatening injuries

Response matrix can be seen at Field Guide 3.2 – Fire Investigation Response.

NOTE: The Incident Controller is to ensure that a Fire Services presence is maintained until the FIO arrives. In the case of a deliberate fire no attendance of a FIO is required. The IC is to hand the scene over to WAPol Officers prior to departing the incident.

11.　　Mobilisation of a FIO to Regional Locations

All requests for mobilisaton of a FIO to regional locations are to be managed as follows:

- IC requests regional FIO through their RDC
- If regional FIO is not available, the RDC shall contact the On-Call FIO via ComCen
- The On-Call FIO will coordinate an FIO response from a neighbouring region or the metropolitan area via consultation with the Manager FIAU, Supt. Built Environment and the Regional Supt.

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All fire scene investigations involving the use of a FIO MUST inform the on call FIO that an investigation is taking place. This is to ensure the FIAU can provide appropriate support to the investigation. This includes the process and format of reporting, remote advice to the investigating officer, collation and preparation of the appropriate storage file, and quality assurance and peer review.

12. Providing Evidence

Operational crews can be required to attend either criminal or civil court hearings to give evidence of their observations and actions. Therefore, any information gathered, including notes or observations made at the incident in relation to the origin and cause of the fire and any observations associated with fire suppression activities should be retained so that, in the event of any legal proceedings, these notes can be used or referred to in Court.

Prevention Programs

13. Hazard Reduction Programs

DFES Operations staff are to be aware of the following fire awareness programs aimed at reducing hazards and exposure:

- **Electrical Fire Prevention**. Energy*Safety* are the state government regulator tasked to ensure that electrical supply authorities are maintaining a safe electrical transmission network. Operational crews are to assist in the compilation of risk profiles by Energy*Safety* and the FIAU by identifying and reporting observed electrical hazards such as cases of electrical shocks, faulty transformers, loose power lines, and powerlines in contact with vegetation. Crews are to report these hazards via IRS (which is monitored by the FIAU) or directly via the EnergySafety website. A DFES report on all electrical fires State-wide is forwarded to Energy*Safety* on a daily basis.
- **Roof Space Insulation Fire Prevention**. To enable the FIAU to identify patterns, IC are requested to gather as much preliminary information as possible when attending fires involving roof insulation, such as:
  - Type and date of insulation, i.e. blow in cellulose, bagged cellulose, batts.
  - Roof activity that may have contributed to the fire cause, e.g. renovations, rodents, downlights, storage, etc.

14. Arson Reduction Programs

DFES operates a number of arson reduction programs which rely upon the involvement of Operations staff to be effective. Programs requiring Operations staff participation are as follows:

- **Abandoned Vehicles.** To reduce the number of fires occurring in abandoned vehicles, operational crews who believe vehicles (whether identified by WAPOL with an orange '*VEHICLE HAS BEEN REPORTED'* sticker or not) are to contact the respective LG to not only ensure it has been reported but also to have it removed as a priority to reduce the fire potential. Crews are encouraged to also post 'Extinguish Arson' coreboard signs on burnt vehicles once the fire has been extinguished.

- **Unoccupied Buildings.** Deliberate fires in unoccupied buildings may be reduced with the improvement of security and removal of hazards (including services). DFES Operations staff may be asked for advice, or be required to advise, with regard to the preparation and care of unoccupied buildings. Further guidance is detailed at the FIAU Derelict Buildings Protection Guidelines, available on the DFES website.
  [Derelict Buildings Protection Guidelines](#)

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- **Arson Awareness.** Arson awareness initiatives are supported by DFES Operations through the appliance based advertising campaign and posting of 'Extinguish Arson' posters. 'Extinguish Arson' signs promote the applicable $50,000 reward and are to be posted by operational crews at incident sites where repeated or suspicious fire events have occurred. Coreboard 'Extinguish Arson' signs, notice board posters and appliance transfers are available by direct order through the FIAU at fio@dfes.wa.gov.au.
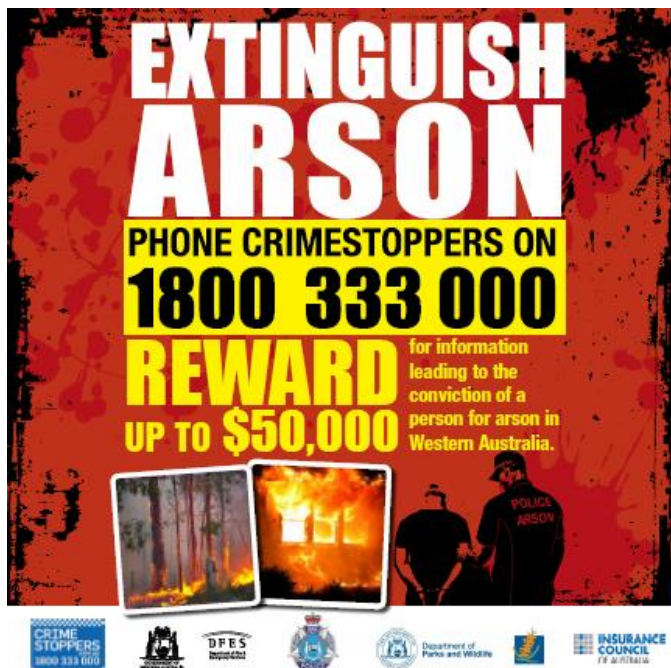
DFES Website Arson Publications

- **Extinguish Arson Intelligence Database Maps.** EAID software can graphically represent the occurrence of incidents by type (structure, DBA, vegetation, vehicle) and cause within the state of Western Australia. Selections can be made as to the date range and incident locations as well as numerous other criteria. The software is useful in providing evidence of fire hot spots and can also be used to identify nuisance DBAs. The link to EAID can be found on the intranet home page under applications. Log-in is station number (e.g. stn001) and usual station password. DFES officers authorised to use EAID who are working from regional offices should use their normal DFES log-in and password. For any questions contact the FIAU on fio@dfes.wa.gov.au. The DFES FIAU encourages all authorised users to make use of this software in the fight against arson in Western Australia.

Annex.

A   Fire Investigation Scene Zones

ANNEX A Fire Investigation Scene Zones

Outer perimeter of the warm zone ("No entry demarcation tape" to be put in place)

Area of origin taped off or marked to identify the HOT ZONE

Area burnt at time of arrival

Final fire size
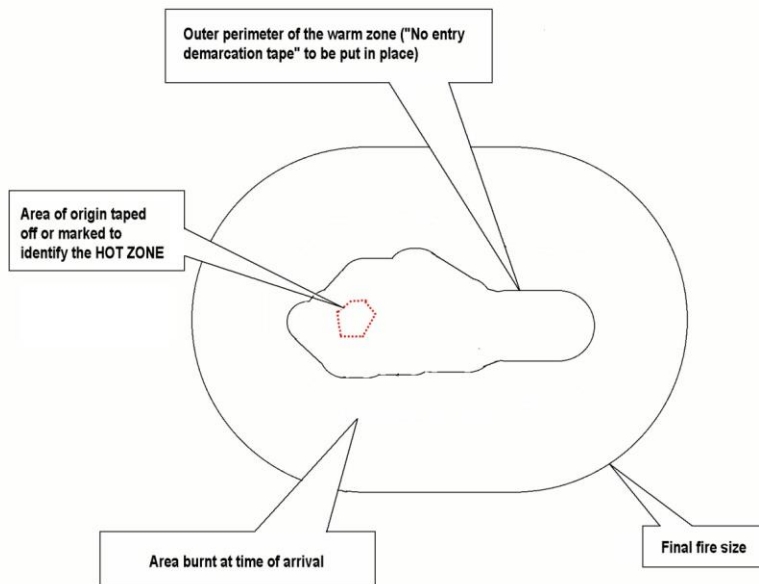
Wildfire Investigation Zones

FIRE INVESTIGATION SCENE ZONES

Structure involved in fire

Hot

Warm

Outer perimeter of the hot zone (external walls of structure or expand to cater for evidence collection)

Outer perimeter of the warm zone ("No entry demarcation tape" to be put in place)
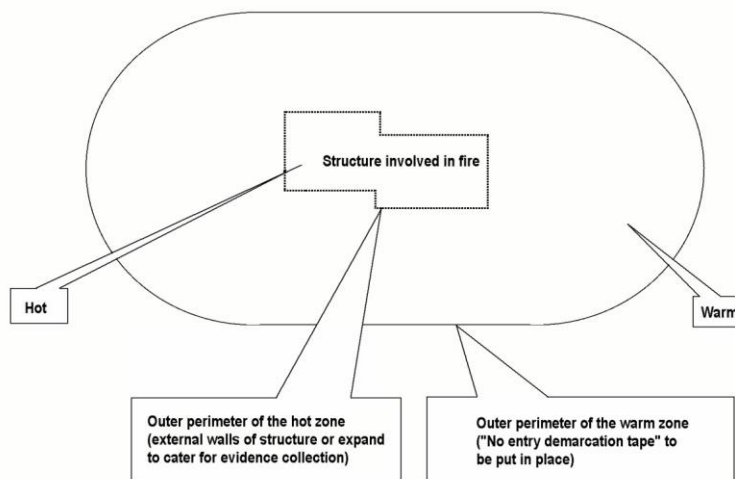
Structural Fire Investigation Zones

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VERSION	DATE	DESCRIPTION of CHANGE
1.0	Apr 12	SOP FIO Fire Investigation aligned to doctrine Currency and content checked and confirmed by SO J Haddon FIO **Source Documents:** SOP FIO Fire Investigation *SOP now retired*
1.1	May 12	Re-format to current doctrine format No new information added
1.2	Nov 13	SME Review
1.3	Oct 14	Review and creation of less structure fire centric document. Addition of information relating to regional engagement of an FIO.
1.4	May 18	Scheduled review conducted by DO FIAU. Clarification of responsibilities when speaking to the Media. Spontaneous combustion moved from natural to accidental cause of fire classification. Clarification of mobilisation of regional FIO's.
1.5	Aug 18	Title changed from 'Fire Cause Investigation' to 'Fire Cause Investigation and Reporting'. Inclusion of FIO and FIAU role statements. Inclusion of guidance for reporting suspicious fire behaviour. Inclusion of information on hazard/arson reduction programs.

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Standard Operating Procedure 3.5.1
Bushfire Response

Introduction

This procedure outlines the principles and provides guidelines for personnel to utilise during initial response to bushfire incidents. Further information relating to bushfire is detailed in Directive 3.5 - Bushfire.

Directive 3.5 - Bushfire

1.   Principles/Planning Factors

The following principles/planning factors apply to all bushfire incidents:

PRINCIPLE	DESCRIPTION
Crew Safety	Approach and treat the fire in a manner that ensures the safety of emergency services personnel. Further information relating to crew safety at bushfires and LACES can be located within SOP 3.5.10 – Crew Safety at Bushfires.
PPE	Afford response personnel the required protection at all times. PPE requirements are outlined in SOP 3.2.1 – Personal Protective Equipment (PPE).
Public Information	Issue public warnings and information and advise the community as early as possible.
Water Supply	Identify a secure supply of water to support firefighting operations. Local knowledge is a key factor in considering water supplies and whether early mobilisation of water tankers are required.
Observe Local Conditions	• **Meteorological Conditions.** Note temperature, wind speed and direction, and severe weather events. Request incident weather forecasts early. Know when wind changes are due and disseminate information to all levels. • **Fuel Loads.** There may be variation providing opportunities to create breaks, back burn or switch from defensive to offensive strategies. • **Topography.** Slope and aspect will affect fire behaviour and rate of spread.
Observe Fire Behaviour	Identify the direction, rate of spread and the location of the head fire.
Contain to Control	If possible, contain immediately. If not, work on the flanks where the fire intensity will be lower to pinch out the head fire. Apply resources to contain the spread of the fire and then extinguish.
Site Control	Isolate areas of risk (including locations in the anticipated path of the fire) from public access. Request WAPOL assistance if required.
Public Exposure	Apply resources to prevent the spread of the fire and associated hazards (e.g. smoke plumes) in order to minimise further risk to the public.
Confirm Site Safe for Departure	Conduct thorough mop up and patrols to ensure all sources of re-ignition are eliminated.

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2.   Bushfire Status

This is the reportable status of a bushfire; these terms reflect the current status of a bushfire from going fire through to safe.

STATUS	DEFINITION/MEANING
Going Fire	Any bushfire which is expanding and suppression actions have not yet contained the fire.
Contained	The status of a bushfire suppression action signifying that a control line has been completed around the fire, and any associated spot fires, which can reasonably be expected to stop the fires spread.
Controlled	The stage during bushfire suppression activities at which the complete perimeter of a fire is secure and no breakaway is expected.
Safe[1]	The stage of bushfire suppression or prescribed burning when it is considered that no further suppression action or patrols are necessary.

3.   Bushfire Control Phases

As a bushfire escalates, Incident Controllers need to transition through three phases where the approach to control will alter significantly. The three bushfire control phases are as follows:

CONTROL PHASE	CHARACTERISTICS	STRATEGIES	KEY CONSIDERATIONS
Initial Attack	• First hour • Mobilisation of assets (ground and air) to immediately restrict fire spread	**Contain Extinguish**	• Control of resources • Prioritisation of effort
Extended Attack	**Offensive Operations** Acknowledgement that initial attack is not having an effect. Additional resources required • Resource relief-in-place • IMT required to control and plan • Public Information required • Authorised powers considered	**Limit Spread Protect Life and Property Contain-Extinguish**	• Resourced L2 IMT • Public Information • Logistic support (ROC) • Inter-agency support (SOC) • Activating recovery
	Defensive Operations (option) Acknowledgement that offensive operations are not suited to current fire behaviour • Life and asset protection prioritised • Relocation required • Authorised powers enacted	**Protect Life and Property**	• Resourced L2 IMT • Task Force operations • Public information • Relocation • Logistic support (ROC) • Inter-agency support (SOC) • Activating recovery
Campaign	• Continuous, extended, shift- based operations • SOC operating continuously as link between ROC and SECG/EMWA • Emergency Situation declared	**Protect Control Inform**	• Resourced L3 IMT • Resourcing • Fatigue Management • Public information • Activating recovery

Direction regarding extended attack and Campaign type bushfires are concerned with IMT, ROC and SOC functions and are beyond the scope of this procedure.

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[1] Only the Incident Controller may declare a bushfire safe.

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Procedures

4. Initial Mobilising

Initial mobilising for a bushfire is normally a single CFRS/VFRS station, BFB or VFES unit. The intent of minimum mobilising to a bushfire is for the assessment of the first arriving OIC to confirm the required resourcing mobilisation.

5. Enhanced Mobilisation

Enhanced 'High Threat Period' (Summer) Mobilising for the Perth Metropolitan, South West and Lower Southwest (Capes District) regions will be activated from approximately December until April each year or as determined by the Deputy Commissioner Operations. For further information refer to SOP 2.1.2 - Mobilising

6. Zoned Responses

DFES together with relevant stakeholders has developed a number of zones across the state that require additional response appliances due to its location and possible life and assets at threat. These zones have an automatic notification and response. For further information these response zones refer to Zone 2 & 2A and Enhanced Air Operational Protocols, South West Region Response Zone and Capes Zone Response Operational Protocol.

7. First Arriving Appliance – Role

The role of the first arriving appliance is to assess the situation and attempt to immediately contain and extinguish the fire. The OIC of the first arriving appliance is to assume the role of IC until relieved.

8. Incident Controller Initial Actions

Upon arrival at a bushfire incident, the IC is to undertake the following initial actions:

- Provide arrival code to the COMCEN based on first visual impressions.
- Assess the scene (initial size-up) and secure the area.
- Provide initial incident classification to the COMCEN.
- PAFTACS informative message to ComCen (15 minutes).
- Assess for any life and property involvement and protect if safe to do so.

9. Initial Size-Up

The initial size-up of bushfires is to incorporate assessment of the following:

CONSIDERATION	NOTES
Life Involvement/Immediate Threat	Initial tasking is to reflect the immediate threat posed by the fire to life and property.
Communications	Create a robust communications plan (based on VHF channels) capable of being expanded into sectors from the outset
Fuel Load and Configuration	Will determine safe tactical firefighting methods
Capability of Initial Response	Do the threats to life and property, current weather and fuel load represent conditions beyond the capability of the initial response? If so, request further mobilisation of specific capability resources both ground and air based.
Observed Hazards	Ensure initial objectives are safe to achieve: • Note location of overhead power lines and conditions of poles • Note fence lines and other hazards to vehicle movement

CONSIDERATION	NOTES
Incident Site Control Requirements	Control entry to the incident site of public and vehicles/traffic Manage the hazard presented by smoke plumes. (road closures).
Additional Resource Requirements	Request additional mobilisation early. Consider the need for aerial suppression.

10.   Initial Objectives

The initial objective at all bushfires is to minimise spread of the fire in order to protect life and property and enable containment. Initial actions at bushfires are as follows:

- Protection and Preservation of Life.
- Community Warnings and Information.
- Protection of Critical Infrastructure and community Assets
- Protection of Residential Property.
- Protection of Assets supporting individual livelihood and community financial sustainability.
- Protection of the Environment.

It is important to note that these priorities are not hierarchical.

11.   Incident Classification

Initial incident classifications may be confirmed or upgraded at any time during an incident.   Incident Controllers are to re-assess their initial classification at the conclusion of their size-up and throughout the incidents as it is evolving or as the situation demands.

12.   Request of Additional Resources

Incident Controllers are authorised to request additional resources (by type, not specific identification) to combat the incident. In this manner, unnecessary structural assets are not mobilised in order to gain bushfire assets from urban stations.

However, CBFCO, DCBFCO or FCO and LG or VFES ICs (where approved by LG) may request specific resources or resources from a specific Bush Fire Brigade Unit within their LG. CBFCO and DCBFCO may also request additional specific mobilising of BFB resources to incidents within their LG to incidents in neighbouring LGs at the request of neighbouring CBFCOs or the ComCen
SOP 2.1.2 - Mobilising

13.   Control Point and Command Channel

Upon request for additional assets, IC's are required to nominate a Control Point (CP) where all resources will be dispatched to by the COMCEN/RDC, and the VHF command channel on which approaching resources can contact the IC and notify of their impending arrival.

Control points should demonstrate the following characteristics:

CHARACTERISTIC	NOTES
Size/Space	A CP must be capable of accepting and staging the requested resources.
Safety	A CP cannot be in the path of the fire, nor create a hazard to traffic/the general public.
Communications	A CP must be able to maintain communications with the COMCEN/RDC. Fire ground communications may be performed from a separate location).

SOP 3.2.6 – T Cards and Incident Management Boards

14.   Initial Communications Plans

Regardless of incident size, initial communications plans are to be based upon the relevant preformed communications plans in order to enable expansion as required. Due to their limitations of range and penetration, ***UHF communications are not to be used*** as incident command channels.

Note: During rural operations UHF channels may form part of a communications plan for pastoralist or farmer response.

SOP 3.2.4 – Incident Communications
SOP 3.2.5 – Communications Planning

Sustained Incident Management

This section provides guidance to Incident Controllers on bushfire incident management protocols.

15.   Incident Control

A key to achieving control is the early notification of a ***Control Point*** and a relevant ***Incident Command Channel*** to ensure additional requested resources are properly received and tasked before progressing onto the fire ground.

16.   Incident Naming

Incidents will be named using a common standard. In many instances, the locality place or feature may be adequate. The nearest major roadway and the LG name may be necessary for other situations where there are no specific features.

17.   Control Points

As an incident expands the location and size of a control point needs to be continually reassessed to address the incident needs and expanding IMT.

When identifying a location for a control point a number of factors need to be considered, including the ability to receive and dispatch resources in a timely manner, access to amenities, and ensure it is able to accommodate the expansion of the IMT for the duration of an incident.

18.   Resource Escalation

The IC must continuously reassess the incident situation in order to ensure strategies (and IMT to plan and implement those strategies) are effectively resourced. The request for additional resources requires planning of arrival, and subsequent tasking and control.

19.   Creating Divisions and Sectors

All bushfires have potential to expand beyond the physical management capacity of a single IC undertaking all IMT roles. IC/Ops Officer are to create divisions and sectors in order to ensure the safety of personnel on the fire ground and to ensure that the IC/Ops Officer remains in control of firefighting efforts.

Sectors and Divisions must be readily identified by name and communicated to all concerned. Naming of Sectors should follow the phonetic alphabet or functional name for example: Sector Alpha to the left, Sector November to the right, RUI Sector, Water Sector. Naming of Divisions should follow a numerical format, for example Division One, Division Two, Division Three.

- **Divisions** are created to provide a command structure to a group of sectors. Divisions are to be created when the number of sectors active on the fire ground and operating to the Ops Officer exceeds the accepted span of control (> 5).
- **Sectors** may be physical or functional in nature. Sectors ***may*** be created at bushfires under the following circumstances.

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PHYSICAL SECTORS	FUNCTIONAL SECTORS
Where the number of appliances active on the fire ground and operating to the IC/Ops Officer exceeds the accepted span of control 1 to 5.	**Back burning**. Where dedicated resources are tasked to undertaking a back burn.
Where the area involved has caused crews to operate beyond the physical management of the IC/Ops Officer.	**Evacuation.** Where considerable and dedicated resources are tasked exclusively with evacuation.
Where multiple fires are being combated (through deliberate lighting or spotting).	**Water.** Where the provision of water supplies requires dedicated management.
Where the fire activity on a particular flank requires the dedicated management of one individual.	**Aerial Suppression.** Where the guidance of aerial suppression assets requires the exclusive attention of one individual.

20.   Mop up/Black out

Effective mop up is required to ensure the bushfire remains contained and controlled. Extinguishing or removing burning material along or near the fire control line by mopping up to minimum standards will minimise the risk of breakouts.

The minimum standards for mop up are:

- Fire perimeter blacked out, to a minimum depth of 20m from the perimeter or as specified by the Incident Controller (IC).
- All burning trees extinguished or removed within 100m of perimeter or as specified by the IC.
- Mineral earth break constructed around the perimeter to a minimum width of 1m.
- The Incident Controller may vary this standard but needs to document the decision and rationale for the decision.

21.   Patrol

Effective patrolling is one of the most important tasks at any bushfire. Identifying potential locations where escapes may occur and controlling any breakouts or hop-overs during the early stage of their development can save considerable suppression effort and minimise adverse impacts.

Patrolling is an essential task that is undertaken in conjunction with mop up operations and must be maintained until the bushfire is declared safe.

22.   Post Fire Recovery Actions

The Incident Controller should where possible allocate resources where appropriate to close of any tracks, rehabilitate constructed fire lines to reduce erosion and access to the public, and inform the land owner of the property of the fire i.e. Shire verge or reserve.

23.   Demobilising

Following a bushfire, there will be a requirement to demobilise resources in and orderly manner ensuring that sufficient resources remain to meet suppression requirements. The Incident Controller is responsible for planning, managing and communicating the demobilisation of incident resources.

24.   Declaring Safe for Departure

Incident Controllers have a responsibility to maintain the safety of both emergency responders and the general public. IC's shall continue to commit resources until the incident is declared safe and must notify the ComCen to close incident off.
SOP 3.2.3 - Making Safe/Rules for Departure

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Document History

ATTACHMENT 14.2.2

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	Jan 10	New SOP created. New sections created: • (All) **Source documents:** ***All listed SOP/SAP, now retired.***
1.1	Sept 12	Content Reviewed
1.2	Nov 13	Changed strike team to task force as per AIIMS definitions Changed initial objectives to better reflect Westplan Fire
2.0	Nov 18	Review and update of content to reflect changes within Directive 3.5 – Bushfire.

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Standard Operating Procedure 3.5.2
DPD Regeneration During Bushfire Firefighting

Introduction

This procedure is applicable to bushfire vehicles with Diesel Particulate Diffusers (DPD) in their exhaust systems. DPD's trap particulate matter from exhaust gases and require regular regeneration, which burns off the particulate matter and prevents blockages.

DPD pose two hazards:
- The exhaust system becomes hot during regeneration and has the potential to ignite dry grass.
- If regeneration is not undertaken, the vehicle will eventually go into a limp-home mode, which de-rates the vehicle and engine performance potentially slowing egress from the fire ground.

This procedure explains how to control these hazards during bushfire firefighting activities.

Further information on DPD is provided in the following link FAQ - Diesel Particulate Defuser (DPD).

See also your vehicle manufacturer's user guide and the DFES driver/operator resource manual.

This procedure details immediate and preventative actions. Preventative actions should be undertaken to reduce the likelihood of DPD Regeneration being required during firefighting operations.

Procedures

1.   Immediate Actions

DPD Regeneration can occur both automatically and manually when particulate matter levels are high. Automatic Regeneration typically begins during on road driving, after a period of time when the exhaust is hot. Manual regeneration will be required when the exhaust has not reached operating temperature and entails the driver pressing the DPD button for this action to start. Actions for either of these regeneration events are given below.

2.   Auto Regeneration

Prior to commencing bushfire operations, check whether Automatic Regeneration is occurring.
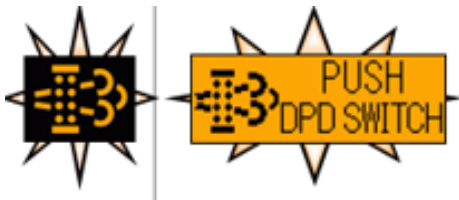
PROCEDURE	NOTES
Auto Regeneration is Occurring	If Auto Regeneration is occurring either of the following will be displayed on the vehicle dash. DO NOT begin firefighting operations if Auto Regeneration is occurring.
Allow auto regeneration to complete	If operations permit, allow the DPD Regeneration to complete prior to beginning firefighting operations.

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PROCEDURE	NOTES
Are firefighting operations required immediately?	If firefighting operations are required immediately, stop the Auto Regeneration by holding down the DPD button. Manual regeneration will now be required. Follow the Manual Regeneration procedure detailed below.

Note: It is unlikely that Auto Regeneration will occur during bushfire firefighting operations as the exhaust will not be hot enough under these driving conditions.

3.   Manual Regeneration

In the event that a Manual Regeneration is required, complete the following steps.

PROCEDURE	NOTES
Is Manual Regeneration required?	Manual Regeneration is required when either of the following are displayed DO NOT start DPD Regeneration while firefighting.
Plan Regeneration	Plan the DPD Regeneration to occur in a safe zone away from fire at the earliest opportunity. The DPD Regeneration process may take up to 40 minutes to complete and the vehicle must remain stationary. Combining this regeneration with a scheduled break may be an efficient way to safely complete the regeneration.
Advise Sector Commander of DPD regeneration requirement	Notify your Sector Commander that your vehicle required DPD regeneration and seek permission to initiate your regeneration plan.
Complete Regeneration as Planned	Ensure no vegetation is below the vehicle or at the exhaust outlet Initiate the Manual Regeneration as advised by your vehicle user manual or drive/operation resource manual.
Resume firefighting	Notify your Sector Commander that DPD Regeneration has been completed and you are returning to firefighting operations. Resume operations.

Notes:
1) Manual Regeneration requires the vehicle to be stationary with the engine idling and PTO disengaged (where fitted).
2) A Manual Regeneration can be stopped at any time by pressing the DPD Button.

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4.   Preventative Actions

Reduce the likelihood of a regeneration being required during bushfire fighting operations by completing the following:

Continuously monitor the DPD particulate matter level. Set the dash display to show the particulate matter (PM) level accumulation as shown below.
When the particulate matter level is nearing high, complete manual regeneration to prevent this being required during firefighting operations. Press and hold the DPD switch until the amber DPD symbol illuminates or "Checking PM level" is displayed.   The vehicle's engine control unit will assess whether manual regeneration can occur. If it can, the following will be displayed and manual regeneration can be actioned in a safe zone away from fire.
Complete this preventative action when on a break from firefighting operations e.g. change-over, welfare break or when resupplying vehicle.
Complete this preventative action on return to station as an activity to prepare the vehicle for its next deployment.
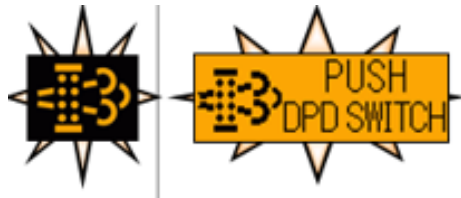
Note: Manual Regeneration may not occur when the DPD Button is pressed if the vehicle management system determines this is not required e.g. when the particulate matter level is low.

5.   Safety

Do not start Manual Regeneration during firefighting operations as it may slow down your escape from a bushfire.
Do not ignore the Manual Regeneration indicator – the vehicle will eventually go into a limp-home mode which may also slow your escape from a bushfire. Complete the Manual Regeneration at the earliest safe opportunity.
Ensure there is no vegetation beneath the vehicle, trapped around the exhaust or at the exhaust outlet before starting Manual Regeneration.

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0		New SOP created

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Standard Operating Procedure 3.5.3
Ground Control of Aerial Suppression Platforms

Introduction

The Ground Controller is an equivalent command function to a Sector Commander within AIIMS. The IC is to appoint a Ground Controller whenever allocated aerial suppression assets are in support of bushfire suppression activities.   Aerial suppression platforms include the following:

- Fixed Wing Suppression Platforms (Fire Bombers)
- Rotary Wing Suppression Platforms (Helitaks)
- Air Attack Supervisors (AAS)

This procedure outlines the terminology and procedures members are to use when appointed as Ground Controllers. Further information is provided at Directive 3.11 – Air Operations and Directive 3.5 – Bushfires.
Directive 3.11 – Air Operations
Directive 3.5 – Bushfires

1. Principles/Planning Factors
The following principles/planning factors apply to all incidents where aerial suppression assets are utilised.

PRINCIPLE	DESCRIPTION
Strategies	Understand the IC's objectives and strategies. Task allocated aerial suppression platforms to implement strategies to achieve the objective.
Ground Crew Safety	Brief crews as to the intended aerial suppression tasking. Provide warning of approaching aircraft so that crews are clear of the fire line.
Air Crew Safety	Assess the anticipated work area and approaches. Note hazards to aircraft and communicate details to aircrew.
Communications	Establish and maintain sound communications between the IC/IMT-GC and GC-Aerial platform.

Procedures

2. Suppression Response Criteria
It is incumbent upon the IC to carefully determine if airborne resources are justified ***before*** forwarding a request. Aerial suppression assets should only be requested if one or more of the following criteria exist.

CRITERIA		DESCRIPTION
1	**Crews**	Fire crews are in imminent danger.
2	**Public Safety**	Public safety is at risk.
3	**Assets**	Assets are at imminent risk.
4	**Fire Behaviour**	There are known high fuel loads and there is a likelihood of an excessive rate of spread, or extreme fire behaviour.

3.   Roles and Responsibilities of Ground Controller

The roles and responsibilities of a Ground Controller include the following:

ROLE/RESPONSIBILITY	DESCRIPTION
Maintain Tasking / IMT Strategies	• Receive briefing from IC/IMT of strategies for aerial suppression effort • Consult with AAS to implement/modify aerial suppression strategies • Consulting with IMT and AAS to suspend operations if conditions compromise safety or are ineffective.
Control Suppression Task	• Brief aerial suppression asset through AAS on IMT strategy and task • Select targets in consultation with IMT and AAS • Inform AAS or pilots drop zone clear • Provide feedback to AAS/pilots on drop accuracy and effectiveness.
	Be prepared to conduct tactical aircraft operations over the fire area until the arrival of AAS
Establish and Maintain Communications	• 5 minute and 1-minute inbound calls • GC to AAS (Aerial Suppression asset) • GC to IMT/IC • GC to Fire line/Sector Commanders (SC)
Maintain Safety of Task	• Identify ground risks to air operations –antenna/power lines/itinerant aircraft/Drones • Ensure ground crews are prepared for drops • Brief and liaise with SC • Confirm drop zone is clear • Ensure safety standards are maintained
Maintain Records	Maintaining a log of activities

4.   Minimum Resourcing of Ground Controller

IC is to appoint a Ground Controller to direct aerial suppression effort.   Ground Controllers are to be provided with the following resources.

REQUIREMENT	RESOURCE	PURPOSE
Communications	Air to Ground Communications - • Vehicle mounted VHF radio	GC to AAS or fire bomber pilot
	Ground to Ground Communications - • VHF/UHF if remote from IMT location	GC- OO/IC/IMT
Record	Ground Controllers Log	Record of tasking against strategies/objectives
Guidance	• OPS-AIR-REQ-FBOM – Request for Fire Bombing • Ground Controller Checklist (Annex A)	Terminology and tasking

5. Requesting Aerial Suppression Support

Request

Where one or more of the suppression response criteria have been met, IC is to request aerial suppression support through the ComCen.   The base information for such requests is detailed at form OPS-AIR-REQ-FBOM – Request for Fire Bombing.

Automatic Response

On report of fire in the identified high risk areas Aerial Suppression Aircraft will be automatically deployed and will require the appointment of a GC.

6. Communicating with Aerial Suppression Platforms

Once appointed, Ground Controllers are to establish and maintain communications with both the aerial suppression platforms, irrespective of the presence of AAS and the IMT/IC.   The primary VHF communications channel and sequence of communications by aerial suppression platforms on task are detailed at Annex A.

Annex A – Ground Controller Checklist

7. Tasking Aerial Suppression Platforms

Aerial suppression task tactics and terminology for use by Ground Controllers are described at Annex B.

Annex B – Tasking and Terminology

Annexes

A   Ground Controller – Check List

B   Tasking and Terminology

<div style="text-align:right"><strong style="color:red">ATTACHMENT 14.2.2</div>

ANNEX A – Ground Controller Checklist

Safety

General Safety Procedures	- Brief ground crews prior to commencement of fire-bombing operations - Clear drop zone upon receiving 1 minute in-bound call - GC/pilot/AAS to confirm drop zone is clear - Ground crews may re-enter the drop zone on GC confirmation - The GC is to maintain contact with the AAS throughout continuous fire-bombing operations
Standard Brief to Ground Crews	If you are caught in the drop zone, make sure that you: - Move away from the fire line - Don't run or panic - Watch out for falling branches and debris - Place hand tools well clear - Ensure your hard hat is on and secured - Watch your footing - Wash thoroughly with cold water if you are hit by foam
Hazards to Aerial Platforms	- Towers/Power lines - Stags/Tall trees - Turbulence/changing winds - Other aircraft flying over the incident ground/Drones - Low visibility areas - Erratic/Extreme fire behaviour - Terrain – especially steep gradients
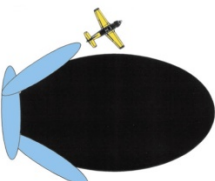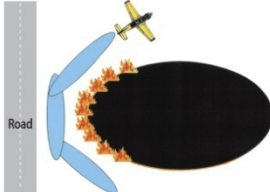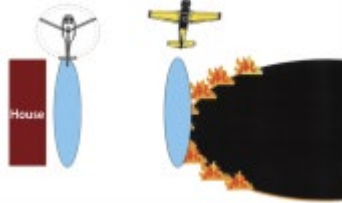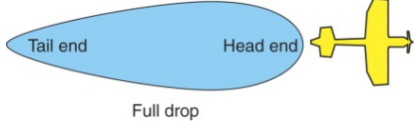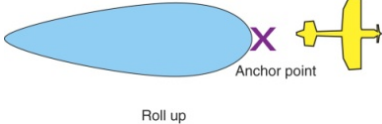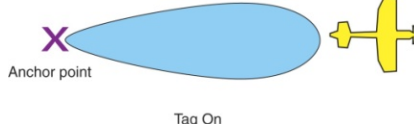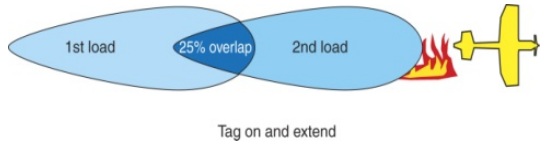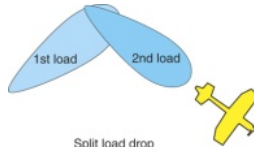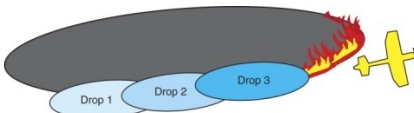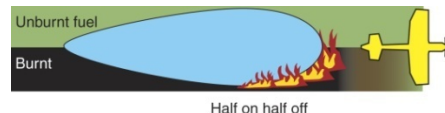
Communications

Operating Channels	TASK	COMMAND CHANNEL
	Suppression	Metro -VHF 644/621/646
		Regional – refer Fire Bomber Operational Channels
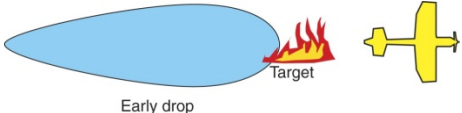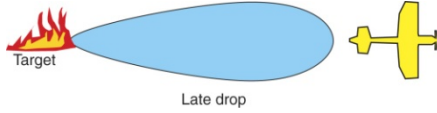
Callsigns	APPOINTMENT	CALLSIGN	EXAMPLE
	Ground Controller	*'[Incident] Ground Control'*	Neerabup Ground Control
	Fire Bomber	*'Bomber [Number]'*	Bomber 601/602/603/604 etc.
	AAS	*'Air Attack [Number]'*	Metro: Air Attack One/five
			South West:
			Air Attack Two/Three
	Helitak	*'Helitak [Number]'*	Helitak 671, 672 etc.

Standard Calls	**5-minute inbound call**	Acknowledge. Confirm strategies, hazards and use of foam
	1-minute inbound call	Acknowledge task FW/RW and confirm drop zone clear

ANNEX B – Tasking and Terminology

Tasking

Direct Attack	Indirect Attack	Combined Attack

Full Drop		Restricted Drop
Roll Up		**Tag On**
Tag On and Extend		**Split Load Drop**
Line Building		**Half On-Half Off**

Feedback

Early Drop	Late Drop
Gap	

Terminology

Control

Anchor point	A reference point to start or end a drop
Drift	The expected or experienced lateral movement of a drop due to crosswind
Dummy Run	A simulated bombing run made on a target by the AAS to indicate the target and run to the bomber pilot
Lead-In	The fire Bomber is to follow the AAS on the final run
Drop Length	Distance covered on the ground by a single drop
Head End of Load	The most forward end of the load on the ground
Load Width	Width covered on the ground by a load
Recce	A low pass to assess target area by AAS or fire bomber
Tail End	The aft end of the load on the ground

Tasking

Tag-on	Connect the tail end of the load to a given point
Roll Up	Connect the head end of the load to a given point
Parallel Drop	Place load beside and touching a specific reference
Half On – Half Off	Parallel drop with half the load covering the reference and half outside
Split Load	Part of the load is released, then the bombing door is closed, retaining part of the load
Hold	An instruction to hold the load and await further advice.
Reload and Stay	An instruction to the bomber pilot to return to base and cease further fire-bombing operations
Reload and Wait	An instruction to the bomber pilot to return to base and wait for further instructions
Reload and Return	An instruction to the bomber pilot to return to base, reload and return to the fire

Drop Assessment

Bulls-eye	Indication of a drop placed exactly where required.
Early	The drop was (or is planned to be) short of the designated point
Late	The drop was (or is planned to be) beyond the designated point
Gap	A weak or missed area in a retardant line

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jun 2011	New SOP created. New sections created: • (All) **Source documents:** • FESA Ground Controller Learners Manual • FESA Aviation Services internal documentation ***All listed SOP/SAP, now retired.***
2.0	May 2012	Radio channels and terminology updated Reviewed content for currency.
2.1	Oct 2013	Terminology updated.
2.2	Oct 2014	Updated terminology and radio channels.
2.3	July 2020	Reviewed by Aviation Services, updated terminology throughout. Inclusion of drones as safety consideration.

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Standard Operating Procedure 3.5.5
Use of A Class Foam at Incidents

Introduction

Suppressants such as A Class foam greatly enhance the penetration and insulation properties of water. Used correctly, A Class foam generates efficiencies during attack and mop-up phases by preventing re-ignition of previously suppressed fuels. Some foam concentrates pose a risk to the environment and there are restrictions imposed on their use near sensitive waterways and agricultural/horticultural areas. Further information is provided at Directive 3.5 – Bushfires.
Directive 3.5 – Bushfires

1.   Characteristics

Operators are to note the following characteristics of suppressants.

CHARACTERISTIC	NOTES
Concentrate Compatibility	The compatibility of suppressant concentrates vary - the mixing of some concentrates can result in coagulation. The mixing of concentrates is to be avoided.
Concentrate Biological Degradation - Land	Fire suppressants biodegrade relatively quickly in soil. Complete chemical and biological degradation of fire suppressant solution (0.1-1.0%) occurs within 14-30 days. Wetting agent used by DFES is 80% biodegradable within 72 hours.
Concentrate Biological Degradation - Water	Fire suppressant poses risk to aquatic and water-based ecosystems due to the immediate dispersal and contact with aquatic fauna and flora within the biodegradation period.

Procedures

2.   Application Ratios

Suppressant is supplied in concentrate form and must be mixed with water and aspirated for use. The general range of mix ratios is 0.1-1.0%. Lower foam concentrations deliver a more fluid, greater penetrating and less persistent suppressant. Further guidance is as follows.[1]

Desired Effect	Mix Ratio (%)	Description	Conventional Branch	Foam Branch (Aspirating)
Enhanced Penetration	0.1 – 0.3	Foam Solution	✓	
	0.3 – 0.5	Wet Foam	✓	✓
Fuel Penetration	0.5 – 0.7	Fluid Foam		✓
	0.7 – 1.0	Dry Foam		✓

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[1] The information should be used as a guide only.   Fire intensity, fuel types, fuel condition, and weather conditions such as temperature, relative humidity and wind will influence the generation/delivery method and mix ratio selected for a given fire.

3.   Requesting/Ordering

A Class foam in support of incidents is requested in accordance with <u>Directive 4.1 – Resources</u>. The guidance of Directive 4.1 – Resources is reproduced at Table 2.

Metro: All Hours Incident Bulk Supplies	Mercury Firesafety Foam Watch[2]	Through COMCEN
	GOSNELLS SES Unit COCKBURN SES Unit WANNEROO BFB Station[3]	Through COMCEN
Country: All Hours Incident Bulk Supplies	Regional Offices at: NORTHAM BUNBURY GERALDTON ALBANY[3]	Through COMCEN/RDC/ROC

4.   Environmental Considerations

Suppressants pose environmental risk to waterways, some agricultural pursuits and some fauna.   IC are to ensure Dept. Environment Regulation (DER) and the applicable water authorities are notified when suppressants/wetting agents enter a water body.   Prior to authorising the use of suppressants, IC are to ensure the following environmental aspects are considered.

CONSIDERATION	NOTES
Protection of Aquatic Environments	• All possible care is to be taken to ensure that suppressants/wetting agents do not enter water bodies (e.g. dams, lakes, swamps, rivers and creeks) • Consider methods to prevent suppressant/wetting agent run-off contacting aquatic environments.
Protection of Agricultural Interests	• Rural brigades should make every endeavour to identify all organic/certified agricultural properties within their area. • IC should make every reasonable effort to alert organic/certified property owner/occupier(s) to potential issues that may arise as a result of contamination from fire suppressants/wetting agents • Consider methods and instructions to prevent suppressant/wetting agent application and run-off contacting produce, certified organic produce and certified properties
Protection of Domestic Water Supplies	• Domestic water storages contaminated with suppressants/wetting agents are to be flushed before re-use.

5.   Clean-Up

All firefighting appliances and equipment used with foam production are to be flushed thoroughly with clean water after use.

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[2] Foamwatch delivers in palletised 640-1000 litre orders through the following bulk supply options:
- 32/20 litre drums
- 4/200 litre drums
- 1/1000 litre bulki bin

[3] 2 pallets of A Class foam at each location.   2 pallets = 64 x 20 ltr drums.

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6.   Safety

Safety considerations and guidance for operators using A Class foam concentrate and suppressants are as follow.

CONSIDERATION	NOTES
MSDS Guidance	All personnel are to adhere to the manufacturers guidance as detailed on the product MSDS
Prevention of Personal Contamination	• Avoid Inhalation of Foam vapours. Decant foam concentrate in well-ventilated areas. • Avoid Ingestion of Foam Concentrate. Foam concentrate, and to a lesser degree foam solution, can be harmful. If ingestion occurs, seek IMMEDIATE medical attention. • Wear Level 1 PPE, gloves and goggles where the risk of contamination exists (e.g. decanting) • Wipe up any spilt concentrate
Personal Decontamination	In the event of personnel coming into contact with foam concentrate: • Eyes or Skin. Immediately flush with clean water and seek medical assistance if required. • Soaked Clothing. Remove and flush with copious amounts of water as soon as possible. • If any side effects occur from exposure to the foam concentrates (i.e. dry red itchy skin) seek medical advice
Disposal	Dispose of all used foam containers in an environmentally responsible manner.

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Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Mar 10	New SOP created. New sections created: • Requesting/Ordering **Source documents:** SOP 67 – Use of Fire Suppressants or Wetting Agents at Incidents ***All listed SOP/SAP, now retired.***
1.1	Sep 12	Content reviewed for currency – no changes
1.2	Jan 14	Update formatting and general review
1.3	Feb 15	Minor change. Updated section 4 from Gosnells BFB to Gosnells SES and include Cockburn SES

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Standard Operating Procedure 3.5.6
Structural Triage

Introduction

Structural Triage in a bushfire context is the classification of buildings at risk of being impacted by bushfire according to a range of factors which influence the likely success of defensive tactics employed by fire crews during the incident. Structural triage is undertaken prior to the arrival of the fire front to ensure valuable resources are deployed against feasible tasks where they will have greatest effect – not dangerous or marginal causes. This procedure details the key criteria for assessing a structure and the ability to defend it and the map marking system that conveys this assessment to follow-up crews.

Procedures

1. Assessing Structures

Assessment of a structure and the ability to defend it is a simple analysis of the design and preparation of the structure and the capability of the resources assigned against the threat. All justifications for structural triage decisions are to be recorded in an Incident Diary or electronically to be disseminated to other crews, or back to Incident Management Teams (IMT) at Incident Control Centers (ICC) and recorded on the Web-based Emergency Operations Centre (WebEOC) and/or FESMaps as required.

Regions are encouraged to triage structures in high risk areas prior to the fire season and record on the appropriate response or emergency management plan.

The ability to defend a property is assessed according to six (6) key criteria as follows:

CRITERIA	NOTES
Construction	**Structures are to be assessed for the flammability of their construction materials.**
	Houses constructed of wooden weatherboards, roof frames and roof cladding are vulnerable to ember attack and will require greater defendable space and the commitment of greater resources than a similarly placed brick and tile dwelling.
Defendable Space	**Structures are to be assessed for the availability of space around the structure – where there are no vertical fuels through which the fire can be readily transferred to the structure.**
	A defendable space of 20 metres is advised as the minimum acceptable area which will permit safe defensive operations in support of a structure. However, this distance is variable under the influence of other key criteria. Non-flammable construction may permit a reduction in defendable space, whereas the siting of the structure at the top of a ridgeline may require a significant expansion of the defendable space. Key to assessing defendable space is an assessment of the anticipated fire behaviour and how that will be assisted or reduced by the aspect of the structure in relation to the bushland surrounds.

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CRITERIA	NOTES
Vehicular Access	**Structures are to be assessed for their accessibility to firefighting appliances.**
	Structures that cannot be accessed by firefighting appliances are much less defendable. Awkward, lengthy access ways also present a significant risk to firefighters seeking to escape under duress. Heavily wooded entries should be assessed as requiring defendable space to ensure withdrawal routes will not be denied by the passage of the fire front.
Water Supplies	**An understanding of available water supplies is to underwrite all decisions regarding the ability to defend structures at the Rural Urban Interface (RUI).**
	Where water is restricted to mobile supplies, hard decisions will be required to prioritise where that finite resource is best used. Structures that have their own static supplies will be more defendable. Where reticulated supplies are available, the options will be much broader. Given the vulnerability of power during bushfires and the reliance of reticulated water on electric pumping stations, all reticulated supplies must be tested at the time of triage to ensure they are working. Depending upon the interface environment, crews whilst assessing properties must advise IMT's of the available water sources or of the additional water capabilities that should be deployed.
Personnel Resources	**An understanding of available personnel resources will assist in determining the number of structures that could potentially be safely defended.**
	The defence of a structure/s will require a minimum crew of four: 1 x OIC : 2 x Firefighters : 1 x Pump Operator/Communications
Preparedness	Conduct a review of the available protection systems and engineering solutions. For example, are pools, tanks, couplings, sprinklers, dams, portable pumps, etc. available and accessible? Have the property owners undertaken preparation activities? Is there allowable time for Firefighters to assist with basic ladder fuel removal from around vulnerable properties? i.e. backyard furnishing's from up against property.

2.   Structural Triage Marking System

Structures are to be assessed as un-defendable or possibly defendable. Structural assessments are to be recorded on maps and/or FESMaps for handover to Task Force/Crew Leaders assigned with responsibility for that area. Each structure is to be overlaid with a symbol indicating the assessment undertaken during the structural triage. Assessment is **subjected to the prevailing conditions** at time of defending structure.

Map markings to be used are as follows:

STRUCTURAL ASSESSMENT	SYMBOL	DEFINITION
Un-defendable		• It is unsafe for Firefighters to defend this property. • Firefighters will not defend this structure. • It is determined the structure is unlikely to survive a bushfire even if residents and/or firefighters stay to defend it. • This structure does not have sufficient defendable space, access or water supply (or other reason). • All who stay face an unacceptable risk of harm.

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STRUCTURAL ASSESSMENT	SYMBOL	DEFINITION
Possibly Defendable	**O**	Criteria could include some or all of the following: • The structure has defendable space; • The building construction materials appear sound and are non-combustible in nature • There is access and egress, including a turning circle; • There is a sufficient water supply available; and • There are enough firefighting resources to undertake defensive actions.

DFES utilises a RUI Assessment Form to assist with this decision making. Crews are encouraged to use this form (when appropriate) to record justification for their decision making.

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jul 10	New SOP created.　New sections created: (All) **Source documents:** • Determining Structural Triage (Tasmania Fire Service) • Triage for Fireground (Tasmania Fire Service) • Rural Urban Interface Firefighting Techniques (Arnol, 2007) ***All listed SOP/SAP, now retired.***
1.1	May 12	Content Reviewed for currency through RUI WG and RUI procedures information video – no change
1.2	Nov 13	Updated Task Force/Strike Team terminology as per AIIMS definitions.
1.3	Apr 16	Inclusion of 6th assessment criteria to bring in-line with Directive 3.5 – Bushfire.
1.4	Aug 17	Update to consider electronic mapping or product to be accessible for recording on WebEOC.
2.0	Sept 18	Major review of document
2.1	Sept 19	Structural Triage marking system changed to two categories, Un-defendable and Possibly Defendable. Link to RUI assessment form added.

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Standard Operating Procedure 3.5.7
Employment of Task Forces/Strike Teams at the RUI

Introduction

The employment of Strike Teams (ST) and/or Task Forces greatly enhances property protection during operations at bushfires. This SOP outlines the tasking and control requirements of ST/TF employed to RUI environments and the planning requirements to allow safe and effective deployment for personnel.

1.   Definitions

Strike Teams – A set number of resources of the same type that have an established minimum number of personnel supported by a minimum of one (1) management resource (Team Leader). STs are made up of resources of the same type such as: appliances, crew, earth moving machinery, etc.

Task Forces – A combination of resources that can be assembled for a specific purpose and have a leader, common communications system and may incorporate a mixture of different resource types.
SOP 3.2.11 – Strike Team Task Force Resources

2.   Purpose
The employment of Strike Teams and/or Task Forces during firefighting operations at the RUI provides strategic flexibility to achieve incident control objectives. A ST/TF of personnel and resources with the appropriate firefighting or structural defence capability, for the type of RUI environment they are to be deployed to, should be pre-positioned according to requirements, and/or stationed at the staging area for rapid response to developing situations.

All ST/TF deployed to an incident are the responsibility of the Incident Controller (IC) and must therefore follow the agreed chain of command reporting protocol.
It is imperative that ST/TF personal are adequately briefed by the IC or Operations Officers (OO) so that the appropriate situational awareness and safety considerations are delivered, prior to these personnel entering the fireground or pre-positioned location.

Strategic or specialised tasking requirements may include, but are not limited to:

- structural triage;
- a range of firefighting strategies
- rapid damage assessment;
- evacuation;
- back-burning; and
- water supply, etc.

Procedures

3.   Strike Team/Task Force Planning
Prior to ST/TF personnel being deployed to operational areas, State Operations Centers (SOC), Metropolitan Operations Centers (MOC) and Regional Operations Centers (ROC) and IMT's should be proactive in conducting risk analysis to obtain a comprehensive assessment and understanding

of the community profile. Factors to be considered would include, but not be limited to the built environment, natural environment, social environment, and the interface environment.

This risk analysis needs to be conducted to assist DFES and other agency personnel in developing individuals and team's Situational Awareness (SA). This transfer of information via a range of briefings will aid in mitigating against safety concerns that would include the likelihood of entrapment or burn over.

SA is defined as '*the perception of environmental elements within a volume of time and/or space, SA involves being aware of what is happening in the vicinity, in order to understand how information, events, and one's actions will impact goals and objectives, both immediately and in the near future'*. This awareness is critical in all decision making processes throughout the chain of command.

4. Specific Planning

ST/TF are to be tasked in accordance with the following planning principles.

PRINCIPLE	NOTES
Minimum Capability	• Command – (1) ST/TF Leader with independent mobility • The appliance type must be suitable for the RUI environment they are deploying to • Water supply requirements must be adequate
Objective	A clear objective/aim is to be identified for their task. This will be developed from clear briefings.
Task to Capability	ST/TF are not to be given tasks beyond the capacity of their individual parts or that may compromise safety.ST/TF appliance types must be risk assessed as suitable for that RUI environment.
Available Water Supplies	Depending upon where the RUI environment is, the water supply and availability for that area must be assessed. The deployment of bulk water with suitable couplings should be deployed to assist in firefighting operations. Mobile water supplies (tankers) should be located in support of crews as soon as practical. Tankers should be located in a safe position and all crews be kept informed of the location.
Information	• ST/TF Leaders are to be provided mapping suitable for the complexity of their task. • Where available, ST/TF Leaders are to be provided with mapped details of previously undertaken *Street Triage* (see SOP 3.5.6 – Structural Triage) • ST/TF leaders are to be briefed and provided with all known predictions of fire behaviour for each anticipated work location to support SA.
Boundaries	Each ST/TF Leader is to be provided with an Area of Responsibility (AoR) with clearly defined and mutually understood Division or Sector boundaries
Communications	ST/TF leaders are to be provided with clear communications plans. These must be robust in supporting command and control for crew safety.
Logistics	• ST/TF are to remain logistically supported by the tasking IMT • Water Supplies - Mobile water tankers must be staged in support of ST/TF operations

PRINCIPLE	NOTES
Exit Strategy	ST/TF Leaders are to be given clear parameters by the controlling IMT as to when their task would be deemed untenable and they are expected to withdraw their crews.
Safety	Safety is to take priority over all operational activities. All activities must be consistent with the adopted best practice of LACES. Refer to SOP 3.5.10 - Crew Safety at Bushfires.

5.   Duties of the Task Force/Strike Team Leader and Crew Leaders

The tactical procedures and safety considerations for ST Leaders, TF Leaders and Crew Leaders are listed within the Annex A of this SOP.

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ANNEX A Duties of the Strike Team/Task Force Leader

The size and complexity of an incident will determine the appropriate Operations Structure specific to that incident. The ST/TF Leader is the critical link between the tasked group and the Incident Management Team (IMT) via the established Incident Management Structure, typically a Sector Commander, Divisional Commander, Operations Officer etc. It is incumbent upon ST/TF Leaders to ensure the safety of their crews, the feasibility of their task and to continually update the IMT on the progress of the task. Specific duties of the ST/TF Leader are as follows.

DUTY	NOTES
Command	Command assigned crews during all phases of the task: • The deployment convoy • The task • The re-deployment convoy (or withdrawal)
Planning	Upon arrival within sector undertake an *Immediate Street Assessment* (irrespective of whether details of a previously undertaken Street Triage have been provided) **Note.** Additional guidance is provided at SOP 3.5.8 - Immediate Street Assessments at the RUI.
Tasking	Task crews in accordance with the Immediate Street Assessment. Provide each crew with the following minimum information: • Latest known fire behaviour and predictions • Task (Allocated structure requiring protection) • Aim of defensive task (e.g. protect from destruction, deny as fuel source) • Water point/reticulation details • Communications plan • Criteria for abandoning task • Withdrawal route and rendezvous
Report	Maintain ongoing exchange of information with supervisor by providing scheduled reports on work progress, resource status, and reporting any significant changes or emerging risks.
Safety	• Safety is to take priority over all operational activities. All activities must be consistent with the adopted best practice of LACES. Refer to SOP 3.5.10 - Crew Safety at Bushfires. • Only task crews on feasible tasks that achieve, or contribute to achieving, the objective • Maintain communications with each element of the ST/TF • Direct withdrawal if deemed necessary • Maintain situational awareness • Continually update crews on fire behaviour/wind changes

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ANNEX B Duties of the Crew Leader

The Crew Leader must be prepared to control operations physically independent of the TF/ST Leader. As such, Crew Leaders must undertake similar duties to the TF/ST Leader, but at a lower level. Duties are described as follows.

DUTY	NOTES
Command	• Remain in control of crew members during all phases of the task • Assist ST/TF leader to coordinate crews to achieve overall ST/TF objective.
Planning	• Upon arrival assess the feasibility of the task (information quickly dates in the face of extreme fire behaviour) • Deploy allocated resources in accordance with SOP 3.5.9 – Firefighting Within Rural Urban Interface Environments, modified to suit local conditions and requirements.
Tasking	Upon arrival assess the task. Provide each crew member with the following minimum information: • Their task, the purpose of their task and the expected fire behaviour/approach direction • Water conservation plan • Crew rendezvous point • Withdrawal plan and planned signals to withdraw • Communications plan
Report	Maintain communications with the ST/TF Leader and update progress regularly.
Safety	• Plan and brief all crew members (as a group) on the actions to be taken if required to abandon the task • Maintain regular personal contact with each crew member • Plan the criteria to abandon the task • Direct withdrawal if required – crews should withdraw 200 meters into the urban landscape away from the bushfire.

Document History   **ATTACHMENT 14.2.2**

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1.0	Jul 10	New SOP created. New sections created: • (All) **Source documents:** • Determining Structural Triage (Arnol) • Triage for Fireground (Arnol) • Rural Urban Interface Firefighting Techniques (Arnol) ***All listed SOP/SAP, now retired.***
1.1	Sep 12	Content reviewed for currency- no change.
1.2	Nov 13	Change Strike Team to include Task Force in accordance with AIIMS definitions.
1.3	Nov 13	Addition of paragraph 3 to clarify purpose.
2.0	Sept 18	Major review of document

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Standard Operating Procedure 3.5.8
Immediate Street Assessments at the Rural Urban Interface

Introduction

This procedure provides guidance for the assessment of properties being impacted immediately by fire. Immediate Street Assessments are undertaken reactively during firefighting operations as crews move through to control and extinguish the fire.

When sector commanders and crew leaders are evaluating what structures are deemed lost and what structures are deemed save-able, and when tasking resources accordingly, their decisions should be guided by the State Strategic Control Priorities.
Directive 3.5 - Bushfire
State Hazard Plan - Fire

Procedures

1. Structural Survivability Ratings

Structures are to be rated as to the likelihood of their survivability in accordance with the following ratings. Survivability ratings are designed to guide the prioritisation of resource commitment[1].

RATING	DEFINITION	PRIORITY
Save-able	Resources will be committed to extinguish existing fires within this structure and further defend it.	1
Marginal	The structural fire involvement is probably beyond the capacity of the TF. *Resources will only be committed to extinguish existing fires within this structure and further defend it, if they are available.*	2
Lost	No attempt to extinguish this structure will be attempted other than to reduce its capacity to act as a fuel source that will further spread the fire.	3

2. Assessment Variables

Structural survivability must be assessed with clear regard for local conditions. The most significant variables are as follow:

VARIABLE	NOTES
Local Wind Conditions	Wind speed and direction will dictate which structures are immediately under threat, and which structures are next under threat. Threat assessment will influence the prioritisation of all defensive task decisions.
Fire Danger Rating	FDR relate to the difficulty of suppression, thereby reducing the likely survivability of structures.
Involvement of Residents	Assistance provided by residents is a combat multiplier. Where residents have chosen to stay and protect their properties, the committal of resources to otherwise marginal structures may be deemed worthwhile.

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[1] A structure rated '*Lost*' may have resources committed to its defence if resources are available due to other structures not rating a higher priority.

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3. Assessing Structural Survivability

If a street is already involved in fire there may be structures fully involved, partially involved, internally involved and untouched. The following information is provided to guide SC/CL's in the prioritisation of resource committed to structural defence tasks, where they are faced with multiple structures being impacted at once.

LEVEL OF INVOLVEMENT		SURVIVABILITY RATING - PRIORITY	NOTES
No Fire Involvement		**SAVEABLE –** (Priority will depend upon whether the structure is currently under threat)	These structures are deemed as being safe. Resources will be committed if/when the property is under threat.
External Roof Involvement (Fire is surface-based and has not entered the roof space)		**SAVEABLE –** PRIORITY 1	These structures are deemed as being able to be saved and protected. Resources will be committed immediately.
Full Roof Involvement (Fire has entered the roof space)		**MARGINAL –** PRIORITY 2	Firefighters will experience significant difficulty in saving these structures and resources will only be committed after more sound options are defended.
Internal Involvement		**LOST –** PRIORITY 3	Fires within structures are most likely to quickly escalate beyond the opportunity to save and protect them. Resources will only be committed if the structure poses a threat to further spread of the fire or if there are no other structures requiring attention[2].
Fully Involved		**LOST –** PRIORITY 3	These structures are deemed as having passed beyond the opportunity to save and protect. Resources will only be committed if the structure poses a threat to further spread of the fire or if there are no other structures requiring attention.

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[2] In all likelihood the intense fire conditions and high winds occurring at FDR >Severe will quickly escalate even a single room involvement. This is particularly the case where windows are broken.

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4.   Withdrawing from Operations

There are no simple rules regarding a decision to abandon structure protection efforts. The following factors are provided as indicators of increasing risk.

Safety of responders	• Safety of responders is a primary priority when undertaking assessments, if the risk is too high for personnel then personnel should withdraw from operations and the strategy reassessed.
Fire Behaviour	• The fire activity or intensity is providing unsafe conditions for crews. • Spot fires are igniting around the structure faster than they can be extinguished.
Water Supply	The water supply is insufficient to continue firefighting.
Escape Route	If you remain at the structure your escape route could be compromised.
Structural Involvement	• Smoke is coming out from under the eaves. • Interior rooms are involved, and windows are broken, the wind is unfavourable and other structures are threatened and involved.

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Document History

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1.0	Jul 10	New SOP created. New sections created: • (All) **Source documents:** • Determining Structural Triage (Arnol) • Triage for Fireground (Arnol) • Rural Urban Interface Firefighting Techniques (Arnol) ***All listed SOP/SAP, now retired.***
1.1	Sep 12	Content reviewed for currency – no change
1.2	Nov 13	Change Strike Team to Task Force as per AIIMS definitions
1.3	Aug 17	Inclusion of State Strategic Priorities
2.0	Sept 18	Major review of document

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Standard Operating Procedure 3.5.9
Firefighting Within Rural Urban Interface Environments

Introduction

This procedure provides consistent strategies and terminology for the management of fires within Rural-Urban Interface (RUI) environments. The Interface is defined as the line, area or zone where structures and other human development adjoin or overlap with undeveloped bushland. These environments can include and are not limited to any area or zone where structures and other elementsof the built environment intersect bushland, farmland, plantation, parkland or other vegetated lands.(AFAC 2016)

The principal focus of this procedure is guidance towards control and suppression of fire at RUI environments while managing public safety and protecting the built environment and other critical assets.

Interface firefighting presents additional challenges for fire services. The risks associated with fire management for the public and fire service personnel are further compounded by complex fuel arrays mixed with a higher density of assets and people. Contained within this SOP is a nationally consistent approach to interface firefighting strategies and their associated terminology.

1. Types of Interface
Defined by their characteristics, the three main different types of RUI environments include:

- **Classic Interface**:   The distinct border between the natural landscape and its vegetation typically found on the edges of cities, towns and suburbs that could include residential or industrial developments.

- **Mixed Interface**:   Typically found within rural and semi-rural settings where isolated properties or structures are surrounded by vegetation. These at risk structures could include residential farmhouses or rural lifestyle accommodations, agricultural infrastructure such as processing/manufacturing facilities, grain storage, sheds and stables. Mixed interface also includes any critical infrastructure subject to fire risk due to surrounding vegetation.

- **Occluded Interface**:   Areas of vegetation surrounded by development, examples include reserves, sanctuaries, water catchments, remnant natural vegetation and recreation parks within township or development boundaries. These are commonly referred to as Urban Bushlands.

2. Principles
With the emergency management arrangements in Western Australia having adopted risk management principles of Prevention, Preparedness, Response and Recovery (PPRR), a number of prevention and preparedness activities can improve the success of response during interface incidents. Activities such as fuel management, community education, employing mitigation initiatives and pre-incident planning, based on a shared responsibility approach with a range of stakeholders, will assist in the development of firefighting objectives, strategies and tactics within each interface type.

Procedures

3.   Response

Incident Controllers (IC) should issue a clear statement of intent to inform firefighters, other emergency management partners and the public about incident priorities, including life safety protection priorities and firefighting strategy. All firefighting strategies including interface fires will have developed objectives and strategies developed by the Incident Management Team (IMT) based upon the State Strategic Control priorities.

Protection and preservation of life is always the highest priority when considering the appropriate strategic roles and actions for emergency management response, even where there are concurrent risks or competing priorities.

4.   Strategies

Crews involved in tasks in RUI environments, must be able to quickly deploy into standard bushfire offensive and defensive positions. Due to the complexity of the RUI environment and the number of firefighting resources deployed to some incidents, the following strategies and their terminology will need to be considered and understood.

Offensive:

This strategy includes the traditional tactics of direct, parallel and indirect attack that may be used when the objective is to minimise fire size and where the probability of success of suppression using this strategy is high. By definition, fires burning under these conditions can be controlled, albeit sometimes with difficulty.

Defensive:

When fire conditions are such that offensive strategies are too dangerous or are likely to fail due to fire intensity, fuel loading, structure defendability or insufficient resources, the following operational tactics individually or simultaneously can be applied;

- **Line defence**:   The protection of assets by direct firefighting operations preventing the impact from fire yet allowing the rest of the fire to burn around the structure. Employed In lieu of an offensive attack due to limited resources being available or due to a direct attack being likely to fail based on fire behaviour.

- **Ember defence**:   The protection of assets threatened solely by ember attack, when approaching a line of fire is too intense to be suppressed by offensive means and is producing significant ember attack from fire brand. Spot fires only are extinguished that threaten further fire development that could cause structural involvement.

- **Backstop defenc**e: Retreating to a safe zone due to fire intensity, allowing the fire to moderate, before returning to adopt active firefighting to safely and effectively defend or extinguish structures. If there is no defendable space around the asset or structure, to ensure crew safety, appliances should withdraw a short distance to a safety zone until the fire danger has moved through.

Safeguarding Strategy:

Employed when even defensive operations are deemed unsafe due to catastrophic fire conditions. During a safeguarding strategy, firefighters' actions are limited to a **WARN, MOVE** and **PROTECT** any persons who are under direct fire threat.

- **WARN:**   people about the imminent impact from fire through timely public warnings and firefighters on scene,

- **MOVE:**   advise people to move to safe locations, this may require fire fighter intervention.

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- **PROTECT:**   when moving people to a safer location is no longer an option, provide protection in whatever form is possible and safe in the circumstances.

5.   Tactics

It is important to understand that bushfire fighting tactics do not vary from traditional methods taught within DFES. The tactics differ when crews are developing safe firefighting positioning during structural defensive activities. These are outlined within Annex A and can also be found with various training products.

6.   Aerial Suppression Response

Aerial firefighting can be crucial for successful outcomes within the above strategies within interface environments. On request by the IC, air operations support firefighting by improving crew and public safety, providing asset protection and assisting in reducing fire behaviour, its intensity and rate of spread.

SOP 3.11.1 – Aerial Suppression Response

7.   Plant and Machinery

Plant and machinery support objectives within a number of bushfire suppression strategies. Interface environments can produce a range of safety implications for the operators and the supervising fire appliances. Situational awareness and adequate communications should be of a high standard to ensure safe operations.

SOP 3.5.10 – Crew Safety at Bushfires
SOP 3.5.11 – Entrapment at Bushfires

8.   Water Supply Considerations

Effective and safe firefighting operations in any strategy will require sufficient water supplies. Depending upon the RUI environment, types of water sources will vary, be limited or not be available at all. Water supply planning and considerations are crucial for IMTs to provide safe and effective operations for responding crews.

In planning for available water sources consideration should be given to available static water supplies and whether the area being deployed to has reticulated water supplies. This information will determine the appliance configuration for deployment.

9.   Structural Triage

Structural triage is undertaken prior to the arrival of the fire front to ensure valuable resources are deployed against feasible tasks where they will have greatest effect. This proactive preparation activity is outlined in SOP 3.5.6.

SOP 3.5.6 – Structural Triage

10.   Employment of Strike Teams (ST)/ Task Forces (TF) at the RUI

The planning process for the deployment of resources ST or TF's, must consider the type of environment that they will be operating in. That is, what will be an effective appliance type for that geographical area, the strategy to be employed and what water supplies are available.

SOP 3.5.7 - Employment of Strike Teams/Task Forces at the RUI

11.   Immediate Street Assessments

Assessing structural survivability or level of involvement are reactive decision-making methods that may need to be employed after implementing ember, backstop and safeguarding strategies.

SOP 3.5.8 – Immediate Street Assessments at the RUI

ANNEX A RUI Tactics

Crews involved in structural defensive tasks at the Rural Urban Interface (RUI) must be able to quickly deploy into standard defensive postures. Standard drills allow mutual understanding and expectations between ST/TF Leaders and crews when tasks to protect particular structures are assigned under pressure situations – and valuable response time cannot be expended on directing how each structure is to be defended.

Phases of Structural Defence

External structural defence occurs through five (5) phases:

1. Immediate Street Assessment and Tasking
2. Preparation and Layout
3. Fighting the fire front
4. Mop-up
5. Redeployment

Immediate Street Assessment and Tasking

Upon arrival within their sector, ST/TF Leaders are required to undertake an Immediate Street Assessment in accordance with SOP 3.5.8 - Immediate Street Assessment at the RUI. The result of this assessment should be a prioritized task list. Crews are to be tasked in the standard SMEAC-S format.

Preparation & Layout

Crew Leaders are required to conduct a size-up of their defensive task and apply the basic defensive drill. A basic sequence for applying the defensive drill is as follows.

STEP	NOTES
Position the Appliance	• Fire appliances should be backed in and located near the structure on the lee side (this may not be in the driveway). In this position appliances are shielded from the heat of any approaching fire and the lengths of hose layouts are minimised. • Appliances are to be left running, beacons on with all doors, windows and lockers closed from ember attack. • If the driveway is short, park on the street (ensuring traffic is not blocked). • Do not park under power lines, in flammable vegetation, near sources of intense heat (e.g. outbuildings) or LPG cylinders.
Hose Layout	• Assess the direction of the approaching fire front and deploy hose lines to provide mutually supporting coverage in that direction. • Deploy 2 x 38mm lines of layflat up to a max of 2 lengths each with branch attached, laying 1 x 38mm line each side of the structure. • All hoses should be charged, flow confirmed and protected against potential sources of damage. • DO NOT USE HOSE REELS (reason – no means of quick disconnection).

ATTACHMENT 14.2.2

STEP	NOTES
Prepare the Defendable Space	• Survey the immediate area for hazards to firefighting operations (e.g. trip and fall obstacles that may not be observed in smoke). • Clear or remove primary fuel sources (scrub, shrubs, overhanging branches). • Move secondary fuel sources (outdoor furniture, LPG cylinders, wood piles). • Clear fine fuels from specific points of entry (doorways, flyscreens, gutters/eaves). • Consider creating a firebreak. • Remove vehicles from the fires path. • Consider animals as a potential hazard - either release or confine them.
Prepare the Structure	• Check electricity status (DO NOT turn power off to pumps). • Check gas is turned OFF. • Close window drapes. • Turn fans, coolers, and air conditioners off. • Close all external doors (doors should remain unlocked to allow quick access to refuge).

Fighting the Fire Front

Water may be a limited resource and a clearly prioritised plan to combat the fire front will ensure water is not wasted or used on wasted effort. Guidance is provided as follows.

Dealing	Ember attack will precede any significant bushfire and will cause spot fires across a broad area all around the structure. Crew leaders should determine a 'spotting-zone' which all members understand is to be kept free of fire as a priority. The spotting-zone should be the area identified as most critical to the successful denial of the fires approach.
Use of Water	Generally, wetting down is a waste of water. Under severe fire conditions most of it will quickly evaporate. Clearly prioritise the use of water to maintaining the *defendable space*: • Target spot fires. • Knock down the encroaching fire front. • Prevent access to vertical fuels and tree crowns. • Prevent access to noted heavy fuel sources. • Extinguish ignitions on the structure immediately (avoid glass).

ATTACHMENT 14.2.2

Fighting the fire	In light fuels the fire front may pass very quickly, often in minutes, however, in dense fuels, bushfires may take 10 -15 minutes to pass. As the front approaches crews may have to seek refuge behind the structure or inside it. Options for handling the fire itself are as follow:
	
	Offensive Firefighting. When fires are burning in low, light fuels and not driven too hard by wind and/or slope it may be possible to utilise the reduced fuel loads in a well-prepared defendable space to directly suppress the flame front.
	
	Defensive Firefighting
	     • **Line Defence** Most fast-moving bushfires will be far too intense to be stopped entirely by a single crew. However, through the prioritisation of effort, a fire can be shaped each side of the structure (consider wearing BA). After the fire front has passed, effort should return to the remainingfire and the structure.
	     • **Ember Attack.** The protection of assets threatened solely by ember attack, when approaching a line of fire is too intense to be suppressed by offensive means and is producing significant ember attack from fire brand. Spot fires only are extinguished that threaten further fire development that could cause structural involvement
	     • **Backstop Defence**. On days of >Extreme FDR there is little that will abate the progress of a bushfire in heavy fuels. Such conditions demand the preservation of the crew's safety as the first priority. Crews should seekrefuge in the appliance on the lee side of the structure and take whatever actions are required to preserve their lives and the appliance.After the fire front passes crews should extinguish spot to reduce exposure to property.
	     • S**afeguarding.** Employed when even defensive operations are deemed unsafe due to catastrophic fire conditions. During a safeguarding strategy, firefighters' actions are limited to a Warn, Move and Protect any persons who are under direct fire threat.

Mop-Up

Efforts to mop-up should be thorough without being meticulous. The goals are to target all free-burning vegetation within the defendable space and ensure all ignition points are extinguished so that the structure can be left behind with reasonable confidence it will not re- ignite. Handing over the property to residents (even one resident carrying a watching brief over 5-6 properties) is by far the preferred option.

Redeployment

In defensive mode the role of firefighting crews is to control fires - not necessarily to completely extinguish everything in sight. Firefighters must be prepared to move on quickly and leave residents to extinguish any small fires that remain. Homes are the priority not outbuildings or fences and delayed departure will place the next residence requiring defending at risk.

Emergency Withdrawal

Safety at bushfires is maximised through adherence to the safety planning advised by LACES. Crew leaders must maintain communications, remain situationally aware and continually update their withdrawal plans. If ordered to withdraw crews should undertake the following actions:
- Abandon all hose lines (disconnect and retain branches).
- Move to the appliance and account for the crew.
- Withdraw in the appliance by the planned route to the planned ST/TF rendezvous or safety zone.
- Advise the ST/TF Leader of each action as it is undertaken by radio.

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Structural Defence Procedure

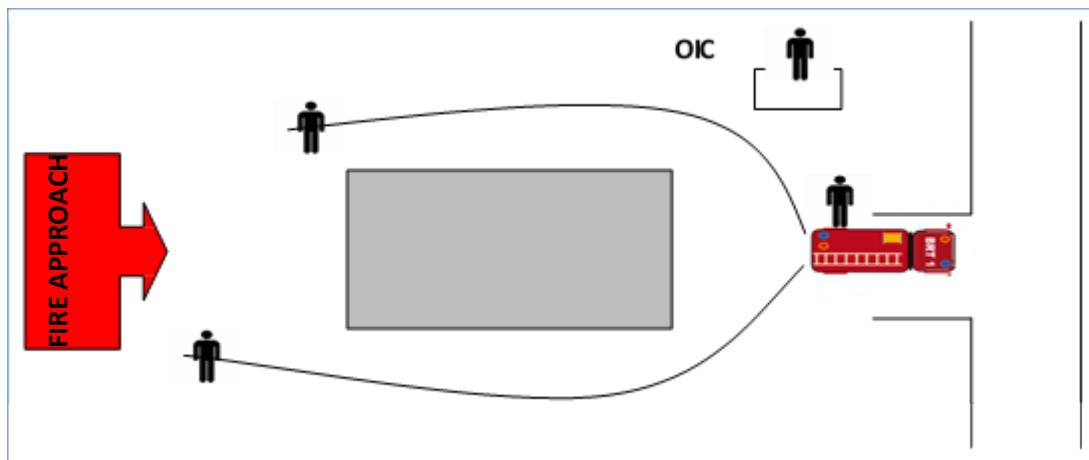The structural defence procedure is to result in the crew deployed as depicted in Figures 1 and 2.

Figure 1 – Basic Structural Defence Procedure

Figure 2 – Basic Defence Procedure Adapted to Local Conditions[1]

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[1] Variations - Single crews can be used to protect two structures that are within 15 m of each other. Two LT can be used on a single task to protect the same structure.

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ATTACHMENT 14.2.2

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jul 2010	*New SOP created. New sections created:* • *(All)* ***Source documents:*** • *Determining Structural Triage (Arnol)* • *Triage for Fireground (Arnol)* • *Rural Urban Interface Firefighting Techniques (Arnol)* ***All listed SOP/SAP, now retired.***
1.1		Repair hyperlink and add version to document control
1.2	May 2012	Re-format to current doctrine format No new information added
1.3	Nov 2013	Changed Strike Team to task Force as per AIIMS definitions
1.4	Oct 2014	Change to Deploy 2 x 40mm lines up to a max of 2 lengths each (max 60,m) with branch attached, lay 1 x 40mm line each side of the structure.
2.0	Sept 2018	Major review of document. Name of SOP changed from Structural defence at the RUI to Firefighting within RUI environment.
2.1	September 2022	Minor Update for implementation of the Australian Fire Danger Rating System on 1 September 2022 including minor typographical updates

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Standard Operating Procedure 3.5.10
Crew Safety at Bushfires

Introduction

The following procedures are designed to minimise the risks associated with operational bush firefighting. Crew safety at bushfires is underpinned by a developed knowledge and experience of bush fire behaviour, situational awareness and the application of safety procedures.
All emergency services personnel are responsible for their own safety and the safety of others at an incident. The IC has ultimate responsibility to ensure the implementation of safe working practices at an incident. The Strategic Control Priorities outlined within State Hazard Plan – FIRE make clear that:

"Protection and Preservation of Life: *This is the fundamental overarching priority for the State, and includes:*

- *Safety of emergency services personnel.*
- *Safety of community members including vulnerable community members and visitors/tourists located within the incident area."*

Directive 3.5 – Bushfires

Procedures

2.   LACES
During bushfire operations, there is a requirement to continuously reassess the changing dynamics of the fire to ensure a safer working environment for all. All personnel are to utilise **LACES** to plan their safety at incidents. The concept of LACES with detailed descriptions and tasking for each component in the attached Annex A.
Annex A - LACES

3.   Routine Safety Practices
The safety of Emergency Services Personnel is to be the highest priority. DFES have a number of safety practices to ensure the safety of all emergency services personal at incidents. Hazards exist at bush fires and the ongoing reassessment of risk to emergency services personal needs to be undertaken.

Safety Practice	Description
Red Flag Warnings	Red Flag Warning is a message system that provides a process to ensure critical messages (such as immediate weather changes) are confirmed and received by all relevant emergency services personnel. SOP 3.2.7 - Red Flag Warnings

Safety Practice	Description
Operations Pre-Start Briefing/Briefings (SMEACS Format)	Provides emergency services personnel with critical information relating to the incident. The briefing/s should include previous, current and predicted information on the incident as well as safety messages, tasking, predicted outcomes and contingency plans. SAP 3.2.C - Incident Action Planning
Situation Reporting	Regular reports on the progress of an incident and the efforts to control it. It confirms the location of the fire, its status and potential, the number, nature and effectiveness of resources deployed. Situation reports are normally provided at regular intervals determined by the Incident Controller and/or Operations Officer to meet State Operations Reporting Cycle requirements until the fire is declared safe.
Protective Water Supply	Crews should maintain 25% reserve of the water on an appliance during bushfire operations. This to ensure there is sufficient water to protect crews while exiting the incident area should they be impacted by fire.
Appliance Fuel Supplies	Crews should maintain a minimum fuel supply in appliances of one third (1/3) to ensure that the appliance and water deluge systems maintain functionality whilst on the fire ground. On appliances where the firefighting pump fuel is a direct supply from the appliance fuel tank the firefighting pump will not work once it reaches quarter of a tank. **(this will affect water deluge system operation on applicable appliances)**

4.   Common Hazards

During bushfire operations emergency services personnel are surrounded by many hazards. A list of common hazards identified from previous safety incidents has been developed to assist personnel in managing safety however this list does not identify all hazards on fire ground.

Hazard	Description
Dead Man's Zone	The 'dead man zone' is the area directly around a bushfire that is likely to burn within 5 minutes and encompasses the distance the fire can travel in 5 minutes if the wind changes direction, turning a flank fire into a head fire. While conducting fire suppression in the dead man zone, there is a risk that the fire intensity and spread can suddenly increase dramatically if the wind direction changes, leaving little or no time for firefighters to seek refuge before being enveloped in a burnover. The safest place to be when conducting fire suppression duties within vegetation is on burnt ground where the fuel load has already been consumed by the fire, well out of the dead man zone.
Entrapment	A situation in which individuals are exposed to life threatening or potentially life-threatening conditions from which they cannot safely remove themselves.
Burnover	A section of a bushfire that overruns personnel and/or equipment.

ATTACHMENT 14.2.2

Hazard	Description
Radiant Heat	The transfer of heat from a bushfire to nearby objects I.e. trees, appliances, personnel, etc. This is the direct heat felt from the bushfire.
Visibility	Visibility can be greatly reduced by many factors during operations at incidents. These can include smoke, dusk, dawn, night fall and steep dense terrain. Each of these have their own risks associated with them including vehicle accidents, slips, trips and falls, overhead dangers and personnel being struck by vehicles.

Refuelling	When refuelling plant and equipment during operations firefighters are exposed to a significant risk of injury should the fuel or vapour ignite.
	Fuel cans stored on appliances are likely to become pressurised due to exposure to higher ambient temperatures, direct sun, proximity to heat sources (e.g. exhaust, fire) and vibration. If opened too quickly, pressurised fuel and fuel vapours will discharge rapidly. It is possible for the fuel to ignite and cause significant injury to personnel.
	Light Tankers involved in actively fighting the fire are to remove fuel cans from their appliance and place at either;
	    1. A control point;
	    2. With an additional appliance responding to the incident (other than a Light Tanker) that has the capacity to store the fuel can away from direct heating from the fire; or
	    3. A shaded area that will not be impacted by fire.
	In all other circumstances the OIC should consider the removal of fuel cans from Career and DFES Volunteer Light Tankers on arrival at an incident based on a risk assessment and if required place the fuel can at a location identified above.
	[NUCOM – Fuel Can (Refer eAcademy)](#)

Riding on Appliances	At bushfires, deaths and injuries have occurred to personnel traveling on the back of firefighting appliances. To ensure the ongoing safety of firefighters attending bushfires, the following restrictions to traveling on the back of appliances are to be observed:
	• Appliances are not to carry more people than its designated seating capacity.
	• Riding on the back of appliances is ***only to occur*** under the following circumstances:
	    – When the appliance is directly involved in firefighting operations and moving at a safe working speed
	    – Where the appliance has been specifically designed to do so
	• Riding on the back of appliances while traveling between sectors or divisions is ***not to occur***. Firefighters are to be seated in the cabin wearing a seat belt.

Hazard	Description
Machinery	Throughout operations at bushfires, various machines may be required to contain and control the fire. When operating around machinery there are risks to emergency services personnel and operators. The use of trained and experienced machine supervisors when machinery is engaged at incidents will ensure some of these risks are addressed. These risks may result in injury or death of personnel and cause vehicle damage. Risks include unskilled operators, lack of visibility, unfamiliar terrain and entrapment while creating new control lines. Further information on the use of machinery and the hazards associated with their operation is in Bush Fire Firefighting and Machine Supervision learners manuals found in eAcademy.
Aircraft	Aircraft have become an integral part of firefighting operations at bush fires. Activities including reconnaissance, fire detection and water bombing all increase risks to pilots and ground personnel at bushfires. Further information relating to working safely around aircraft can be found in the Bush Fire Fighting and Ground Controllers learners manuals found in eAcademy and Directive 3.11 – Air Operations.
Respiratory	Common respiratory hazards present at bushfires are thermally generated particles (particulate matter) and gaseous toxins released during the ignition of vegetation. Additionally, bushfire firefighting along the rural urban interface (RUI) has the potential to involve a complex mixture of unknown fuels and therefore atmospheric hazards The particulates and gaseous toxins contained in bushfire smoke have the potential to cause irritation to the eyes and upper respiratory tract, leading to acute and chronic health effects.
Heat Related	Emergency services personnel are reminded to take extra care to reduce the risk of heat related illnesses. Emergency services personnel are at an increased risk due to the duration of time spent performing physically demanding activities within extreme environmental conditions. Heat-related illness occurs when our body is unable to cool itself sufficiently and maintain a healthy temperature. If ignored or left untreated, symptoms can become severe and may require immediate medical attention. Prevention is the best approach, and therefore it is important that all personnel take appropriate steps to prevent heat-related illness. Continually monitor yourself and crew members for symptoms of heat–related illness and notify your supervisor immediately if symptoms are experienced. Early management is the key. The OIC should also continuously monitor operational activity during adverse environmental conditions. Hydration and Electrolyte Replacement
Terrain	Bushfires can occur over many various types of terrain. Each type of terrain can pose a significant risk to personnel.

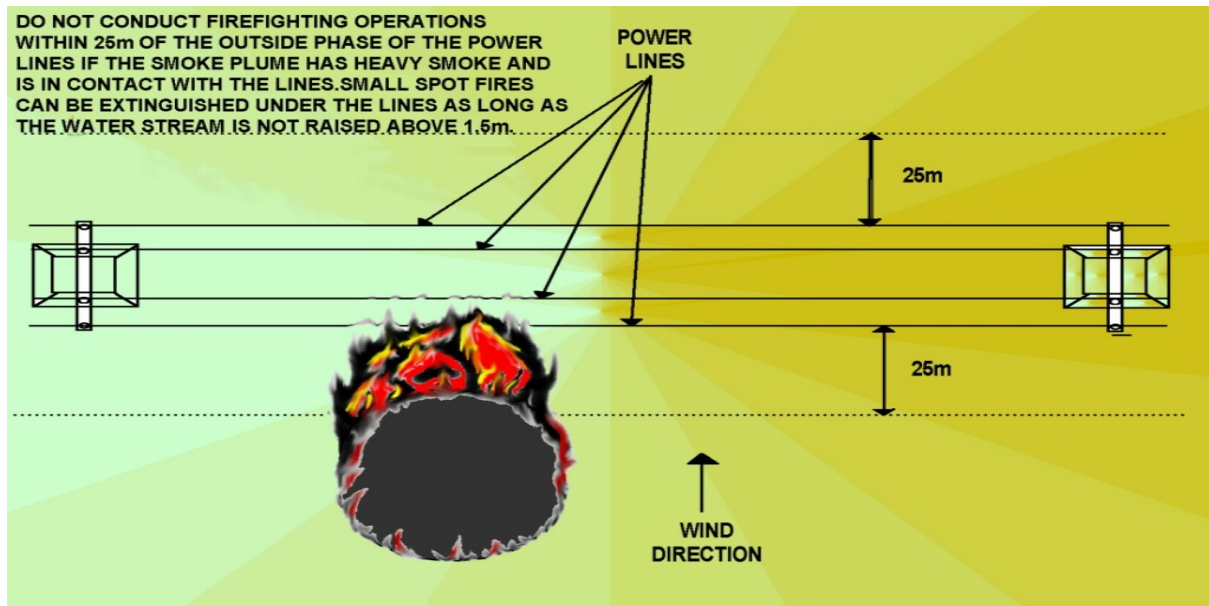| Hazard	Description
	When working on steep and sloping terrain for example, risks such as increased rates of spread, rough ground, rocky terrain and risk of vehicle rollover are increased.
Off road driving	Emergency services personnel encounter various types of hazards when attending bushfires. When personnel are required to leave bitumen roads at incidents drivers should assess the terrain and capability of the appliance and also determine whether they need to take the vehicle into that area. For example, if a fire is burning in bushland close to a road do you need to enter the bush, or can the fire be allowed to safely burn to existing roads or breaks.
Trees and Overhead Risks	The impact of intense fire on trees weakens both trunks and limbs. Limb failure or total tree collapse may occur well after the passing of the fire front and presents a hazard to firefighters during both the offensive attack and mop-up phases of a fire. Equally, previous events may have weakened tree limbs and present compounded hazards. Firefighters must remain aware of the risk to their personal safety from falling limbs and unstable trees and are encouraged to frequently 'Look Up for Over Dangers'. Isolation of hazardous trees is integral to reduce the risk of injury or death to emergency services personnel. The unstable tree should be marked to identify the hazard and any tracks, roads or areas cordoned off to reduce the risk of injury to firefighters. Trees suspected of posing a risk to firefighters are to be marked and recorded for inspection by qualified tree-fellers whereupon decision will be made to trim/lop limbs or fell the tree. Such events are to be reported through the chain-of-command to the Operations Officer. Tree-fellers are to comply with the PPC/PPE standards detailed at SOP 3.2.1 – Order of Dress-PPC Matrix. Further procedures for the identification and removal of dangerous trees at bushfires are detailed at SOP 3.5.12 - Tree Removal at Bushfires
Support Wires	Some power poles are stabilised using an anchored wire rope (guy wire) to provide tension. In some situations this supporting cable is established over property boundaries and within firebreaks where firefighting operations occur. These cables pose a hazard as they may not be initially observed by firefighting crews due to obstruction by vegetation, smoke, dust or darkness. If such cables are encountered at an incident, demarcation tape or some other form of high visibility indicator should be used to indicate the hazard.
Unexploded Ordnance (UXO)	UXO's may be detonated through vibration, wilful tampering, and mechanical disturbance or localised and extended exposure to a heat source all of which occur during bushfires. If a UXO detonate during firefighting activities, it could cause death or injury to personnel operating in these areas. Strict guidelines are to be adhered to when operating in and around UXO areas and procedures for this are detailed at - SOP 3.5.13 - Operating Within Registered UXO Sites

ATTACHMENT 14.2.2

Hazard	Description
Bridges	There are many types of bridges throughout WA. Each type of bridge presents different hazards to emergency services personnel. These hazards include weight limit restricted bridges, bridge construction material and bridges impacted by fire which may have weakened their structure.
Fencing	Fencing presents many risks to fire fighters at incidents. Fire fighters can be trapped in paddocks by fencing with an approaching fire front and have no safe exit options. If the driver has not seen the fencing material it can become entangled in the drive train of appliances making them immobile with the possibility of the crew and appliance being overrun by fire.
Catalytic Converters	Catalytic converters form part of the exhaust system on many of our firefighting appliance. A catalytic converter operates between 300-600°c and although shielded, there is a real possibility for dry grass and other combustible material to get caught in the shielding and ignite. • Crews should avoid remaining stationary for long periods in unburnt vegetation, particular grass • Monitor potential buildup of combustible material around exhaust systems and catalytic converters.
Diesel particulate diffuser regeneration	Firefighting appliances that include Diesel Particulate Diffusers (DPD) in their exhaust systems require regular regeneration. This regeneration burns off the soot and prevents blockages. Appliances with DPD have two potential risks associated with DPD regeneration • Should regeneration not occur, the appliance may go in to limp mode slowing exit from fire ground with the potential for entrapment. • As the exhaust system becomes very hot during regeneration, there is a possibility for dry grass to ignite under the appliance. SOP 3.5.2 - DPD Regeneration During Bushfire Firefighting

5. Operations Around Electrical Infrastructure

Firefighting operations in close proximity to high voltage power lines expose crews to significant risk. In order to provide a safe working environment, the following measures should be observed.

- Assume all lines are energised. Contact the relevant power authority and inform them of the threat to the power lines.
- Do not fight the fire within 25m of the power line zone (fig 1).
- If the smoke plume impinges on the power lines do not direct a water stream inside the zone.
- Water streams of no more than 1.5m in height can be directed inside the zone provided the smoke is not impinging on the power lines.
- When moving a vehicle under power lines, always pass under the wires more than 25m away from the fire or smoke plume.

ATTACHMENT 14.2.2

DO NOT CONDUCT FIREFIGHTING OPERATIONS
WITHIN 25m OF THE OUTSIDE PHASE OF THE POWER
LINES IF THE SMOKE PLUME HAS HEAVY SMOKE AND
IS IN CONTACT WITH THE LINES.SMALL SPOT FIRES
CAN BE EXTINGUISHED UNDER THE LINES AS LONG AS
THE WATER STREAM IS NOT RAISED ABOVE 1.5m.

POWER LINES

25m

25m

WIND DIRECTION

<div align="right">**ATTACHMENT 14.2.2**</div>

ANNEX A - LACES

Use of LACES. LACES are to be implemented and utilised as a procedure at all bushfire incidents. OIC of appliances and crew are responsible for implementing and maintaining LACES. **Although individual parts of LACES can be tasked, all emergency services personnel should take an active role in maintaining LACES.**

Control	Description	Tasks
Lookouts	The establishment of lookouts at a bushfire is vital. Lookouts maintain awareness of the environment immediately surrounding personnel.	• Monitor the immediate surroundings of the crew • Look for potential hazards • Observe current weather • Look for changes in weather (wind strength, direction) • Monitor fire behavior • Monitor vehicle movements • Maintain line of sight with crew/personnel • Signs of fatigue
Awareness	Awareness is the responsibility of all personnel. OIC (and crew leaders) are responsible for ensuring common operating picture between personnel.	• Remain aware of the fire situation including (Current and potential weather, Terrain and aspect, fuel types and fuel loads, hazards, crew locations) • Be alert and act decisively before situations become critical. • Consider welfare and fatigue management and requirements
Communications	OIC (and crew leaders) are responsible for establishing and maintaining effective communications. It is not acceptable for personnel to be without communications at any time at a bushfire.	• Receive a pre-deployment briefing from the IC (preferably SMEACS) • On arrival at the fireground establish radio communications • Maintain radio communications by ensuring planned regular communications within the chain of command • Ensure that visual and/or verbal communications are maintained between crew. • Immediately communicate any changes in situation
Escape Routes	OIC (and crew leaders) are responsible for identifying and communicating to crew a minimum of 2 suitable escape routes.	Locating Suitable escape routes that include: • Containment lines of appropriate width • Firebreaks • Roads (sealed or unsealed) OIC are to ensure all personnel: • Know their escape route at all times • Ensure vehicles are positioned to allow for rapid escape
Safety Zones	A safety zone is an area cleared of flammable material and large enough to provide adequate space for crew protection.	• Safety zones must be monitored by OIC to ensure they remain suitable for use • All personnel must be aware of the location of established safety zones. • OIC are to ensure that an appropriate safety zone is identified and accessible to crews at all times at a bushfire.

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 11	New SOP created. New sections created: • (All) **Source documents:** SOP ***All listed SOP/SAP, now retired.***
1.1	Aug 11	New Section Created • Section 4 – Special Risks
1.2	Jan 14	Update formatting and general review
1.3	Apr 15	Added "Refuelling" to Safe Working Practices table.
1.4	Dec 17	Changed the special risk titled section to operating around electrical hazards Added new special risk section and added catalytic converters and Diesel particulate diffuser regeneration to newly titled special risk section
2.0	Mar 18	Major review of SOP • New introduction added bushfire behavior, situational awareness and safety procedures. • Added LACES overview and how to implement annex. • Added routine safety practices section. • Updated common hazard on fire ground.
2.1	September 2020	Inclusion of guidance for re-fuelling LT fuel cans.

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Standard Operating Procedure 3.5.11
Entrapment and Burnover at Bushfires

Introduction

This procedure provides a guideline for personnel to utilise prior to, during or following an entrapment or burnover at a bushfire. It is vital personnel understand both entrapment and burnover situations including how they can be prevented and how to respond when they occur.

> Entrapment:
> *"A situation in which individuals are exposed to life threatening or potentially life threatening conditions from which they cannot safely remove themselves."*

> Burnover:
> *"A section of fire that overruns personnel and/or equipment."*

Further information is provided at Directive 3.5 – Bushfires and SOP 3.5.10 – Crew Safety at Bushfires.
Directive 3.5 – Bushfires
SOP 3.5.10 – Crew Safety at Bushfires

Note: All personnel are reminded that this procedure should only be used as a last line of protection for crews in the event they may become entrapped or involved in a burnover.

Procedures

1.   Prevention
Fire behaviour can always change, however, by selecting strategies/tactics which are likely to succeed, and will not expose firefighters to an excessive amount of risk, decreases the likelihood of a burnover or entrapment situation.

This is especially relevant to firefighters operating appliances without the full Comprehensive Crew Protection Systems fitted which may include, but is not limited to, light tankers, HSR's, Incident Command vehicles and pumpers.

The application of LACES and safety practices in accordance with SOP 3.5.10 – Crew Safety at Bushfires assists in the prevention of burnover and entrapment situations. LACES enables personnel to minimise the risk of becoming entrapped through:

- Maintain situational awareness;
- Maintain communications; and
- Monitor fire behavior and crew safety.

2.   Burnover and Entrapment Procedure – Appliance Crew
This procedure applies to all appliances fitted with components of the comprehensive crew protection systems inclusive of deluge systems where fitted when undertaking operations at bushfires.

ACTION	DESCRIPTION
Identifying Burnover and Entrapment situations	
Establish and maintain LACES	All personnel to maintain LACES as per SOP 3.5.10 – Crew Safety at Bushfires.
Situational Awareness	Assess forecast information; Monitor for changes in fire behaviour associated with changes in topography, weather and fuel, specific indicators include: • Change in wind speed and direction. • Change in smoke direction. • Erratic fire behaviour and change in direction. • Atmospheric instability (Smoke plume behaviour).
Situation reporting	Appliance OIC should ensure they: • Report all changes in fire behaviour to IC/IMT. • Provide timely and accurate situation reports IC/IMT. • Constantly monitor for situation reports. • Do not position crew members in areas where the flame height & intensity (FG 3.5 – Fireline Intensity and Appliance Capability) will exceed the capability of the appliance. • Crew members not actively working (e.g. appliance driver) are to maintain a constant lookout for changes to surroundings.
When you identify the burnover or entrapment situation:	
Situational Awareness	Crew leaders/members should ensure they: • Inform all crew of the situation. • Select (from LACES) the safest escape route if possible. • Monitor safety of other crew members. • Monitor situation and fire behaviour. Crew Members should ensure they; • Respond to instructions from crew leader/OIC. • Having recognised change to situation/surroundings (FG 3.5 – Fireline Intensity and Appliance Capability), cease operations and move away from or out of area immediately.
Cease Operations	Crew Leader/member is to direct that; • Branch operators close down all branches and place them on the ground. • All crew return to the appliance. • Available crew close down and remove the delivery lines at the pump. • Isolate hosereels at the pump/appliance to ensure water is not lost in the event of damage to the hose. • Crew leader/members is to conduct a head count to ensure all the crew are present and mount the appliance.
Move to Safety (if possible)	If possible move the appliance and crew away from danger to a safety zone or escape route.
Activate AVL Emergency	Activate the AVL Emergency Function by pressing the AVL Emergency and Distress Button (Press and hold for 4 seconds).

Emergency Message	Crew Leader/member is to:
	• Transmit an Emergency Message on the relevant channel (sector or control).
	• Details to be transmitted;
	   • Appliance.
	   • Name and rank.
	   • Number of crew.
	   • SITREP.
	   • Location.

As the fire approaches:	
Prepare the Appliance	<u>If an escape route is not available</u> • If possible move the appliance to the nearest safety zone. • If no safety zone is accessible, park the appliance on a burnt/cleared area in a position that affords as much protection as possible for the crew (e.g. rear of the appliance facing the fire front). • Parking as near as is practicable on level ground. <u>Once positioned safely</u> • Leave the pump running at a speed that allows the deluge and protective sprays to operate (where fitted). • Close all doors, windows, air vents and leave the engine running on fast idle, turn air conditioner to recirculate and deploy curtains (if available). Turn on sirens, beacons and headlights.
Prepare the Crew	*All crew will* • *Remove any loose non-essential / flammable items from dashboard and cabin.* • *Take cover in the cabin.* • *Remain in full PPE (helmet may be removed if necessary), do not hose down crew.* • *Drink potable water to minimise the risk of dehydration.* • *Don in cab air (where available).* • *Locate hand held radio (may allow communications if appliance radio is damaged).* • *Deploy burn over blanket.* ***STAY INSIDE THE APPLIANCE CABIN***
As the fire impacts the appliance:	
Protect the Crew and Appliance	• If the appliance is fitted with a deluge system, on imminent fire contact, activate the deluge system. • Wait for the fire front to pass. • Immediately after the fire front has passed, account for all the crew and check the appliance for damage. **Note:** Do not hose down crew members with water prior to the fire front passing as the conduction of heat through PPC/clothing may induce steam burns.

What to expect	Cabin Internal Temperature Rise • As the fire front approaches, the intensity of the heat will increase along with the amount of smoke and embers. Radiated heat will transfer directly to inside the cabin. Cabin Infiltrated by Smoke • Smoke could ingresses the appliance and fumes could be released from the interior of the appliance. • Stay as close to the floor as possible to minimise smoke inhalation. Appliance External Fittings Catch Alight; • Tyres and external plastic body parts may catch alight. Fuel Tanks; • Vehicle fuel tanks are very unlikely to explode. • If Fuel Jerry Cans and drip torches were not removed prior to entering the fire ground they may be at risk.
After the fire has passed	
Post Burn over procedures	Determine it is safe to exit the appliance • Visual observation (look for hazards outside the appliance). • Check temperature of the cabin windows (gloved hand). • Exiting the appliance. • Crew leader/OIC to instruct crew to exit the appliance, meet at the front. • Take hand held radio. • Ensure fire blanket is taken by each crew member in the event conditions change upon exiting. • Crew leader/members conduct a head count and then move crew to a safe location and arrange for first aid. Immediate Actions after burnover • Check crew for injuries – Provide or arrange for first aid for any injuries or burns. • Inspect appliance – Ascertain if it is functional to move to a safer location. • Provide an immediate SITREP to the Sector Commander/Incident Controller. Actions after a burnover once area deemed safe • Attach an out of service tag to the appliance steering wheel • The appliance is deemed unsafe until inspected by Fleet Services personnel or other qualified technician. • Return in cab air units and burn over blankets to the appliance. (Required for investigation). Record incident (use the DFES safety reporting system, including personal incident diaries).
What to Expect	Post incident involving entrapment or burn over an immediate investigation will occur by the appointed person.

3.   Burnover and Entrapment Procedure – Sector/Division Commanders

Incident Controller or Operations Officer to undertake these tasks if no Sector or Divisional Commanders appointed.

ACTION	DESCRIPTION
Ensuring fireline safety and mobility	
Briefings	Briefings are to be conducted using a SMEACS format prior to, during and post crews working on a sector.
Situational awareness	Sector Commanders must maintain awareness of • Tasking and location of crews. • Appliance locations. • Current and forecasted weather. • Current and predicted fire behaviour. • Potential fireline hazards (damaged trees, terrain, accessibility). • Strategies and tactics of other sectors.
Turn around areas	Turn around areas should be constructed to accommodate the largest appliance expected to use a fire control line. The positioning of turn around areas will be determined by the potential fire behaviour and condition of the fire line. Turn around areas must facilate appliances to perform a three point turn. Therefore, the turnaround area must be at minimum the length and three times the width of the largest appliance at the incident.
Passing areas	A passing area is intended to run parallel to the fire control line. Passing areas allow appliances to pull over at a fire control line to let other appliances pass. As a minimum, it should be the width and twice the length of the largest appliance being utilised.
Safety zones	As a rule of thumb, the minimum acceptable safe operating distance from an active fire edge is four times the flame height. This minimum safe operating distance applies when determining firefighter safety zones and refuge areas.
On notification	
On receipt of emergency message	Sector Commander is to ensure that the following occurs • Acknowledge receipt of emergency message and verify SITREP. • Confirm name and rank of crew if not provided. • Confirm the location of the appliance and crew. • Record in incident diary and maintain log of information and actions. • Advise Officer In Charge (OIC)/ Operations Officer (OO)/ Incident Management Team (IMT)/ Incident Control Appliance (ICV). • Priority direction to Ground Controller (or to OO) for aerial suppression resources / tasked to respond to location of appliance that has initiated entrapement procedures.
Direction to Personnel on the Sector	• Ascertain risk to other crew and appliances on the Sector (and in neighbouring sectors). • Other crews to remain on task unless directed otherwise or at risk. • Radio traffic to remain silent unless urgent as per Emergency Message procedures.

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As the fire approaches or impacts the appliance:	
Organise assistance	• If the appliance is drivable, provide a safe location for crew and appliance to relocate**.** • Contact Ground Controller for aerial support if available. • Where possible, direct appropriate resources to assist. If unsafe, resources should be retasked to render assistance post burnover or entrapment. • Maintain ongoing communications with the crew in danger. • Organise standby ambulance (if available) and medical response. • Develop an egress plan for crew for use after the fire has passed.
After the fire has passed:	
Post burnover assistance	• Confirm welfare of crew members and condition of the appliance. • Assess any medical assistance required. • Relay medical assistance requirements to the IMT/OO/Incident Controller (IC). • Deploy assistance to assess the situation, crew and appliance. • Where practical and safe, implement the egress plan and organise for crew to be transported from fire ground. • Confirm the welfare of all personnel on the sector that responded to assist the endangered crew prior to continuing routine operation.
Post burn over investigation	• Isolate and preserve the appliance and equipment for investigation. • Ensure all crew protection items are left with the appliance for investigation. • If possible, photograph the appliance in situ and document events in preparation for investigation.

4.   Burnover and Entrapment Procedure – ICV Action

During a burnover or entrapment situation, ICV personnel may receive an emergency message directly via a Sector/Division Commander or directly from an appliance. The following procedure outlines correct actions for personnel to take should this occur.

ACTION	DESCRIPTION
On notification	
On receipt of emergency message from an appliance or crew	- Acknowledge details of the appliance and crew. - Prioritise Emergency Message. - Record all information in the emergency message. - Refer to OO, IC as priority. - Perform priority actions as directed by IC, OO.
On receipt of emergency message from a Sector or Division Commander	- Acknowledge details of the sector or division. - Prioritise Emergency Message. - Record all information in the emergency message. - Refer to OO, IC as priority. - Perform priority actions as directed by IC, OO.

5.   Burnover and Entrapment Procedure – IMT

The following procedure outlines correct actions for IMT personnel to take to prevent and, if required, respond during a burnover or entrapment situation.

ACTION	DESCRIPTION
Ensuring fireline safety and mobility	
Briefings	- IMT to ensure regular briefings of all IMT personnel. - Operations section to ensure briefings occur in accordance with SOP 3.5.10 - Crew Safety at Bushfires. - SMEACS format to be used for all briefings.
Situational Awareness	- Resourcing of the incident (appliance type, number and capability) is appropriate to the current/predicted fire behavior and incident objectives. - Strategies/tactics are appropriate to the number, type and capability of appliances available at the incident. - Appliance capability and the current/predicted fire behavior is monitored and reviewed regularly.
Operational Standards	Operations Officer is to ensure that; - Turn around and passing areas are constructed according to standard. - Safety Zones are identified or constructed. - Crews are tasked appropriately for the observed and forecasted fire behaviour.

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On notification	
On receipt of emergency message	Operations Officer is to ensure that the following occurs; • Acknowledge sender of emergency message and verify SITREP. • Confirm name and rank of crew if not provided. • Confirm the location of the appliance and crew. • Confirm threat to other personnel and appliances. • Notify Division and Sector Commanders of the emerging risk. • Record in incident diary and maintain log. • Advise Incident Controller. • Task aerial suppression resources to protect crews if possible. • Task aerial intelligence resources to provide intelligence direct to crew / Sector Commander (SC) and or OO.
Direction to Division and Sector Commanders	• Ascertain the risk to other Divisions and Sectors, provide appropriate direction if required. • Personnel are to remain on task unless directed or at risk. • Radio traffic to remain silent unless urgent as per Emergency Message procedures.
As the fire approaches or impacts the appliance:	
Assistance	• The Operations Officer is to establish assistance required by the Division or Sector Commander. • Determine priority of assistance required. • Operations Officer to identify and task the required assistance.
After the fire has passed:	
Post burnover assistance	Operations Officer to confirm Sector/Division Commander: • The extent of burnover impact on crews and appliances. • Welfare of effected crew members and condition of appliance. • Any medical or egress assistance required. The Operations Officer will ensure: • When possible and safe, implement the egress plan and organise for crew to be transported from fire ground. • Send assistance to assess the situation, crew and appliance. • Confirm welfare of all personnel on the sector who responded to assist the endangered crew prior to continuing operations.
Post burn over investigation	Incident Controller will ensure that: • The relevant DFES region is informed. • The safety investigation is initiated. • The appliance and associated equipment is isolated and preserved for investigation. • Ensure all crew protection items left with the appliance for investigation.

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6.   Burnover and Entrapment Procedure – ComCen

The DFES ComCen may receive emergency messages from first responding appliances during the initial and escalating stages of an incident when command, control and communication have not yet been established at an incident. The following provides a procedure for ComCen personnel to follow should this occur.

ACTION	DESCRIPTION
On receipt of emergency message	ComCen personnel are to ensure: • Acknowledge details of appliance and crew. • Prioritise Emergency Message. • Record all information in the emergency message. • Refer to District Officer Communication Centre (DOCC) as priority. • Perform actions as a priority as directed by DOCC. DOCC is to ensure: • Assistance required is confirmed and dispatched. • Closest available and suitable appliance is dispatched to assist. • Appropriate manager dispatched (District Officer (DO), Area Officer (AO), Community Emergency Services Manager (CESM)). • Air Desk is notified and assistance dispatched if appropriate. • St Johns Ambulance ComCentre is notified (if required). • Maintain communications with affected appliance and crew.
Notifications	DOCC is to notify the District Officer State Situation (DOSS). DOSS to notify: • Major incident group as per SOP 2.1.2 - Mobilising. • Local Government Chief Bush Fire Control Officer if involving a Bush Fire Brigade appliance. • DBCA State Duty Officer if involving P&W Fires Services appliance.
On arrival of assistance	The DOCC is to ensure that: • Communications are handed over to the first arriving assistance. • Communications are established and maintained with the IC. • The DOSS is kept informed of the situation.

7.   Burnover and Entrapment Procedure – Wellness

The Incident Controller is to ensure that following a burnover or entrapment situation all personnel involved are;

- Debriefed prior to leaving the incident.
- Offered support from the DFES Wellness Branch.
- Referred to the available support services.
- Wellness Branch are notified of personnel involved in incident for follow up.
- The relevant line manager is notified of incident i.e. DO, AO, CESM, CBFCO.

8.   Burnover and Entrapment Next of Kin Notifications

In the event of death or injury during a burnover or entrapment situation, Next of Kin Notification is to occur as per SAP 1.1.B – Injury/Illness/Death.

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Apr 10	New SOP created. New sections created: • (All) **Source documents:** SOP 62 – Appliance and Crew Protection at Wildfires *All listed SOP/SAP, now retired.*
1.1	Mar 12	Repair hyperlinks and add version to doc control.
1.2	Jan 14	Update formatting and general review.
1.3	Jan 14	Procedure change (section 3) to transmit emergency message as a priority prior to activating sirens to prevent interference of back ground noise.
1.4	Sep 14	**Protect Crew** On imminent fire contact, operate protective sprays. (Ensure the spay pattern envelopes the cab and if possible protects the pump from burnover temperatures which may exceed the stall temperature of the pump motor.)
1.5	Aug 15	**After the Fire Front Has Passed** Under no circumstances are crews to re-enter or move the vehicle. Maintain a safe distance from the vehicle**.** The vehicle must be checked by a qualified technician prior to recovery. The scene must be preserved to aid subsequent investigation.
1.6	Dec 17	Updated SOP to include the comprehensive crew protection systems in the relevant areas.
2.0	Feb 18	Major review and rewrite of complete SOP 3.5.11 • New introduction with AFAC definitions for entrapment and burnover • Update procedures to incorporate comprehensive crew protection systems • Add procedures for actions on receipt of an emergency message.
2.1	Nov 19	Prevention: Reiterated importance of strategies and tactics to reduce risk. Included relevance to vehicles which do not have full protection system. Burnover and Entrapment Procedure – Appliance Crew: Replaced 'operate protective sprays' to 'activate deluge system, where fitted', reiterated LACES, included guidance for hosereels as well as hose, included instruction to take fire blankets rather than leave them in the vehicle to align with DBCA practices. Burnover and Entrapment Procedure – IMT: Included guidance for resourcing and capability decision making. Development of FG 3.5 – Fireline Intensity and Appliance Capability Guide.

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Standard Operating Procedure 3.5.12
Identifying and Treating Hazardous Trees at Bushfires and Planned Burning Activities

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Introduction

This procedure is designed to set out the procedures and standards for inspecting control lines and public roadsides associated with planned burning and bushfire suppression operations, including the identification and treatment of hazardous trees.

Planned burning and bushfire suppression are conducted by DFES in areas adjacent to highways, other public roads, and recreation facilities. Falling trees and limbs present a hazard to firefighting personnel carrying out mop-up operations, as well as potentially to members of the public. Falling trees and limbs can be the primary cause of a fire escapes if not properly managed.

Trees may be deemed a hazard under the following circumstances.

Danger to life

- Emergency service personnel/community/public/access (property and roads)

Danger to life/property

- Spotting leading to fire spread
- Located within 100m of blacked out fire line
- Tree remains burning after all avenues of extinguishment have been explored/attempted
- Risk to assets within the tree fall zone

Sector Commanders / Crew Leaders should identify and report hazardous trees in order to minimise the risk of harm to firefighting crews and other supporting personnel. This SOP is designed to assist with the safe identification, inspection, isolation, and removal (if required) of hazardous trees.

Further information is provided at Directive 3.5 – Bushfires.
Directive 3.5 – Bushfires

Procedures

1. **Identification of Hazardous Trees**

   1.1. Mark the Tree as a Hazard

   1.1.1. In accordance with marking methods in Part 2.

   1.2. Isolate the Hazard

   1.2.1. Cordon-off any tracks, roads or areas that may be at risk

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1.3. Report

1.3.1. Inform Operations Officer / Burn Controller through the Chain of Command.

1.3.2. The Operations Officer / Burn Controller may request support from qualified tree fellers where trees need to be felled.

1.3.3.   Record all saves, and trees felled for future evidence and contentious issues.

1.4. Identify Location for Later Reference

1.4.1.   Mark the nearest point on the track to identify its proximity.

1.4.2. If possible, the map reference and GPS plot should be recorded to identify the location of the tree.

1.5. Alert

1.5.1. Sector Commanders are responsible to alert all personnel of known risks within their sector.

1.5.2. Sector Commanders must brief relief crews and provide updates both periodically and as they occur.

1.6. Planned Burns

1.6.1. Hazardous trees to be identified and accounted for in the Burn Plan

1.6.2. During the preparation of Burn Plans, hazardous trees will be identified and programmed for attention. Appropriate actions to be identified in burn preparation or day of burn actions

1.6.3. Hazardous trees or trees requiring attention are to be marked so that they can be monitored throughout the burning operations

1.6.4. Prior to the commencement of any planned burn, an experienced person should inspect the perimeter to locate hazardous trees and determine whether any pre-mop up is required

1.6.5. The above inspection should apply to trees within 2.5x tree heights of the burn boundary

1.6.6. This pre-mop up can include;
- removing debris from around the base of the tree
- wetting down or applying foam to ~~avoid~~ prevent these trees from catching alight
- pushing or felling the tree (if likely to be too dangerous to treat if alight)
- excluding the area from the burn

1.6.7. When the fire ground edge has burnt to a sufficient depth (50-100 metres), personnel competent in identifying hazardous trees can commence inspecting the edge for potentially hazardous trees. This will generally occur between one to three hours from the time of the initial ignition in planned burning, however this process may commence as soon as it is safe to do so. Personnel completing this work should carry hand-held radios to enable them to maintain contact with other crew members.

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1.7.   Bushfire Suppression

1.7.1.   Once bushfire suppression has commenced, the Operations Officer is responsible for determining the appropriate treatment for trees that pose a threat to safety or fire boundary security. Removal of trees shall only occur following the approval of the Operations Officer who may delegate this authority to the relevant Division or Sector Commanders.

1.7.2.   Once fire activity and intensity along the control line has reduced sufficiently, fire crews can commence mopping-up hot logs, stumps and trees according to DFES's mop-up standards.

1.7.3.   Consideration of the health, safety, and welfare of personnel in the inspection process must be maintained at all times. Falling limbs, burnt-out stumps and root holes, hot ash, laid-over burnt scrub and burning logs are hazards that all personnel must be aware of. The risk of injury will likely be higher at night.

1.7.4.   Inspection of the fire ground edge, mopping-up and treatment of hazardous trees should be undertaken in daylight hours where possible. Inspections conducted after dark are more difficult and process and extra care and attention is required to ensure all checks are made thoroughly.

1.7.5.   If the operation must be undertaken after dark, personnel must be provided with torches and should carry hand-held radios to enable them to maintain contact with other crew members.

1.7.6.   Depending on the density and type of vegetation, one or more competent people may be required to walk in parallel to the road and both inspecting all trees in the hazard zone. The hazard zone should be a minimum of two and a half times the canopy height and will vary in depth depending on forest types. This will allow checking of trees that may be affected by the domino effect of one tree falling onto another.

1.7.7.   A 'competent person' is someone who has completed Bushfire Safety Awareness and Firefighting Skills and has at least three (3) years of operational experience.

1.7.8.   The minimum qualification required to oversee hazardous tree identification is 'Crew Leader' where the individual has been deemed competent by DFES **or** as deemed suitable by the Operations Officer.

1.7.9.   Checking of the fire ground edge utilises the same criteria as the pre-burn check, but require particular attention be directed to trees which have faults which may allow sparks to enter, or that appear sound but show signs of smoke and heat that could indicate the following problems;
- a burning root system.
- burning inside the tree trunk (also known as a 'pipe' or 'chimney').
- burning limbs in the crown
- burning hollows in the crown

1.7.10. Mopping-up and marking of hazardous trees should commence from a safe anchor point along the fire ground edge

1.7.11. In situations cases where both sides of a road have been impacted by fire, mopping-up work should be undertaken on both sides of the road at the same rate of forward progress

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1.7.12. Trees that require remedial attention must be taped in accordance with the standard colour scheme (Section 2 Marking) and a marker of the same colour tape used on the roadside

1.7.13. Red/white and yellow tapes are to be removed once a hazardous tree has been dealt with; and the blue-white striped tapes removed once the area is deemed to be safe

1.7.14. For any road regularly used by the public, a minimum of two inspection walks on two separate days in all timbered vegetation types is required. Minor roads and tracks with minimal traffic may not be walked but instead closed and managed on a risk basis. Roads in tall and or heavy forest areas may require more than 2 inspections of the roadside.

1.7.15. The initial inspection should be on the day of ignition or bushfire activity and occur once the fire ground edge has cooled sufficiently. The second inspection should be carried out on the following daylight shift. If further trees are identified, then these trees are to be taped and treated during the ongoing mopping-up operation

1.7.16. A final inspection may then be completed 2-3 days later to ensure there are no re-ignitions and to remove all tapes

1.7.17. DFES personnel (including contractors) are not permitted to hand fell trees at night.

1.8. Land Tenure

1.8.1. Consult with landowner/manager (i.e. DBCA, LGA, Main Roads, etc.)

1.8.2. The tenure of land being worked upon (ie: road reserve, private property) will determine the level of work requirements and approvals required.

1.8.3. Where DFES is intending to undertake hazardous tree removal work on adjoining crown land that is not the management responsibility of DFES, prior permission of the vested or managing authority is required.

1.8.4 In each case, DFES should provide written advice to the managing authority of the proposed nature/extent of the work and follow this up with a joint site inspection where required. Work should not proceed without the written agreement of the managing authority and should be completed in accordance with agreed conditions.

2. **Marking.**

   Hazardous Trees are to be identified via the below colour coding using demarcation tape (day) and/or cyalume sticks (night/low visibility) as follows:

   - **RED/WHITE or PINK -** Tree is suspected to be hazardous
   - **BLUE or BLUE / WHITE** - Tree should be extinguished
   - **YELLOW -** Tree should be felled
   - **BLUE / YELLOW COMBINATION -** Tree to be felled and extinguished
   - **PAINTED YELLOW OR WHITE "H" -** DBCA and FPC use this to identify Habitat trees, Pre-Mop-up is required for Planned Burning and may require additional protection or mop-up during burning or bushfires.

3. **Identifying Common Tree Hazards.**

   Refer to Field Guide 3.5 Bushfire Safety

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4. **Treatment Options**

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Refer to <u>Field Guide 3.5 Bushfire Safety</u>

5. **Chainsaw Operations.**   The IC can request Chainsaw Operators through COMCEN, who will deploy personnel as required. DFES Tree Felling teams are to be deployed in a team of two as a minimum and are only available during daylight hours for safety reasons.

6. **SES Chainsaw Operators** may be utilised during Bushfire operations to clear fallen trees in accordance with SOP 3.5.16 – SES Assistance at Bushfires. All Chainsaw Operations must be conducted in accordance with SOP 3.3.3 – Chainsaw Operations.

    <u>SOP 3.5.16 – SES/VFES Assistance at Bushfires</u>

    <u>SOP 3.3.3 – Chainsaw Operations</u>

7. **Reporting and Tasking of Chainsaw Teams.**   Teams are to report through the Control Point/ICV to the Operations Officer, be briefed on the situation and known tasks, and be allocated to a Sector Commander within the operational structure. Chainsaw teams used at bushfires may require firefighting crew support in order to cool trees prior to cutting.

8. **Hazard Assessment.**   Standing trees identified as hazards by the Sector Commander or Crew Leader are only to be approved for felling and/or removal by qualified Advanced Tree Fellers from P&W, DFES or other recognised agencies. The use of operators without appropriate qualifications to fell trees at bushfires *is not to occur*.

    Tree Fellers will in the first instance attempt to save all trees where possible and are trained to "sound" the tree to assess its viability. They save far more trees than they fell and have an extremely strong environmental ethos and training. All decisions are to be reported to the IC through the chain of command.

9. **Safety Warnings.** Communications and liaison with all crews in the area are to be maintained throughout felling operations.

10. **Recording and Reporting Tree Removal.**   The following procedures apply:

    - **DFES Tree Felling Team.** When DFES staff are engaged as tree fellers, they are to record details of assessed (saved) and felled trees through GPS and photographic evidence.

    - **Sector Commander.** Record and report the occurrence and location of all felled/removed trees to the IC prior to departure from an incident.

    - **Incident Controller.** Post-incident, records of tree removal are to be submitted with incident records. Ensure that local environmental officers and local bushland groups are advised of the reasoning for any tree removals undertaken.

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DOCUMENT HISTORY

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Dec 2010	New SOP created. New sections created: • (All) **Source documents:** Operational Circular 08/2008 *All listed SOP/SAP, now retired.*
2.0	Jan 2011	The following detail added: • Deployable Equipment Levels • Tasking • Response Procedure • Warnings
2.1	Jan 2013	Reviewed Response procedure Reformatted to comply with OD7.2
2.2	Jan 2014	Review formatting and terminology
3.0	July 2022	Title change – from 'Tree Removal at Bushfires', to 'Identifying and Treating Hazardous Trees at Bushfires and Prescribed Burning Activities'. Significant changes to context to align with DBCA SOP065 '*Identifying And Treating Hazardous Trees – Bushfire And Pre And Post Ignition Prescribed Burning'* as part of the Common Doctrine project initiated by IBOC. Changes approved by BCOE. Endorsed by AC Country and Metropolitan.

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ATTACHMENT 14.2.2

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Standard Operating Procedure 3.5.12
Tree Removal at Bushfires

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Introduction

Trees may be deemed a hazard to firefighting operations due to posing a risk to life under the following circumstances.

Danger to life	• Emergency service personnel/community/public/access (property and roads)

Danger to life/property	• Spotting leading to fire spread
	  − Located within 100m of blacked out fire line
	  − Tree remains burning after all avenues of extinguishment have been explored/attempted
	• Risk to assets within tree fall zone

Crew leaders are to identify and report unsafe trees in order to minimise the risk of harm to their crew members. The following procedure is designed to ensure the safe identification, inspection, and if necessary, removal of unsafe trees at bushfires. Further information is provided at Directive 3.5 – Bushfires.

Directive 3.5 – Bushfires

Procedures

1.   Identification and Reporting

Where the integrity of a tree at a bushfire is suspect, the following identification and reporting is to occur.

PROCEDURE	NOTES
Mark the Tree as a Hazard	• In accordance with marking methods below
Isolate the Hazard	• Cordon-off any tracks, roads or areas that may be put at risk
Report	• Inform the Sector Commander (SC) who is to inform the Ops Officer • The SC is to request support from qualified tree fellers where trees need to be felled[1] • Record all saves and trees felled for future evidence and contentious issues[2]
Identify Location for Later Reference	• Mark the nearest point on the track to identify its proximity • Map reference and if possible GPS plotting to identify the location of the tree

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[1] Intermediate fellers are required to deal with 'round and sound-green trees'. Advanced fellers are required to deal with 'bent and burning/unstable trees'.
[2] When USAR team members are engaged as tree fellers they will record details through GPS and photographic evidence.

PROCEDURE	NOTES
Alert	• SC are responsible to alert all personnel of all risks within their sector • SC must in-brief relief crews and provide updates both periodically and as they occur

2. Marking

Trees suspected of being at risk of falling, or dropping limbs are to be colour-coded using demarcation tape (day) or cyalume sticks (night/low visibility) as follows.

COLOUR[3]	DESCRIPTION
RED/PINK	Tree is suspect
BLUE	Tree should be extinguished
YELLOW	Tree should be felled[4]

3. Minimum Safe Deployable Crew

DFES Chainsaw Operators (USAR Tree Felling Teams) are to be deployed, as a minimum, in teams of two – one operator is to be qualified to Advanced Feller status. Teams are to be deployed with communications, recording (GPS), assessment (TIC) and felling equipment unless prior arrangement has been made for the IC/IMT to provide such equipment.

4. Response

IC is to request Tree Felling Teams through the COMCEN. The SCC is to notify the Rescue Manager/USAR Officer who after consultation with the SOA will coordinate the response.
Note: For safety reasons chainsaw operations will only be available during daylight hours.

5. Reporting and Tasking of Tree Felling Teams

Tree felling teams are to report through the Control Point/ICV to the IC/IMT, be briefed on the situation and known tasks, and be allocated to a Sector Commander (SC) within the operational structure. Tree felling teams will often require fire fighting crew support in order to cool tree barrels prior to cutting.

6. Hazard Assessment

Trees identified as hazards by crews/SC are only to be approved for felling and/or removal by qualified Advanced Tree Fellers from P&W, DFES or other recognised agencies. The use of unqualified operators to fell trees at bushfires *is not to occur*.

Tree Fellers will in the first instance attempt to save all trees where possible and are trained to "sound" the tree to assess its viability. They save far more trees than they fell and have an extremely strong environmental ethos and training. All decisions are to be reported to the IC through the SC.

7. Safety Warnings

Communications and liaison with all crews in the area are to be maintained throughout felling operations.   Safety whistles and horns are to be sounded prior to and after felling operations.

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[3] Tape/cyalume stick colours can be mixed (e.g. yellow and blue - cool and cut)

[4] Decisions to fell trees can only be made by qualified advanced tree fellers from P&W, DFES USAR or other environmental officers who are trained to 'sound' trees.

DFES SOP 3.5.12 – Tree Removal at Bushfires – Version 2.2   2

8.   Recording and Reporting Tree Removal

The following records are to be made of tree removal:

- **USAR Tree Felling Team.** When USAR team members are engaged as tree fellers they are to record details of assessed (saved) and felled trees through GPS and photographic evidence.
- **SC.**   Record and report the occurrence and location of all felled/removed trees to the IC prior to departure from an incident.
- **IC.**   Post incident, records of tree removal is to be submitted with all incident records to Information Management.   IC are to ensure that local environmental officers and local bushland groups are advised of the reasoning for any tree removals undertaken.

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Dec 10	New SOP created. New sections created: • (All) **Source documents:** Operational Circular 08/2008 ***All listed SOP/SAP, now retired.***
2.0	Jan 11	Following detail added: • Deployable Equipment Levels • Tasking • Response Procedure • Warnings
2.1	Jan 13	Reviewed Response procedure Reformatted to comply with OD7.2
2.2	Jan 14	Review formatting and terminology

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Directive 3.5 Bushfire
SOP 3.5.13 – Operating Within Registered UXO Sites

Introduction

Unexploded ordnance (UXO) is any type of military ammunition or explosive ordnance which has failed to function as intended. In Australia, UXO contamination is generally the result of military training activities or explosive ordnance (EO) items that have been recovered back to Australia by military personnel, and the items discarded in public locations.

In the past large numbers of ranges and training areas were approved for military use in many areas of Australia, and there are now many sites which are affected by UXO. Western Australia in particular is heavily contaminated with UXO compared with all other Australian States and Territories. The Department of Defence (DoD) conducts regular EO clearance activities within WA, to enable the safe release of land back to the public, or for regional redevelopment.

Although there are no known cases of UXO detonating involuntarily within Western Australia; UXO may be detonated through vibration, mechanical disturbance or exposure to a heat source all of which may occur during firefighting operations. However, most UXO are sub-surface and will not be exposed to direct fire heat and would require substantial impact (metal-to-metal) to cause detonation.

Any UXO that has been laying on the surface will have been exposed to various degrees of thermal radiation. This exposure to heat does affect the stability of the explosive content, thus making the EO more sensitive to movement, heat, friction and ground shock.

The procedures below and at Annex A have been developed to guide the IC in the application of bushfire fighting techniques within registered UXO sites.

Note: If specific UXO sites are identified requiring different actions for firefighting operations then an Urban Bushland Response Plan needs to be developed for the site.

1.   Procedures

1.   IC made aware bushfire is in a UXO risk area and the UXO category (as per FESMaps) through SOP 2.1.2 Mobilising. ComCen is to notify responding appliances of the risk of UXO either by Radio or through SMS notification.

2.   Fire control operations informed by the UXO Category and Annex A. There are site specific considerations for the Two Rocks, Warnbro townsites and Stake Hill area (as per references included in Annex A).

3.   **On request of any aerial suppression aircraft, it must be clearly identified as a UXO site in the Flight Hazards column on the request form (ADF 01).**

4.   If a suspected UXO is found during fire control operations, firefighters are to carry out the following actions:

   a.   Clearly mark the site without disturbing the immediate vicinity

   b.   Do not use stakes driven into the ground to mark off an area of UXO as the EO may be sensitive to ground shock and vibrations caused by hammering

   c.   Photograph the item in situ, and any identifying markers to aid in locating the EO.

   d.   Withdraw from the area.

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e.   Notify the Sector Commander/Ops Officer/IC, who is to immediately notify WAPOL through the COMCEN

f.   If possible, maintain a presence near the site until advised to the contrary. Evacuate to a distance of no less than 200m from the identified EO.

g.   IC to implement alternative firefighting strategies that reduce the presence of firefighters within the immediate area.

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ATTACHMENT 14.2.2

SOP 3.5.13	Firefighting Guidance – Operating within Registered Unexploded Ordnance (UXO) Sites	ANNEX A

LEGEND: DOD – DEPARTMENT OF DEFENCE, LT – LIGHT TANKER, HT – HEAVY TANKER, FEL – FRONT END LOADER, DZ – DOZER, AIR – AERIAL SUPPRESSION

				APPLIANCE ABLE TO BE USED SAFELY				
				LAND-BASED				AIR
DOD - UXO CATEGORY	DOD - DEFINITION	DOD - WARNING	DFES - INTERPRETATION FOR FIRE CONTROL	LT	HT	FEL	DZ	
OTHER	Defence records confirm that the area was used for military training but **do not confirm that the site was used for live firing**. UXO or explosive ordnance fragments / components have not been recovered from the site. Defence opinion is that it would be inappropriate to assess as either slight or substantial.	Allied Defence Forces used many areas throughout Australia, during and after World War II, for encampments, field training, live firing of weapons and other military activities. **This property is on such a site; however no specific UXO contaminated site has been identified in the area.**	These areas have no constraints to fire control operations. Access is not limited. All types of ground and aerial suppression equipment can be used.	YES	YES	YES	YES	YES

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DOD - UXO CATEGORY	DOD - DEFINITION	DOD - WARNING	DFES - INTERPRETATION FOR FIRE CONTROL	LT	HT	FEL	DZ	AIR
SLIGHT	Areas categorised as slight will have a confirmed history of military activities that have **resulted in residual UXO** but which Defence considers it inappropriate to assess as substantial.	Allied Defence Forces used many areas throughout Australia, during and after World War II, for encampments, field training, live firing of weapons and other military activities. **This property is on such a site. A possibility exists that dangerous items of Unexploded Ordnance (UXO) may still be found on this site.**	Rubber tyred tankers up to and including 4.4 classification (fast attack, light tankers, heavy tankers, heavy duties and gang trucks etc) can be used for back burn and mop up on well-travelled tracks and identified on the site-specific pre-plan. Aerial suppression tactics can be applied. *1 Rubber tyred earth moving equipment i.e. (FEL) can be used to remove the light surface fuels only on well-established tracks, to a maximum depth of 250mm.	YES	YES	YES *1	NO	YES

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SUBSTANTIAL – **VACANT LAND**	Sites categorised as being substantial will have a history of numerous UXO finds or heavy residual fragmentation. Areas likely to be assessed as substantial include impact areas, demolition sites and areas of heavy explosive ordnance dumping.	Allied Defence Forces used many areas throughout Australia, during and after World War II, for encampments, field training, live firing of weapons and other military activities. **This property is on such a site. A possibility exists that dangerous items of Unexploded Ordnance (UXO) may still be found on this site.**	No access by land based firefighting resources. *1. Aerial Fire Suppression may occur if IC in conjunction with air operations determines it justified and safe to do so in accordance with 'Suppression Response Criteria' from SOP 3.11.1 – Aerial Suppression Response.	NO	NO	NO	NO	NO *1
DOD - UXO CATEGORY	**DOD - DEFINITION**	**DOD - WARNING**	**DFES - INTERPRETATION FOR FIRE CONTROL**	**LT**	**HT**	**FEL**	**DZ**	**AIR**
SUBSTANTIAL – **DEVELOPED LAND** Site Specific **Refer to FESMaps** TWO ROCKS TOWNSITE WARNBRO TOWNSITE STAKE HILL	Sites categorised as being substantial will have a history of numerous UXO finds or heavy residual fragmentation. Areas likely to be assessed as substantial include impact areas, demolition sites and areas of heavy explosive ordnance dumping.	Allied Defence Forces used many areas throughout Australia, during and after World War II, for encampments, field training, live firing of weapons and other military activities. **This property is on such a site. A possibility exists that dangerous items of Unexploded Ordnance (UXO) may still be found on this site.**	Rubber tyred tankers up to and including 4.4 classification (fast attack, light tankers, heavy tankers, heavy duties and gang trucks etc.) can be used for back burn and mop up on well-travelled tracks and identified on the site-specific pre-plan. Aerial suppression tactics can be applied.	YES	YES	NO	NO	YES

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DOCUMENT HISTORY

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 2010	New SOP created. New sections created: • (All) **Source documents:** SOP 66 – Unexploded Ordnance *All listed SOP/SAP, now retired.*
1.1	Sep 2012	Content reviewed for currency – no change
1.2	Jan 2014	Update formatting and general review
1.3	Nov 2017	Major review of SOP 3.5.13
1.4	Dec 2017	Change to appliance classification changed from 3.4 to 4.4 Change to Accountable Position from AC Operations Capability to AC Hazard Planning and Response
1.5	Feb 2018	Change to DFES interpretation for fire control tables Change of Accountable position from AC Hazard Planning and Response to AC Metropolitan
1.6	Jan 2023	DoD EOD reviewed and added some contextual information on explosive ordnance (EO). BCoE review and update for consistency with DBCA SOP (minor terminology changes).

Standard Operating Procedure 3.5.14
Dieback Hygiene

Introduction

Incident Controllers (IC) have a responsibility to consider the potential for spread of dieback (*phytophthora sp.)* during firefighting operations.

IC should seek local knowledge and specialist advice; however, all parties should acknowledge that these dieback management procedures will not hinder the States 'Strategic Control Priorities' in the preservation of life, property and critical infrastructure.

Bushfire suppression activities pose a significant risk of introducing and spreading dieback, especially where they intersect with areas of moist soil, creek lines and swamps.

In executing activities outside of an operational response (e.g., training, mopping up, prescribed burning) dieback management procedures are also required to be implemented.

More information on dieback is available on the Department of Biodiversity, Conservation and Attractions (DBCA) website.

Procedures

1.   Fire Suppression

The following procedures are designed to minimise the spread of dieback by firefighting operations.

These procedures are to be applied by IC whenever feasible and practical to minimise the risk of dieback spread during fire suppression operations:

- Use hand tools to suppress the fire when this method will succeed. Use machinery only when necessary.

- Use scheme or bore water for fire suppression wherever possible.

- Strictly enforce hygiene routines on plant and appliances moving between sectors and incidents.

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2.　　Guiding Principles

Earth moving machinery are a major means of introducing Phytophthora (the plant pathogen that causes dieback) to the fire ground. Appropriate vehicle and machinery hygiene is critical with the objective being the complete absence of soil and organic matter from potential carriers prior to work commencing.

To minimise the risk of unintentional introduction of Phytophthora, these guiding principles should aid the IC or Incident Management Team (IMT) in the effective management of dieback risk:

- Use of disinfectant in the final washdown process as a precautionary measure in high value conservation areas.

- Use of existing access ways for fire control containment where fire ground safety and containment objectives are not compromised.

- Use of rubber-tyred machinery before using tracked machines, when possible, as rubber-tyred machines are less likely to transfer soil and are easier to clean.

- Construction of containment lines and breaks by hand-tools if the bushfire is of a sufficiently small scale.

- Planning for and constructing containment lines to avoid moisture gaining sites and wetlands zones; or consider the use of 'green bridging' (constructing containment lines away from the fire edge with a buffer or green vegetation) to separate machinery from the moist soil.

- Available dieback occurrence information included as a consideration when planning Division/Sector boundaries. If dieback occurrence information is limited or not available, consider working to mini catchments (i.e., breaking the area up into smaller Division/Sectors with similar ground moisture levels).

- The sources of water available for fire suppression, with the preferences for the primary water source being in the following order to minimise the risk of unintentional introduction of Phytophthora:
  - i) scheme/bore water.
  - ii) stored water (e.g., tanks).
  - iii) water from natural water bodies (e.g., dams).

- Consider equipping vehicles and machinery with a portable hygiene kit which could include clean water, small brush, broom, spray bottle with 70% methylated spirit and garbage bags to allow footwear and hand tools to be cleaned between sites where practicable.

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Dieback management requires a collaborative approach between the IMT and responders to minimise further spread. Functional positions within the IMT should consider the following:

Planning	If required, develop dieback management strategies and tactics and document in: • An Incident Action Plan (IAP) after referring to the principles in the introduction. • A dedicated Dieback Management Plan (DMP). • Ensure all dieback management information (dieback occurrence categories, clean down stations, Restricted Access Areas etc.) is displayed on the applicable incident maps.
Operations	Implement the dieback management measures documented in the IAP or DMP including but not limited to: • Establish an area to inspect vehicles and machinery on arrival and prior to deployment on the fire ground. • If hygiene standards are not met, stand the vehicle or machine aside for cleaning at a designated clean-down point. • Plan and consider how resources are moved around the fire ground to minimise the chances of spreading. • Locate and establish 'Clean on Entry' points around the fire ground as required.
Divisional/Sector Commanders	• Implement dieback management tactics developed in IAP or DMP Monitor and enforce vehicle/machine hygiene standards. • Work downslope as far as practicable when constructing containment lines. • Deposit soil regularly from machine blades when pushing soil, and do not carry it across dieback categories and or mini catchments. • As far as practicable, all fire ground vehicles and machinery are to work within dieback categories where designated and/or within mini catchments. • As far as practicable, utilise hard surface roads for transport around the bushfire area. • Without compromising fire ground safety and containment objectives, consider utilising existing roads and tracks where possible for containment and or burning out rather than the construction of new containment lines.

DFES SOP 3.5.14 Dieback Hygiene Version 2.1　　　　　　　　　　　　　　　　　3

ATTACHMENT 14.2.2

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3. Hygiene

The spread of dieback during firefighting operations is best controlled through strict enforcement of hygiene routines to remove soil and mud from appliances and equipment when they are moved between sectors and incidents.

Effective hygiene routines are resource intensive and must be carefully planned. Machinery, vehicles and equipment must be clean (free from mud and soil) prior to arrival at the incident.

DBCA Machinery and vehicle inspection checklist form FEM080 provides guidance on key items to check, and the process to decontaminate vehicles, machinery, and equipment.

DBCA Machinery and vehicle inspection checklist form FEM080

Considerations for the development and implementation of dieback wash points are as follows:

CONSIDERATION	NOTES
Resourcing	Plan to resource clean-down sites before implementing movement restrictions to ensure no backlog of appliances and plant. Pre-planning will minimise any delay to firefighting operations and resistance to the requirement for cleaning.
Preliminary Clean Site - *Dry*	Remove the bulk of soil and mud from the tracks/wheels/undercarriage of appliances and plant using dry methods (i.e., brush, spade, compressed air).
Wash Down - *Wet*	Ensure wash down occurs only in the designated wash down area. Wash down areas should preferably be on hard standing, well drained surfaces that do not run off into bushland.

CONSIDERATION	NOTES
Runoff Capture	Capture or monitor runoff to minimise the potential un-recorded spread of contaminated water and soil.

4. Firebreaks

The introduction of earthmoving machinery into previously 'clean' sites poses the greatest risk of further introducing dieback. The following guidelines will minimise the risk of dieback spread during the creation of firebreaks:

- Construct and maintain fire breaks during dry soil conditions:
  - Schedule between November-March.
  - Do not cut breaks following rain.
- Select strategic breaks that are low in the landscape.
- Construct firebreaks to shed water and dry quickly.
- Do not duplicate existing access.

Firebreak Location, Construction and Maintenance Guidelines

DFES SOP 3.5.14 Dieback Hygiene Version 2.1   4

5. Prescribed Burning

The following guidelines will minimise the risk of dieback spread during prescribed burning operations:

- Select burn boundaries on well-formed hard surface roads.
- Keep machine movements to a minimum.
- Avoid grading boundaries unless necessary:
  - Consider alternatives such a slashing, hand raking and herbicide.

Prescribed Burning Implementation Guide

6. Training

The following guidelines will minimise the risk of dieback spread during training activities:

- Do not plan training adjacent to bushland or horticultural crops in wet soil conditions

- Consider the water source being used as a potential host for dieback spread:
  - Use scheme or bore water wherever possible.
  - Return static water supplies to their source.
  - Consider dry lay outs as an alternative.

- Educate crews of dieback spread risk and control routines:
  - Include phytophthora dieback management as part of induction process for new crew members.

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jan 10	New SOP created. New sections created: • (All) **Source documents:** SAP 30 – Dieback Management ***All listed SOP/SAP, now retired.***
1.1	Sep 12	Font, Punctuation, and requirement for vehicles being clean prior to entry.
1.2	Jan 14	Update formatting, fix hyperlinks.
2.0	May 22	Comprehensive review and alignment with DBCA doctrine by BCoE
2.1	Dec 22	Updated definitions & Formatting

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Standard Operating Procedure 3.11.1
Aerial Fire Suppression Response

Introduction

Aerial fire suppression response incorporates the capabilities of:

- Aerial Fire Suppression
- Aerial Supervision; and
- Aerial Intelligence

This SOP outlines the response parameters, protocols and planning guidance for the employment of DFES aerial fire suppression capabilities. Further information is provided at Directive 3.11 – Air Operations and Directive 3.5 – Bushfires.
Directive 3.11 – Air Operations
Directive 3.5 – Bushfires

1.   Principles/Planning Factors

The following principles and planning factors apply to all incidents where aerial fire suppression resources are utilised:

PRINCIPLE	DESCRIPTION
Crew Safety	Brief crews as to the intended aerial fire suppression tasking. Provide warning of approaching aircraft so that crews are clear of the drop zone.
Response Criteria	Request aerial fire suppression only if the response criteria have been met.
Ground Control	Establish Ground Control (GC) of air resources until aerial supervision is available. Clearly brief the Air Attack Supervisor on strategies, hazards and use of foam. Confirm drop zone clear for aerial fire suppression operation.
Water Supply	Establish a secure supply of water to support aerial fire suppression operations.
Communications	Incorporate aerial fire suppression resources in all communications planning.

ATTACHMENT 14.2.2

2.　　Operating Parameters

General operating parameters for Fixed Wing (FW) and Rotary Wing (RW) resources involved in aerial fire suppression tasking and Air Intelligence (AI) operations are as follows:

CAPABILITY	PLATFORM		PLANNING RANGE[1]	Nominated Operational Bases (NOB)	OPERATING PARAMETERS	
	FW	RW			1ST PRIORITY	CONTROL
Aerial Suppression		✓	120km from assigned NOB	Jandakot Airport Busselton Airport Serpentine Airfield	• Metro regions • S/W regions	• Ground Controller • Air Attack Supervision
	✓		120km from assigned NOB	Jandakot Manjimup Bunbury Albany	• Country Regions DBCA Land • Broad Acre	• Ground Controller • Air Attack Supervisor
Air Attack Supervision	✓	✓	Mobilised in support of all aerial suppression operations.			
Air Intelligence		✓	Nominal 120km On request outside 120km	Jandakot Airport	• Support of aerial suppression ops • Support of any DFES HMA function	• Air Intel Officer • Intel Systems Operator

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[1] All ranges may be extended if pre-planned and based on resource to risk assessment.

3.   Aerial Fire Suppression Response Areas

Aerial resources are allocated to Nominated Operational Bases (NOB) with an initial response area of 120km identified as the Primary Response Area (PRA). The mobilisation of the aerial fire suppression resources within the PRA will be determined by the State Operations Air Desk (SOAD).

Requests for aerial resources outside the 120km from the NOB, identified as Secondary Response Areas (SRA), will be determined in consultation with DFES Duty Aviation Officer and the DBCA State Aviation Operations Officer and mobilised through the SOAD.

Aerial Fire Suppression Resource Allocation			
Nominated Operational Base (NOB)	**PRA**	**Resources**	**Capacity**
Metro – Jandakot Airport	120km from Perth Control Tower	• 4 x 214B Helitaks	2650lts each
		• 3 x 802 SEAT	3150lts each
		• 2 x RW AAS aircraft	-
		• 1 x FW AAS aircraft	-
		• 1 x RW ISR aircraft	4 pax or 1000kg
		• 1 x RW utility aircraft	8 pax or 1000kg
		• 1 x FW Line scanner	
Serpentine Airfield		• 2 x UH-60A Helitak	4500lts each
Bunbury Regional Airport	120km from Bunbury Airport	• 3 x 802 SEAT	3150lts each
		• 1 x FW AAS aircraft	-
Manjimup Airstrip	120km from Manjimup Airstrip	• 2 x 802 SEAT	3150lts each
		• 1 x FW AAS aircraft	-
Albany Regional Airport	120km from Albany Airport	• 2 x 802 SEAT	3150lts each
		• 1 x FW AAS aircraft	-
Busselton Regional Airport	120km from Busselton Airport	• 2 x 214B Helitak • 1 x LAT	2650lts each 15141lts
		• 1 x FW AAS aircraft	-

4.   Aerial Fire Suppression Response Criteria

It is incumbent upon the Incident Controller (IC) to carefully determine if aerial resources are justified *before* forwarding a request. Aerial fire suppression resources should only be requested if one or more of the following criteria exist.

CRITERIA		DESCRIPTION
1	**Crews**	Fire crews are in imminent danger.
2	**Public Safety**	Public safety is at risk.
3	**Assets**	Assets are at imminent risk.
4	**Fire Behaviour**	There are known high fuel loads and there is a likelihood of an excessive rate of spread, or extreme fire behaviour.

DFES SOP 3.11.1 – Aerial Fire Suppression Response – Version 3.4   3

5.   Air Intelligence (AI) Response Criteria

When requesting AI support to bushfires, IC'S are to establish that one or more of the following criteria exist.

CRITERIA	DESCRIPTION
Decision-Making	Sufficient information to support decision-making is not available through ground resources.
Risk/Threat	A fast-moving fire exists where life or assets are under threat.
Planning	Where mapping, infra-red imaging and video imaging will assist the planning and prediction functions.

Procedures

6.   Immediate Actions

IC requesting aerial fire suppression support must undertake the following immediate actions.

ACTION	DESCRIPTION
Establish Aerial Fire Suppression Strategies	• Analyse threat • Confirm ground strategies • Link aerial fire suppression strategy to assist/consolidate in achieving ground strategies • Identify sector and allocate aerial fire suppression resources
Establish Ground Control	• Appoint Ground Controller (GC) or aircraft Point of Contact (POC) • Provide VHF communications • Clearly brief GC on strategies, priorities, tactics, and tasks
Brief Ground Crews	• Identify risks from aerial fire suppression delivery and clear drop zone • Advise fire line behaviours • Advise that optimisation of aerial fire suppression is reliant upon follow-up ground crew actions (Utilise chain-of-command if incident has been sectorised)

7.   Subsequent Actions

IC's are advised of the following elements to optimise aerial fire suppression resources throughout an incident.

ACTION	DESCRIPTION
Periodic Strategy Review	Continue to review in consultation with AAS the application of aerial fire suppression against changing meteorological conditions, terrain, and ground resources.
Fatigue Management	AAS & AIO will liaise with the SOAD to assist to manage aircrew and pilot fatigue.
Hours of Operation	Aerial fire suppression platforms can operate from first to last light. All aircraft must have ceased operations and safely returned to their operating base by last light.
Asset Protection	Consultation between IMT and AAS identifying any safety considerations

8.　　Mobilising Procedures　　　　　　　**ATTACHMENT 14.2.2**

The procedure for mobilisation of DFES and DBCA aerial fire suppression resources, whether RW or FW, refer to the <u>WA Aerial Fire Suppression Operating Procedures.</u>

9.　　Mandatory Request Information

IC are to provide the following information to support their request.

REQUIRED INFORMATION	DESCRIPTION
IC Name	To provide for SOAD personal liaison
Location	- Street and cross-street (or park name) - Map Reference - Incident number
Land Tenure	DBCA, LG, Federal (military)
Requesting Agency	To facilitate the apportioning of costs to either DFES or DBCA
Confirmation of Control Arrangements	A *Ground Controller* has been nominated and mobilised. An air to ground channel for air operations (metro -usually VHF 644/621/646) has been allocated and is being constantly monitored. For **Air Intelligence** VHF 369 must be monitored.
Response Criteria	- Public Safety at risk - Fire crews in imminent danger - Assets at imminent risk - Known high fuel loads/ Likelihood of excessive ROS/ Extreme fire danger

This mandatory information is reflected in the SOAD 01 Aerial Fire Suppression Request Form.
<u>SOAD 01 Aerial Fire Suppression Request Form</u>

10.　　Automatic Response Zones

When joint DFES/DBCA response arrangements are operating, particular 'at risk' zones are supported with automatic aerial fire suppression responses. Within these zones, DFES ComCen is to immediately notify and email the SOAD 01 form to the SOAD which will automatically mobilise the air resources at Annex A.
<u>Annex A – Automatic Response Zones</u>

ATTACHMENT 14.2.2

11. Enhanced Response

Bushfire risk is assessed as requiring enhanced response in terms of both additional ground resources and aerial fire suppression supplementation during forecast periods of extreme fire weather. The mobilisation of Aerial Resources is to be prioritised to identified risk zones in Perth Metropolitan regions during periods of enhanced mobilisation. The SOAD will notify aerial resources who will in turn conduct the planning phase for the mission.

On arrival and assessment by the IC, or on notification via ComCen, the aerial resource will be deployed. DFES ComCen is to immediately notify and email the SOAD 01 form to the SOAD, which will automatically mobilise the air resources.

Automatic Response Zones and Enhanced Response Mobilising	
Zone 2 &2A	A minimum of two fire-bombing aircraft and an AAS will be dispatched
SW North and South	A minimum of two fire-bombing aircraft and an AAS will be dispatched
Capes I & O Zone	A minimum of two fire-bombing aircraft and an AAS will be dispatched
Albany I & O Zone	A minimum of two fire-bombing aircraft and an AAS will be dispatched
Metro Enhanced	A minimum of two fire-bombing aircraft and an AAS will be dispatched
Blackwood Response	A minimum of two firebombing aircraft and an AAS will be dispatched
Air Intelligence	Air intelligence will automatically be dispatched on the following criteria within 120 km of Jandakot Airport. • Any fires within enhanced air response areas, • Any fires within the Zone 2, 2A and Metro Enhanced areas, • Any 3rd Alarm classified grass/scrub/bushfire being controlled by DFES or LG, and • Any incident when directed by Metropolitan Duty Superintendent, Assistant Commissioner Metro Operations, or the Duty Assistant Commissioner

12. Safety Procedures

Employment of aerial fire suppression resources at bushfires presents various hazards to both ground-based firefighters and pilots. Ground-based actions designed to minimise risk to firefighters and pilots operating on or near the fire line during aerial fire suppression operations are described at Annex C.
Annex B – Safety Procedures for Ground Based Personnel

13. Further Procedural Detail

Further detail pertaining to initial action plans for particular areas, key personnel contact details/rosters, and Aviation Services Branch internal procedures are provided in the DBCA/DFES WA Aerial Fire Suppression Operating Procedures, which is updated annually to precede the bushfire fighting season. This publication can be sourced through the IM Toolbox or DFES Aviation Services.
WA Aerial Fire Suppression Operating Procedures

Annexes
A. Automatic Response Zones
B. Safety Procedures for Ground Based Personnel

ATTACHMENT 14.2.2

SOP 3.11.1	Automatic Response Zones	ANNEX A

The first responding OIC into Automatic Response Zone MUST advise ComCen ASAP upon arrival ***if aerial fire suppression is not required*** and request aerial fire suppression to be stood down.

Additional aerial fire suppression response is to be assessed and requested by AAS through SOAD.

Response zone maps are available from the respective Operational Protocol available by region in the IM Toolbox.
IM Toolbox – Regional/Metropolitan Operations Centres

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SOP 3.11.1	Safety Procedure for Ground Based Personnel	ANNEX B

The following procedural actions are designed to minimise risk to ground based crews and pilots during aerial fire suppression operations.

ACTION	DESCRIPTION
Identify Hazards to Pilots	• Towers • Powerlines • Stags/Tall trees • Known turbulence or changing winds • Itinerant aircraft flying over the fireground • Drones • Areas with low visibility • Erratic or extreme fire behaviour • Terrain – especially steeply rising ground
Maintain Communications Between Ground Crews	• Brief ground crews on aerial suppression operations • Brief crews on bombing safety prior to aerial suppression operations (see below) • Advise crews to clear the fire-line upon receipt of the 'One Minute Inbound' call from aircraft
Maintain Communications Between Ground Controller and Pilot/ASS/HS	• Confirm the drop zone is clear prior to pilot commencing run

Safety Brief to Ground Crew	• Understand the aerial suppression strategy and how it affects your sector
	• **Maintain communications** with the Ground Controller
	• Move off the fire line when directed to by the Ground Controller
	• Return to the fire line when the 'All Clear' is received from the Ground Controller
	• **If caught in the drop zone**:
	  – Ensure your helmet is on and secured
	  – Move away from the fire line
	  – Do not run or panic
	  – Watch your footing
	  – Place hand tools well clear
	  – Watch out for falling branches and debris
	  – If hit by foam - wash thoroughly with cold water

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Dec 10	New SOP created. New sections created: • (Nil) **Source documents:** • SOP 71 – Aerial Fire Suppression • Air Operations Season Update – Annual Operational Circular • Aviation Services internal documentation ***All listed SOP/SAP, now retired.***
2.0	May 12	Updated, communication channels and terminology
2.1	Oct 13	Updated terminology
2.2	Nov 13	Edited Hyperlinks
3.0	Jan 14	Updated: Maps, Terminology and Response Zones
3.1	Oct 14	Inclusion of roles and responsibilities or SOAD. Clarification of UHF radio suitability for ground to air communications. Inclusion of AAS positioning and responsibilities.
3.2	July 2020	Updated by Air Operations - maps, map references on Enhanced Response Zones, hyperlinks, terminology, communications channels.
3.3	July 2022	Reviewed and updated by Aviation Services. Zone maps removed.
3.3	Oct 2022	Replaced reference from ADF to SOAD forms
3.4	Jan 2023	Added reference to WA AFSOP. Removed duplicate Annex A

Government of **Western Australia**
Department of **Fire & Emergency Services**
Operations

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Standard Operating Procedure 3.11.5
Floating Collar Tank Operations

Introduction

This procedure provides guidance to members tasked with controlling the refilling of Helitaks from floating collar tanks.   Further information is provided at Directive 3.11 – Air Operations.
Directive 3.11 – Air Operations

Principles/Planning Factors

1.   General

The following principles/planning factors apply to all collar tank operations.

PRINCIPLE	DESCRIPTION
Ground Supervisor	A single member must be appointed to control collar tank activity.
Ground Crew Safety	Position appliances, pumps and personnel a minimum of 60m to a flank.
Air Crew Safety	Advise pilots of all observed hazards on approach and departure paths.
Site Selection	Select a site without excessive slope, which provides Helitak, static supply and vehicular refill access.
Preparation	Prepare the site to minimise damage to the collar tank and Helitak. Brief operators and crews of approach paths and no-go zones.
Communications	Maintain comms between the controlling ground crew and the Helitak pilot.
Site Security	Secure the site from casual and accidental intrusion by members of the public, stock etc. Consider demarcation options that do not present a risk to helicopter operations.
Helitak Assessment	Ascertain which Helitak/s are planned to use the site. Larger capacity Helitak require additional preparation.

2.   Site Security

Sites selected for Helitak refilling operations are to be isolated from the community. If required, request Police assistance through the IMT.

3.   Site Selection

Floating collar tanks sites should be evaluated against the following considerations.

CONSIDERATION	NOTES
Operational Dimensions	• 120m diameter cleared area (where possible) unless located on a ridge.

CONSIDERATION	NOTES
	• Confirm restricted sites suitability with contractor/operator.
Approach and Departure Paths	• Plan helicopter approach and departure paths to avoid populated areas to maximise public safety from unforeseen events such as an inadvertent release of a water/retardant on departure.
Remove Debris	• Remove items that may puncture the lining of the tank when filled with water or if the snorkel pump contacts the bottom of the tank. • Minimise dust and debris as they pose risk to helicopter rotors and turbines, wet down areas if required. • Clear the immediate site of rocks, stumps and branches. Any features unable to be removed must be marked with fluorescent paint or similar.
Water Supply/Resupply	• **Refill Accessibility.** Select sites that permit access which acknowledges the limitations of the planned refill appliance (approach slope, 2/4WD capacity). • **Adjacent Static Supplies.** Pumps and appliances filling from adjacent static supplies must be located 60m from the collar tank and 60m to the flank of approach and departure paths.
Flexibility of Approach	• If possible, plan for approach from all directions to allow for changing winds. • Where possible set up in the middle of community ovals/parks which will provide the flexibility for changing wind conditions.

COLLAR TANK SITE DIMENSIONS
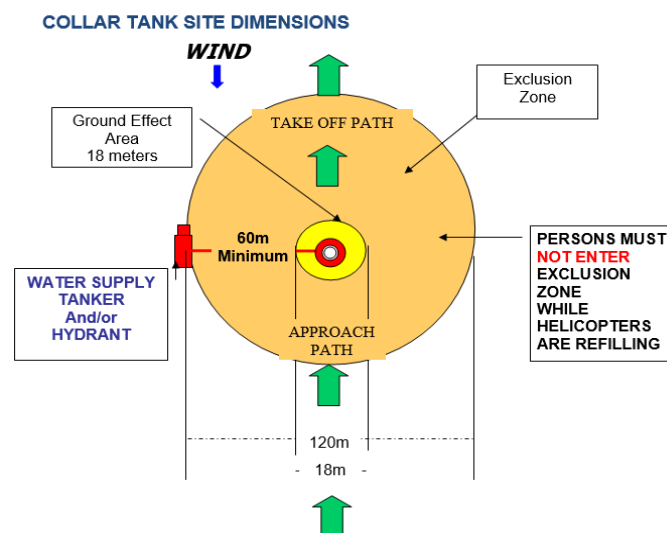
4. **PPC**

Level 1 PPC (tunic, helmet, goggles and gloves) with hearing protection is the maximum PPC expected of collar tank operators. Dress down principles should be applied where lower risk is assessed.

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Procedures

5. General

The following procedures provide guidance for the assembly, filling and disassembly of floating collar tanks in support of Helitaks.

6. Collar Tank Assembly

Deliberate planning of the orientation of the collar tank alignment prior to commencing erection is key to ensuring smooth Helitak refilling. Re-alignment after filling has commenced requires emptying of the tank which will cost time and delay aerial suppression operations.

STEP	NOTES
Protect Site	• Spread out a protective ground sheet and stake/weigh down if required • Ensure stakes do not create a hazard to helicopter operations
Layout Tank	• Unroll the tank on ground sheet • Pull out all wrinkles/folds on base to maximise area
Alignment	• Align tank to ensure the primary water outlet is placed facing downhill • Align filling method (appliance/pump) to inlet valve • Attach any upslope tie downs to appropriate rings if required
Attach Fittings	• Attach the camlock ball valves or blanking caps to outlets
Alignment	• Double check alignment of outlet for draining **Note.** The tank cannot be moved once it is filling.
Protect Site	• Re-check for rocks, debris under the tank and protector before filling

7. Filling

Floating collar tanks are to be filled as follows:

STEP	NOTES
Site Pump/Appliance	• Site pump/appliance an appropriate distance, depending on aircraft type, from collar tank to protect from rotor wash
Connection	• Connect delivery hose from pump or appliance **Note.** Connections are camlock ball valves. • Alternatively, delivery hose can be laid over the collar
Self Inflation	• Commence filling - the collar enables the tank to rise on its own
Maintain Filler Function	• Ensure the outlets have not folded underneath the tank as it is filling
Stabilisation	• The tank will stabilise once approx. 500ltrs have been inserted
Security	• Further tie downs may be needed if tank is on sloping ground

8. Disassembly

Floating collar tanks are to be disassembled and packaged for re-use as follows:

STEP	NOTES
Drain	Drain the tank thoroughly by opening ball valves
Detach Fittings	Remove camlock ball valves and reinstall blanking caps
Air Dry	Sun and air dry both sides before folding
Prepare for Folding	• Lay the tank flat on the ground and pull out all wrinkles on the bottom • Align the outlets 180 degrees opposed • Pull the collar together aligned along the axis between the two outlets
Fold	• Fold 1/3 inward to centre (collar line) • Fold opposite 1/3 inward to centre (collar line) • Fold collar 1/3 inward to centre • Fold opposite collar 1/3 inward to centre
Roll	• Roll tank along axis and secure with strap • Ensure outlets are visible and not folded against tank surfaces (puncture/damage risk)

Enhanced Considerations for Type 1 Helicopter (Aircrane)

9. General

The use of collar tanks by Type 1 helicopters require additional preparation and controls as follow due to their size and pump capacity.

ADDITIONAL REQUIREMENT	NOTES
Minimum 10,000 L Capacity	• Only use minimum 10,000 litre or larger capacity floating collar tank • Alternatively use rigid tanks
Additional Base Protection (Internal)	• Additional heavy rubber protection (conveyor belt quality or similar) if possible be placed on the tank bottom to prevent damage to the tank skin.
100% Full to Commence Hover Fill	• All floating collar tank must be full every time a Type 1 hover fills. • The rotor wash from these helicopters is extremely turbulent and may overturn a half empty tank, endangering bystanders and the helicopter.
Maintain 100% Full During Hover fill	• Re-fill operations must be maintained throughout hover fill operations in order to maintain the weight of water in the collar tank

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ADDITIONAL REQUIREMENT	NOTES
	• Re-fill operators must be briefed on how to undertake this operation whilst maintaining safety distances • Communications with the pilot are critical in case re-fill operations fail and the helicopter be required to immediately cease hover-fill before safety is compromised

Document History

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Jun 11	New SOP created. New sections created: • (All) **Source documents:** • Air Operations Technical Instructions • CASA Safety Orders ***All listed SOP/SAP, now retired.***
1.1	May 12	Reviewed by Air Ops and some terminology changes, made current.
1.2	Oct 14	Reviewed by Air Ops – no major changes.
2.0	Nov 17	Review – Replaced Type 1 and Type 3 with Type 2 throughout.
2.1	July 2020	Reviewed by Aviation Services. Updated terminology throughout and site security guidance simplified.
2.2	Nov 2022	Reviewed by Aviation Services

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Government of **Western Australia**
Department of **Fire & Emergency Services**

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Standard Operating Procedure 3.17.2
Asbestos

Introduction

Asbestos is most commonly encountered when dealing with structure-based incidents, however it may be discovered during operations of any hazard type. It can be difficult to identify the presence of asbestos and measure the quantity of fibres that may have been released during operations. However, the risks must be carefully considered whenever asbestos is discovered or suspected at an incident, so that work can be carried out safely provided the procedures contained in this document are applied.

1.   Hazard Information

Asbestos is the generic name given to the fibrous forms of naturally occurring silicate minerals that have been used in commercial products (mainly in the construction industry) due to their high tensile strength, flexibility, low electrical conductivity, and resistance to heat and chemicals.   Manufacturing of asbestos was banned in 1983 however asbestos products were in use until the end of 2002.

2.   Risk

Asbestos in good condition and left undisturbed is unlikely to present a hazard. Handling or touching asbestos is not generally a risk unless in doing so the material crumbles or is broken up and there is the possibility that fibres are released into the air and subsequently breathed into the lungs. The respiratory system is designed to remove large fibres, however small fibres can become lodged in the lung tissue and the body's natural defences may not be able to break them down easily. If inhaled asbestos fibres may cause lung disorders in the long term. For further information see Annex A or refer to the WA Health Department website.
WA Health Department

Principles/Planning Factors

The following principles/planning factors apply to incidents where asbestos is present.

PRINCIPLE	DESCRIPTION
Preparation	A pre-existing awareness of hazards present within operational areas of responsibility e.g. via building inspections and FES-ERG's, will assist with risk assessments.
Crew Safety	Approach and treat the hazard in a manner that ensures the safety of the emergency response crew.
Personal Protective Clothing (PPC) - Fire	Level 2 PPC, and respiratory protection will afford crews the required protection at all times. PPC can be enhanced with Chemical Protective Clothing as required, which is more efficiently decontaminated.

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PRINCIPLE	DESCRIPTION
Personal Protective Clothing (PPC) - Natural Hazards	Full overalls, sleeves down, safety glasses (or goggles) and P2 respiratory protection will afford crews the required protection at all times. PPC can be enhanced with disposable overalls or Chemical Protective Clothing as required, which is more efficiently decontaminated.
Fibre Stabilisation	Avoid disturbing asbestos (e.g. cutting away an area to gain access) unless it is absolutely essential. If essential, the area should be wet down and disturbance kept to a minimum.
	Plan to prevent fibre dispersion by applying water to products that are subject to movement, breakage or cutting.
	Consider using A class foam at 0.2% concentration to assist binding fibres.
Exposure	An exposure has occurred if personnel have entered an area where it is likely that air-borne particles of asbestos are present, and therefore a risk of contamination exists.
	Minimising exposure to personnel is the most effective strategy to mitigate the risk of contamination.
	The IC will decide, in consultation with specialist advice, what level of decontamination is necessary.
	Exposure to equipment and the public must also be considered.
	All exposures shall be reported.
	Note: If the appropriate control measures are followed as explained in this SOP, the risk to an individual's health is negligible, especially when respiratory protection is worn. Exposure as defined above should not result in internal contamination if appropriate controls are used.
Contamination	*External contamination* occurs when material (in the form of dust, powder, or liquid) comes into contact with a person's skin, hair, or clothing. In other words, the contact is external to a person's body. People who are externally contaminated can become internally contaminated if the material gets into their bodies.
	Internal contamination for asbestos occurs when people swallow or inhale materials.

3. Minimising Responder Exposure

Responders should endeavour to limit the release of asbestos fibres during incident operations. The following points provide general guidance for minimising responder exposure during incidents involving potential asbestos exposure:

- hand not powered tools should be used as their use reduces the amount of potential fibre release
- keep to a minimum the movement of ash and debris (e.g. turning over) and ensure it is carefully carried out to prevent/reduce the amount of fibres that may be released
- DO NOT intentionally break any asbestos into smaller pieces
- leave intact and undisturbed individual pieces of asbestos cement sheeting if the fire/damage has disturbed and distributed it over a wide area
- if disturbed, ensure the asbestos is wet down, using a fine spray and moved as short a distance as possible (but still within the risk area) to a safe place
- with the safe conclusion of the incident instigate decontamination procedures, when necessary
- ensure good personal hygiene both during and post incident.

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4.   Initial Actions – All Hazards

Where asbestos is known or identified at any incident, the initial actions are as follows.

Assess and Minimise the Risk	Assess the likelihood that asbestos is present and has been disturbed or affected.
	If undisturbed, identify appropriate control measures to minimise any risks.
Communication	Communicate presence of asbestos to all personnel at the incident.
Vehicles	Consider vehicle placement to minimise exposure
PPC	Select appropriate PPC based on the risk.
Isolate	Identify the Hot Zone/contaminated site with demarcation tape.
	Keep numbers of personnel to the minimum required to safely deal with the incident.
	Allow only essential personnel access e.g. only appropriately attired responders and/or specialist contractors.
	Ensure smoking, drinking or eating is not allowed in the risk area.
	Contain any water run off/slurry.
Decontamination	Set up decontamination procedures for personnel, vehicles and equipment (as per SOP 3.6.3 - Decontamination).

5.   Other Actions - Structure Fire/HAZMAT Response

Where asbestos is known to be involved at a fire there is the potential for asbestos fibres to be carried by the smoke plume. If the risk has been identified, it is the responsibility of the IC to implement the following additional procedures.

ACTION	DESCRIPTION
Alert Authorities	If undisturbed asbestos is identified, ensure it is reported to the IC.
	Any incident with known disturbed asbestos content must be classified as a HAZMAT or HAZMAT/Fire. SOP 3.6.1 – HAZMAT-CBRN Response.
	Inform COMCEN who in turn will notify the SOA, DER, LGA and Health Department.
	Chemistry Centre WA may be utilised to confirm the presence of asbestos and the potential degree of hazard through air sampling. Test samples will require laboratory testing and confirmation will not be available during the incident.
	HEAT may be assembled if the amount of asbestos involved is considered a hazard to the local population, environment and firefighters.
Direct Respiratory Protection Measures	• Selection of suitable respiratory protection equipment depends on the nature/condition of the asbestos work and the likelihood asbestos fibres would be encountered.
	• The IC should consider the requirement for self-contained breathing apparatus when working in the designated HOT ZONE
	• P2 disposable masks are appropriate for decontamination roles and post incident phases
Consider Plume Effects	Consider evacuation downwind of the incident.
	If there is any concern of contamination outside the hot zone, the hot zone should be evaluated and boundaries moved accordingly.

6.   Other Actions - Natural Hazard Response

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There is little risk of a developed plume hazard where a bound (intact) asbestos product (such as sheeting, asbestos cement pipe, vinyl floor tiles etc.) or even loose products (e.g. insulation products) has resulted from a storm/cyclone or flood incident. However, the risk of airborne particles from broken asbestos products remains and it is the responsibility of the IC to implement the following additional procedures.

ACTION	DESCRIPTION
Alert Authorities	Report discovery of asbestos to the IMT, who are to record the locations for identification during handover at the recovery phase
	HEAT may be assembled if the asbestos involved is considered a hazard to the local population, environment and responders
Isolate	Identify the contaminated site with demarcation tape and restrict entry to only appropriately attired responders and/or specialist contractors
Direct Respiratory Protection Measures	• P2 disposable masks are appropriate during operations where there is no plume present. • Where a plume is present or significant unbound asbestos products are present (e.g. Raw asbestos insulation) the incident is to be considered a HAZMAT and the appropriate service engaged
Decontaminate	Be prepared to decontaminate responders on site
Equipment Exposure	Consider the use and location of equipment to minimise exposure. Tarps are not recommended to be re-used, and should be disposed of after use. Plastic sheeting should be used as much as possible to minimise repeat exposure. Other items such as hand-tools should be washed or disposed of.

7.   Vehicle Siting

Appropriate appliance siting is essential to ensuring minimum exposure to asbestos fibres, particularly in fire plumes. Prevention of contamination of vehicles requires a combination of siting and preparation. The prevention of contamination of vehicles is achieved through the following actions.

ACTION	DESCRIPTION
Upwind	Site vehicles/appliances upwind of the incident upon arrival
Close Up	Close all windows, doors and lockers
Isolate	Activate recirculating air conditioning to isolate the internal atmosphere
Monitor	Constantly monitor the wind direction (utilise Kestrel Weather Station, wind speed monitor, or tie survey tape at height as makeshift wind sock)
Relocate	Relocate if the wind direction changes
Inspect	Undertake decontamination of vehicle and/or personnel as required

SOP 3.6.3 - Decontamination

8.   Evacuation

Given the physical nature of asbestos contamination, sheltering populations in place where a plume exists should be considered the first option for protecting the community.   If the incident is likely to be prolonged, evacuations must be planned as follows.

ACTION	DESCRIPTION
Shelter-in-Place	Consider shelter-in-place as the first option
Area/Distance	1. Immediate. Evacuate persons in the immediate downwind area if safe to do so 2. Subsequent. Observe plume behavior and add 50m in all directions wind dependent 3. Extended. HEAT (if required) will advise the distance to be evacuated
Minimise Exposure	• Evacuation plans should seek to minimise exposure of evacuees through route selection • Consider the delivery of disposable RPE/PPC prior to evacuation to minimise decontamination requirements of community members
Decontamination	If there is a likelihood of members of the public who have been directed to evacuate becoming contaminated they must be evacuated through a decontamination process

9.   Decontamination

Decontamination is to be conducted in accordance with the four (4) stages described at SOP 3.6.3 – Decontamination.   Specific guidance for decontaminating responders exposed to an airborne asbestos hazard is as follows.   The degree of decontamination will be dependent upon the degree of exposure.

| ELEMENT	DESCRIPTION	
Summary	On site low pressure wet down provides interim stabilisation of asbestos fibres, subsequent laundering of PPC completes decontamination.	
Decontamination Assistance Crew	**PPC**	Minimum equal to exposed personnel. Removal of asbestos dust must not be undertaken by shaking or blowing off with compressed air.
	Respiratory Protection	Respiratory protection is compulsory. Level determined by IC according to risk.
Exposed Personnel	**Method**	Low pressure wet down to stabilise fibres – With appropriate respiratory protection

	Contaminated PPC	• Remove wet PPC (and all exposed outer clothing)
		• Place PPC/clothing in a <u>contaminated items plastic bag</u>
		    – Seal and mark 'asbestos contaminated',
		    – Dispatch for laundering by a DFES contracted laundering service provider.
		    – If a B/G/U does not have direct access to a contracted laundering service provider and requires PPC to be laundered, this shall be arranged via the Area/District Officer.
		Disposable overalls, masks, or filters which may contain asbestos material must be disposed of at a landfill or waste disposal site licenced by the Department of Environment and Regulation. Not all landfill sites accept asbestos.
		<u>DER Controlled Waste Fact Sheet</u>

	BA Sets	After decon BA sets are able to be serviced normally.

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ELEMENT	DESCRIPTION	
Appliances & Equipment	**Equipment**	Equipment suspected of being exposed must be decontaminated before leaving the incident via low pressure wet down.
	Appliances	All appliances suspected of being exposed must be decontaminated before leaving the incident via low pressure wet down.
		Appliance interiors suspected of being exposed must be decontaminated via a thorough wipe down with wet cloth, and seat covers bagged, tagged and sent for laundering.
	External contamination	If external contamination of an appliance occurs, consider engine and air conditioning air intake filters which may be contaminated.
		Report this to Workshops and complete VFR for decontamination as soon as practicable.
		Place contaminated items sticker onto driver side window of vehicle to notify Workshops personnel.
Other Potential Contaminations	Service uniforms, undergarments and seat covers believed to have been in contact with asbestos are to be treated as contaminated PPC.	
Reporting	All personnel exposures must be reported via the Hazard Reporting System (Online/Manual).	
	If asbestos is disturbed during a fire, ensure it is classified as a HAZMAT or HAZMAT/Fire in the Incident Reporting System (IRS), and Block C is completed.	
Subsequent Management	The IC is to recommend to owner/occupier to contact a licenced asbestos removalist for removal and disposal.	

SOP 3.6.3 - Decontamination

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ANNEX A Asbestos Information

What is asbestos?

Asbestos is a generic name that is given to a group of fibrous silicate materials that occur naturally in the environment.

For many decades asbestos was mined and widely used. Due to its unique combination of flexibility, tensile strength, insulation and chemical inertness it became widely used by industry from the 1800s. It is the only naturally occurring mineral that can be spun and woven like cotton or wool into useful fibres and fabrics. Asbestos fibres are 50 to 200 times thinner than a human hair, can float in the air for a long time, can be invisible to the naked eye and can be breathed into the lungs.
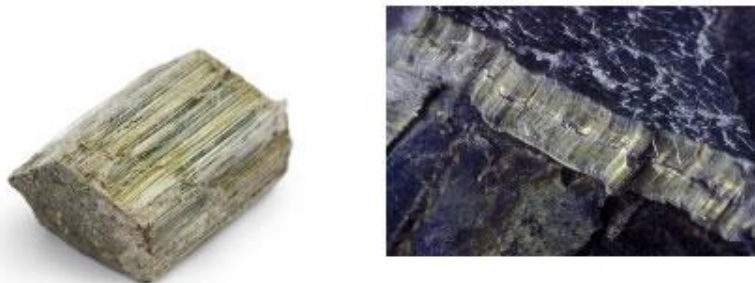
Examples of asbestos fibrous silicate materials found in the natural environment

In the past, asbestos was mined and manufactured into many different materials. Materials containing asbestos were very common in the Australian residential building industry between the 1940s and late 1980s before their production stopped.

The three most common types of asbestos that were mainly used in a wide range of products are:
- Chrysotile (white asbestos)
- Crocidolite (blue asbestos)
- Amosite (brown or grey asbestos)

Blue asbestos is known to cause the most harm as the fibres are relatively long and thin, therefore they are more likely to reach the lungs rather than the curlier fibres of white asbestos.

An example of loosely-bound 'friable' asbestos (left) and white, brown and blue loosely-bound asbestos (right)

Not sure if the item contains asbestos? There are two classes of asbestos types:

Friable (Class A) Asbestos is classified as any material found under ground level, as well as a few older forms of insulation used in domestic heaters and stoves and in ceiling insulations products. Ceiling insulation containing asbestos was generally used in commercial buildings. In most cases, glass fibres have replaced asbestos in today's insulations products.

Bonded (Class B) Asbestos is a fibre-cement product. The asbestos is firmly embedded in a hardened matrix. The bonded sheets are flat, corrugated or circular tubes.

Why is asbestos dangerous?
In the early 1900s medical practitioners began to raise concerns that exposure to asbestos was causing deaths of asbestos workers through respiratory diseases and by the 1930s there was a substantial accumulation of scientific knowledge concerning asbestos related diseases.

Almost everyone in our society has been exposed to some asbestos fibres, but for most people the exposure and the risk is very small. When asbestos is disturbed it forms a dust of tiny fibres and this dust can easily be breathed in. Asbestos fibres can split down, reducing in size until they are small enough to travel deep into the body where they pierce the lining of the lungs. The body does not have a mechanism for removing materials from this deep within the lungs and as the asbestos fibres are embedded in the lining, they will remain in the body for the rest of a person's life. Asbestos related diseases are caused by the inhalation or ingestion of these particles of asbestos. Potential diseases include asbestosis, pleural plaques, lung cancer, mesothelioma and cancer of the intestinal tract.

Asbestos related diseases are generally associated with inhaling asbestos over a long period of time. However, a small number of people may develop mesothelioma even after brief exposure. The reason why this occurs is not known so it is always important to keep exposure to asbestos fibres as low as possible. Over 2,500 people are diagnosed with asbestos related diseases in Australia each year and the number is rising.

People who have been exposed to asbestos fibres in their workplace are at greater risk. Fields of such work include:
- Mining or milling asbestos
- Manufacture and repair of goods using raw asbestos fibres, such as brake linings
- Using products containing asbestos, for instance in building and construction, heating, shipyards, power stations, boiler making and plumbing
- Alteration, repair or demolition of buildings or other structures containing asbestos
- N.B. Some people have contracted mesothelioma after brief and unexpected exposure - others 30 years after home renovations, after holiday work as a labourer, or as a result of shaking and washing asbestos-dusted clothing

Asbestos in Australia
Asbestos has been used in a wide variety of products and may still be found in many products:
- Asbestos cement sheet pipe and products used for water supply and sewage piping, casings for electrical wires, fire protection material, chemical tanks, electrical switchboards and residential and industrial building materials such as cement sheeting
- Friction products such as clutch facings and brake linings for cars
- Products containing asbestos paper such as table pads and heat protective mats, heat and electrical wire insulation, small appliance components and underlying material for sheet flooring
- Asbestos textile products such as packing components, roofing materials and heaters
- Other products including ceiling and floor tiles, gaskets and packings, paints, coatings and sealants

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Asbestos products were gradually removed from production during the 1980s. Between 1981 and 1983, asbestos flat sheeting was phased out. In 1985, corrugated products (roofing and cladding) were also taken out of production. Asbestos-lined piping was not made after 1987 and in 2003 brake pads and linings ceased to contain asbestos.

New materials are no longer allowed to contain asbestos fibres and industry is no longer able to import, manufacture, supply, store, transport, sell, use, reuse, install and replace asbestos-containing materials. Despite an Australia-wide ban on asbestos being sold, reused and/or imported into the country after 31 December, 2003, some asbestos materials have been imported into Australia.

www.asbestoswise.com.au

Document History   **ATTACHMENT 14.2.2**

VERSION	DATE	DESCRIPTION of CHANGE
1.0	Apr 12	SOP Aligned with Doctrine Content from SOP 25 endorsed as correct and current by DM Stuart Palmer Special Risks **Source Documents:** • **SOP 25 - Asbestos** *SOP now retired*
1.1	Dec 12	• Insert principles table • Remove mention of Set siting as it is covered by general vehicle siting
2.0	Dec 12	Re-structured and Re-written • Introductory sections created • Initial Actions for Fire & Nat Haz environments described • Decon instructions aligned with SOP 3.6.3 • Evacuation planning guidance detailed
2.1	Jan 13	Remove process instructions for decontamination of appliances and equipment and linked to SOP 3.6.3 - Decontamination
3.0	Feb 16	Updated information throughout, to suit current practices and all hazards approach. Major changes are: • Natural hazard response – PPC and Equipment exposure rows added • Equipment/appliance exposure, guidance added to ensure Workshops are informed • Clarification of Exposure vs Contamination Reference: Generic Risk Assessment 5.9 Incidents involving asbestos containing materials (ACMs) October 2010, Department for Communities and Local Government UK.

Government of Western Australia
Department of Fire & Emergency Services

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Standard Operating Procedure 7.1.1
Heat Management

Introduction

Emergency services workers are at an increased risk due to the duration of time spent performing physically demanding activities within extreme environmental conditions. DFES personnel may be at risk of hypothermia when working in extreme cold or wet conditions, however the risks associated with overheating and dehydration are more frequently encountered by emergency service personnel.

This procedure will help personnel conduct their own operational risk assessments and implement safe systems of work within the context of existing operational capability.

Further information is available from Operations Doctrine and the Health and Safety Intranet pages.
Directive 7.1 – Operational Health and Safety
Video 'Don't Let Heat Stress Bring You Down'
Health and Safety – Heat Related Illness

1.   Heat and Hydration
During exercise and strenuous work, muscles produce heat which is stored in the body until it can be released into the environment. The environment can add heat to the body through high air temperature and radiant heat from the sun or a fire. The body must regulate heat storage while continuing to exercise or work.

Sweating is the body's most efficient way of removing heat, via evaporation. As sweat evaporates from the skin, heat is transferred away from the body into the environment. However, high relative humidity and/or when thermal protection PPC is worn, the opportunity for sweat to evaporate from the skin decreases, resulting in greater heat storage and potential for heat illnesses. Additionally, as the body sweats it loses water, hence the need to maintain adequate hydration.

2.   Heat Related Illness
Heat-related illness occurs when our body is unable to cool itself sufficiently and maintain a healthy temperature. Common signs and symptoms include thirst, headache, dizziness, muscle weakness or muscle cramps, rash, nausea or vomiting. If ignored or left untreated, symptoms can become severe and may require immediate medical attention. Additionally, existing medical conditions may be exacerbated, such as heart disease.
Dehydration
Heat Illness Symptoms and First Aid

3.   Types of Heat Illness
Heat illnesses can range from:

- Prickly Heat - also referred to as heat rash, which is skin irritation caused by sweating.
- Heat Cramps - muscle pains that happen during heavy activity in hot weather.
- Heat Syncope - fainting or dizziness as a result of the body overheating.
- Heat Exhaustion - can be a pre-cursor to Heat Stroke. The symptoms include heavy sweating, rapid breathing and a fast, weak pulse.
- Heat Stroke - defined by a body temperature of greater than 40 °C due to environmental

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heat exposure with lack of thermoregulation. Symptoms include dry skin, rapid, strong pulse and dizziness.

4.   Significant Risks

Working in extreme thermal environments can increase the risk of workplace injuries and illnesses. Risk factors may include:

Workload	• The nature of emergency services work • High levels of physical activity • Prolonged strenuous work • Extended work periods • Periods of inactivity
Environmental Conditions	• Air temperature • Humidity (high humidity reduces capacity for evaporation of sweat) • Lack of air movement • Radiant heat source (i.e. fire front) • Rapid onset of cold fronts • Change from daytime to night-time operations • Exposure to elements
Clothing and Equipment	• PPE requirements • Wearing of PPE in hot and humid weather
Planning and Preparation	• Lack of self-awareness of early symptoms • Fatigue • Lack of physical and mental fitness • Dehydration • Inadequate nutrition

Procedures

Managing the risks to emergency response personnel from excessive heat and dehydration must be a combined effort between individuals and supervisors. Personnel are responsible for managing their own hydration, fitness, and nutrition plus monitoring and reporting potential fatigue and heat illness in themselves and others. Supervisors must monitor crews/team members and ensure opportunities for rest breaks, cooling, hydration, task rotation, etc. are provided according to operational tempo without compromising firefighter or community safety.

The following tactics should be considered standard practice or employed as required:

Prevention/ Preparedness	Maintain appropriate fitness for duty Make regular appointments with your GP for a health check Manage shift schedule around daily temperatures Arrive at work/incident hydrated Drink cold water on the way to the incident (drivers excluded) Maintain hydration throughout the day/shift Ensure vehicles are stocked with water and electrolytes Reduce caffeine consumption prior to and during shifts Take action to cool yourself if you feel too hot

Response	Don tunics on arrival to reduce heat build-up whilst travelling
	Monitor self and others
	Take action to cool yourself if you feel too hot, before you feel unwell
	Report symptoms to your supervisor
	Dress down when safety/operational tempo permits
	Utilise crew rotation, task rotation and rest breaks whenever possible
	Utilise cooling techniques whenever possible
	Utilise vehicle air conditioning whenever possible
	Establish staging area for recovery when required
	Request mobilisation of additional firefighting resources where available
	Request mobilisation of a SET for rehab staging
	Utilise alternate operational strategies if appropriate
	Plan ahead to avoid the risks of heat illness
Recovery	Remove all excess PPE to allow evaporation
	Active cooling via aircon, cold water, breeze, fan, ice, shade, etc.
	Replace fluid and electrolyte losses
	Monitor urine output (colour and frequency)
	Eat a heathy meal

5.   Reporting

All incidents of heat related illness and/or near misses must be reported via the Online Hazard Reporting System or the Safety Hazard and Incident Report Form.

Document History

VERSION	DATE	DESCRIPTION OF CHANGE
1.0	November 2021	New procedure developed by DFES Health & Safety Services.

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