Australian Government

Department of Defence

DEFENCE INSTRUCTIONS (GENERAL)

New instruction

ADMIN 67–2 *Quick Assessment*

Department of Defence
CANBERRA ACT 2600

7 August 2007

Issued with the authority of the Chief of the Defence Force and the Secretary of the Department of Defence pursuant to section 9A of the *Defence Act 1903* for members of the Australian Defence Force.

Issued with the authority of the Secretary pursuant to section 20 of the *Public Service Act 1999* for Department of Defence Australian Public Service employees.

s22 [redacted]

NICK WARNER
Secretary

s22 [redacted]

A.G. HOUSTON
Air Chief Marshal
Chief of the Defence Force

LIST B—ISSUE NO ADMIN B/6/2007

Single Service filing instructions

This instruction should be filed as:

1. NAVY ADMIN 35–31
2. ARMY ADMIN 23–6
3. AIR FORCE ADMIN 9–41

Sponsor:
Chief Operating Officer

Sponsor contact:
Defence Legal Division

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DI(G) ADMIN 67–2
File as: (NAVY ADMIN 35–31
(ARMY ADMIN 23–6
(AIR FORCE ADMIN 9–41

QUICK ASSESSMENT

AIM

1. The aim of this Instruction is to provide guidance to commanders/supervisors on the circumstances and procedures for conducting a Quick Assessment (QA).

PURPOSE

2. A QA is not an investigation. The purpose of a QA is to quickly assess the known facts, and to identify what is not known about an occurrence, so that a decision can be made about the most appropriate course of action to be taken in response to it. A QA is not a precursor to a service or civilian police investigation.

3. A QA is made up of two parts:

   a. a short brief which identifies the facts, and if so directed, makes recommendations for a way ahead; and

   b. a commander's/supervisor's decision, in the form of written endorsement or a separate document.

4. The QA must not to be used as the basis for adverse findings, or to replace the need for a separate inquiry or investigation where such action would otherwise be necessary.

5. A QA must not be used as an investigation of a *Defence Force Discipline Act 1982* (DFDA) offence or a Code of Conduct investigation under the *Public Service Act 1999*.

SCOPE

6. This Instruction is applicable to all members of the Australian Defence Force (ADF) (Defence members) and constitutes a lawful order from the Chief of the Defence Force (CDF). This Instruction also constitutes a lawful and reasonable direction from the Secretary for the purposes of subsection 13(5) of the *Public Service Act 1999* to persons employed under the *Public Service Act 1999*, that is, Defence Australian Public Service (APS) employees.

7. This Instruction is particularly relevant to the duties of Defence APS employees who supervise ADF members. This Instruction also provides guidance to ADF members in assessing whether a matter involving a Defence APS employee should be referred to a Code of Conduct delegate. However, nothing in this Instruction prevents or delays the ability of a Defence APS employee from exercising their right of review under section 33 of the *Public Service Act 1999*.

WHEN TO CONDUCT A QUICK ASSESSMENT

8. Following an occurrence, which can be any significant incident, allegation or problem, which comes to the attention of the commander/supervisor, the commander/supervisor, using common sense and sound judgement, must decide whether a QA is required. Should the commander/supervisor be of the opinion that subsequent investigation or inquiry of the occurrence may be required, a QA must be conducted. A QA must be conducted prior to instigating a formal inquiry, unless the focus of the proposed formal inquiry is not on the conduct of any Defence member. Even if no formal inquiry is instigated or no further action is taken, the conduct of a QA provides a valuable record of the factors considered by a commander/supervisor and the decision taken and the reasons for that decision. The conduct of a QA must not prevent or interfere with the immediate requirement for notification to the relevant ADF Investigative Service (ADFIS) or Code of Conduct delegate, or investigation by ADFIS or civilian authorities. Liaison between the Quick Assessment Officer (QAO) and ADFIS will be necessary to ensure this. (*See* Defence Instruction (General) (DI(G)) ADMIN 45–2—*Reporting and Management of Notifiable Incidents in Defence*).

Directing a Quick Assessment Officer

9. The commander/supervisor may direct any ADF member or a Defence APS employee to conduct a QA. A formal direction for the QAO is not required. A direction can be given in writing and/or verbally. Telephone instruction, a Minute, email or note may be sufficient. Notwithstanding the form, it is important for the QAO to keep a record of being directed to conduct a QA, for example, in the background section of the brief, stating the direction received, when direction was received and how long the QA took to complete.

10. QAOs must be free, to the maximum extent feasible, from any suggestion of bias or conflict of interest involving any issue or witness surrounding the occurrence. A member of a unit or workplace in the direct chain of command or line management of the commander/supervisor instigating the QA may be selected as a QAO provided that they have no involvement or personal interest in the matters or people involved in the QA, which is likely to compromise their objectivity or impartiality.

Timeline for completion

11. Speed is essential in the conduct of a QA. The QA must be delivered to the commander/supervisor who initiated the QA within 24 hours of directing the QAO. Should this timeline be unachievable, the QAO must seek further guidance from the commander/supervisor who directed the QAO. Annex A provides a flow diagram of the Quick Assessment process with suggested time frames.

Recording and tracking

12. Recording and tracking of QAs is to be maintained at unit level or in the relevant workplace. These records may be required for subsequent investigation or inquiry.

QUICK ASSESSMENT AND OTHER INQUIRIES OR INVESTIGATIONS

13. In response to an occurrence other administrative inquiries and/or police investigations may be initiated, for example, Coronial inquiries, police or Comcare investigations. A QA can be conducted while other inquiries or investigations are underway. However, the QAO must ensure that their QA does not interfere with any other inquiries or investigative processes. It may be necessary, for the purpose of providing a brief on the status of the situation, for the QAO to liaise with other inquiry or investigative bodies. However, nothing prevents a QAO from making a recommendation to address immediate concerns such as those relating to safety, welfare, morale or to assist further fact-finding efforts.

14. Prohibited substance testing under DI(G) PERS 15–5—*Testing for prohibited substances in the Australian Defence Force under Part VIIIA of the Defence Act 1903* refers to Form AD 404—*Quick Assessment Guide and Member Acknowledgement Record*. While the term 'Quick Assessment' is used in Form AD 404, this is a different form of reporting to that outlined in this Instruction. Form AD 404 is not related to QAs in this Instruction and must not be used when completing a QA.

15. Non-fatal suicide behaviour is discussed in DI(G) PERS 16–26—*Management of a suicidal episode in the Australian Defence Force*. There are specific QA requirements, in relation to content and form, following a non-fatal suicide episode.

QUICK ASSESSMENT CONSIDERATIONS

16. The QAO should collect sufficient, relevant information to enable the commander/supervisor to make a decision on what further action should be taken. In doing so, the QAO should:

a. report basic facts, such as the time, date and place of the occurrence, who was involved and witnesses;

b. not take formal statements. However, brief notes of interviews are to be retained such as a record of conversation, telephone interviews and email;

c. determine who else is aware of the occurrence, such as media, Service or civilian police, the public or Comcare;

d. if possible, indicate the outcome(s) sought by a complainant or affected member(s), if any;

e. ensure all notes and other records are given an appropriate handling instruction (eg STAFF–IN–CONFIDENCE, RESTRICTED, etc); and

f. make recommendations on the options for further action for dealing with the occurrence, if so directed.

NOTIFIABLE INCIDENTS

17. For Defence members, Notifiable Incidents are defined in DI(G) ADMIN 45–2. If, during or before the conduct of a QA, it becomes evident that a Notifiable Incident may have occurred, the QAO must immediately notify the commander/supervisor who directed the QA. The commander/supervisor must take immediate action in accordance with the DI(G). The QA must, however, be completed and briefed, notwithstanding any Notifiable Incident action. The QAO is required to liaise with ADFIS to ensure that QA action does not prevent or interfere with the investigation by ADFIS or civilian authorities.

Death of Defence members

18. In addition to a QA, when there is a death of a Defence member, the following must occur:

a. In accordance with DI(G) ADMIN 45–2, immediately notify ADFIS, who is responsible for notifying the appropriate civilian authorities. Deaths of Defence members must also be reported immediately through the chain of command to the relevant Service Chief and CDF.

b. Procedures are followed in accordanc with DI(G) PERS 20–6—*Deaths within and outside Australia of Australian Defence p rsonnel*

c. Take action in accordance with DI(G) PERS 11–2—*Notification of Service and Non-Australian Defence Force casualties*.

UNACCEPTABLE BEHAVIOUR

19. For Defence members and APS employees, Unacceptable Behaviour is defined in DI(G) PERS 35–3—*Management and Reporting of Unacceptable Behaviour*. Any Unacceptable Behaviour must be dealt with in accordance with the DI(G). A QA may still be completed and briefed. DI(G) PERS 35–3 may have an impact on the recommendations in the QA.

QUICK ASSESSMENT AND PUBLIC AFFAIRS

20. Public affairs activity must neither pre-empt nor impede a QA. Hot issues briefs and media statement preparation will normally occur in parallel with a QA. However, it is the QA which will provide information to the commander/supervisor to make a decision on the proper course of action to be taken in response to an occurrence.

QUICK ASSESSMENT BRIEF

21. When a QA has been completed, a documented brief must be given to the commander/supervisor who directed the QA. Unless specifically directed to use a particular format, the QAO conducting the assessment may use the pro forma in Annex B, a dot point brief or their own style. Whatever the format used, the brief must provide sufficient detail to substantiate the assessment of the occurrence and the recommendations made. Paragraph 23., below, provides guidance on the type of recommendations that must be considered for inclusion in a QA.

22. All notes taken, documents obtained and all records of telephone conversations and email must be attached to the QA and maintained on unit or departmental files as described in paragraphs 12. and 16.

DECISIONS UPON RECEIPT OF QUICK ASSESSMENT

23. Upon receipt of the QA, the commander/supervisor must make a decision on the way ahead, which may include a decision that no further action is required. Specialist staff and support agencies should be called upon to give detail as to possible options for further action if and when required. While the list below is not exhaustive, one or more of the following may be relevant in respect of the issues arising out of a QA:

a. referral of the matter immediately to ADFIS (and then possibly the civilian police) if this has not already happened;

b. referral of the matter to other authorities;

c. referral to a superior authority for consideration and/or specific action;

d. no further action is required (include the reasons);

e. resolution of the matter by the commander/supervisor;

f. referral of the matter for resolution by alternative dispute resolution techniques (*see* DI(G) PERS 34–4—*Use and Management of Alternative Dispute Resolution in Defence*);

g. appointment of an ADF member to conduct a Routine Inquiry;

h. appointment of an Inquiry Officer under the Defence (Inquiry) Regulations 1985;

i. referral to a superior authority with a recommendation that a Court of Inquiry be appointed under the Defence (Inquiry) Regulations 1985;

j. for matters related to Defence APS employees' actions, referral to the Code of Conduct delegate; and

k. for matters involving a Defence APS employee's actions, action pursuant to chapter 11, part 2 of the *Defence Workplace Relations Manual 2006—2009* which provides policy guidance for the management and investigation of potential breaches of the APS Code of Conduct.

24. For Defence members, if it becomes apparent to a QAO that an occurrence warrants an inquiry, annex C provides guidance on selecting the most appropriate type of administrative inquiry for a recommendation in a QA and to assist the commander/supervisor in making a decision on the issue.

25. The commander/supervisor must record on the QA or in a separate document, the decision(s) taken with respect to the occurrence including a short summary of the reasons. In the case of Army, a copy of the QA and Commander's decision document must be forwarded to the next superior Headquarters.

RETENTION OF QUICK ASSESSMENT BRIEFS

26. QAs must be retained on an appropriate unit or departmental file as they may be required in any later internal or external review, inquiry or investigation. All notes and other records relating to a QA must be given a minimum handling instruction of STAFF–IN–CONFIDENCE.

PRIVACY

27. The QAO and personnel responsible for handling QAs must comply with the Information Privacy Principles (IPP) contained in the *Privacy Act 1988*.

28. When interviewing a person in relation to the occurrence (by whatever means), the QAO must inform the person of the purpose of the QA (to establish the known facts in relation to the occurrence). The QAO should also tell the person being interviewed that the record of the interview will be provided to the commander/supervisor as part of the QAO brief and that the record or substance of the record may be provided to others if natural justice requires this or if further formal action is taken.

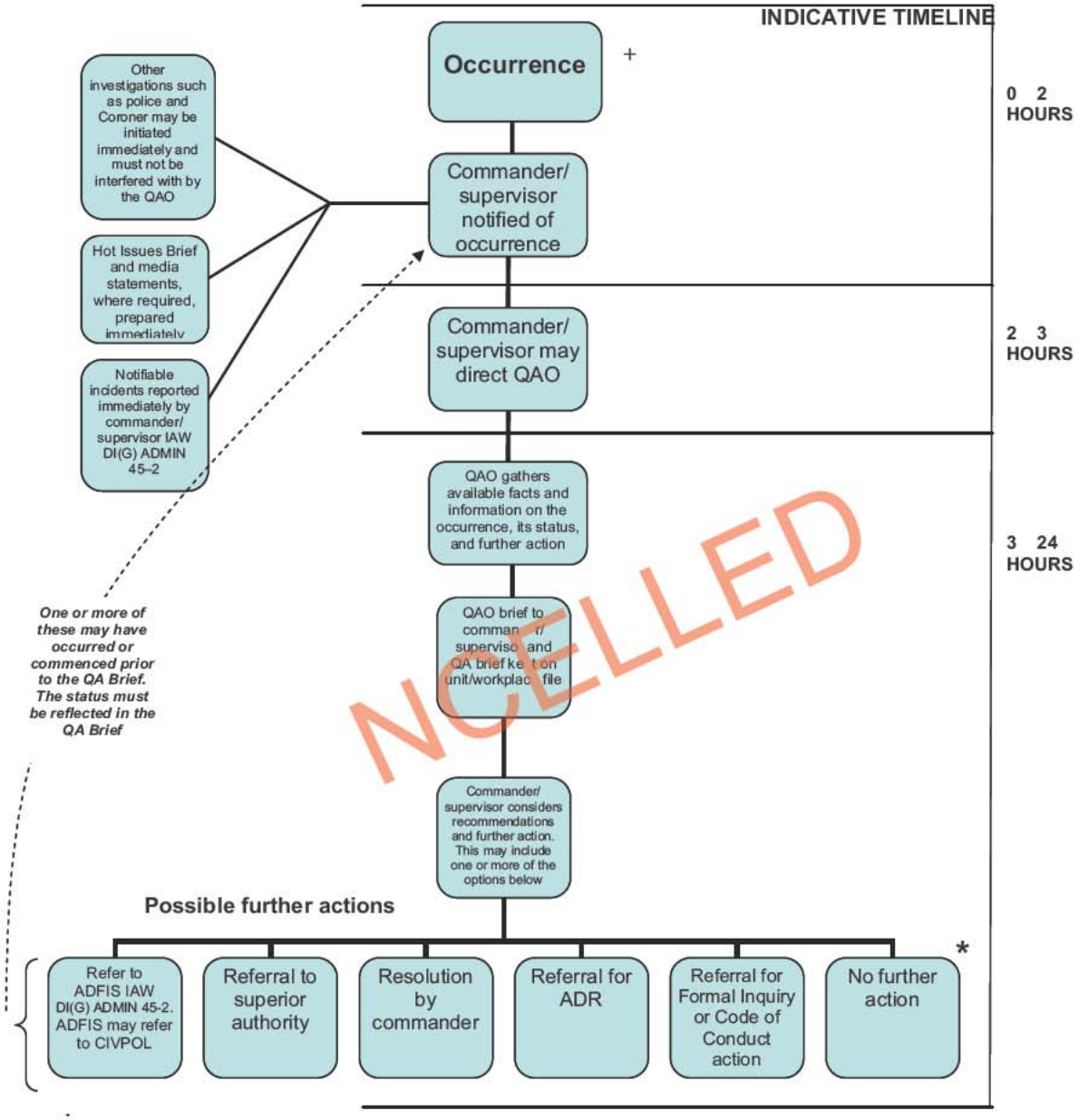
29. Any documents raised in the process of the QA that contain personal information are to be marked as STAFF–IN–CONFIDENCE and handled accordingly.

30. Personal information collected for the purpose of the QA is not to be used for another purpose, or disclosed to an agency or organisation external to Defence unless the provisions of IPP 9 (purpose to which the information is relevant), and either IPP 10 (limits on use for other purposes) or IPP 11 (limits on disclosure) are satisfied.

Annexes:
A. Quick Assessment flow diagram
B. Example of a Quick Assessment brief
C. Guidance on selecting the most appropriate type of administrative inquiry

Sponsor: DGADFLS

QUICK ASSESSMENT FLOW DIAGRAM



* These options are not a comprehensive list. *See* paragraph 23.

+ The requirement to report notifiable incidents applies to all Australian Defence Force members and Defence Australian Public Service employees in accordance with Defence Instruction (General) (DI(G)) ADMIN 45–2—*Reporting and Management of Notifiable Incidents in Defence*.

EXAMPLE OF A QUICK ASSESSMENT BRIEF

STAFF–IN–CONFIDENCE

QUICK ASSESMENT BRIEF FOR (name of commander/supervisor)

SUBJECT OF THE QUICK ASSESSMENT

DATE OF OCCURRENCE (xxx/xx/xxxx)

DIRECTION

1. Details of Quick Assessment (QA) direction, *for example, commander/supervisor X tasked or appointed me to do a QA following this occurrence on (date)*.

OCCURRENCE

2. Nature of the occurrence. *This should include facts such as:*

   a. name of parties involved;

   b. date, time and place of occurrence;

   c. what took place during the occurrence, including whether it involved a notifiable incident, unacceptable behaviour or Redress of Grievance;

   d. unit(s) or workplaces involved;

   e. any other parties involved or aware of the occurrence, such as media, the public, civilian police;

   f. any other parties involved or aware of the occurrence, such as media, the public, civilian police; and

   g. any other information which may be helpful to the commander/supervisor such as injuries or equipment loss.

PARTIES INTERVIEWED

3. *This should include brief details of what was said by the parties involved, if any. It is not envisaged that there would be more than two or three interviewees for a QA and, in fact, there may be none. The interviewees can be contacted by telephone, email or in a face to face discussion.*

4. Complainant's wishes regarding the resolution of the matter—*if this information is known or relevant*.

ACTION TAKEN TO DATE

5. What has occurred, *for example, emergency medical services being called or counselling referral made*.

6. Have the complainant and respondent(s), if there are any, been informed of allegations against them?

7. Have you sought any expert advice? *If so, give a brief summary of this.*

8. Details of any other inquiries or investigations which are also occurring into the occurrence. *This could include police, coroners or Comcare investigations.*

9. Whether a hot issues brief or media statement has been prepared and released. *This does not need to be included.*

ASSESSMENT OF THE OCCURRENCE

10. Assessment of what actually occurred.

11. Other related issues. *This may include issues such as safety, welfare, morale, et.c*

12. Have any possible systemic issues been identified? *This may include problems such as failure in communication within a unit or safety procedures. If yes, give details.*

RECOMMENDATIONS

13. Recommendations and the reasons for these recommendations, to allow the commander/supervisor to agree/disagree.

There may be more than one recommendation as a number of issues may have been identified. Recommendations may include one or more of the following

a. the matter be referred to the relevant Defence Investigative Authority;

b. the matter be referred to superior authority for certain action;

c. the commander/supervisor resolve the matter;

d. the matter be resolved by Alternative Dispute Resolution;

e. referral for inquiry or Code of Conduct action; and

f. the matter needs no further action.

14. If a further inquiry is recommended, say why and what form is recommended.

ATTACHMENTS

15. State which annexes, notes or advice received are attached (*number of pages*).

OTHER COMMENTS

16. Any other comments which may be relevant to the commander's/supervisor's decision.

SIGNATURE BLOCK

DATE

GUIDANCE ON SELECTING THE MOST APPROPRIATE TYPE OF ADMINISTRATIVE INQUIRY

General

1. The following only applies to the Australian Defence Force (ADF). An inquiry into the actions of an Australian Public Service (APS) employee must not occur by way of any of the inquiry processes mentioned in this annex. For options relating to APS employees refer to *Defence Workplace Relations Manual 2006—2009*, chapter 11, part 2.

2. When an occurrence is reported, irrespective of the seriousness of it, a commander/supervisor must initiate a Quick Assessment (QA) to obtain sufficient information to enable a decision to be made about the way ahead and to establish an auditable record of the decision-making process from the time the occurrence was first notified.

3. A serious occurrence including the death of ADF members involved in ADF activities must be dealt with in accordance with Defence Instruction (General) (DI(G)) PERS 11–2—*Notification of Service and Non-Australian Defence Force casualties*.

4. Once the QA has been completed the following tables offer assistance on the selection of the most appropriate type of administrative inquiry, should this form of inquiry be selected as the most appropriate course of action.

	Routine Inquiry	Inquiry Officer	CDF Commission/ Board of Inquiry	General Court of Inquiry
Physical Factors				
Number of witnesses	Small numbers	Best suited to small numbers	Any number	Any number
Commence inquiry	Very speedy	Speedy	Slower	Slow
Length of Inquiry	Short	Relatively short	May be lengthy	May be lengthy
Complexity	Simple issues	Moderately complex	Complex issues	Complex issues
Ease of logistics	Easy	Relatively easy	More difficult	More difficult
Appointed by	Commander	Commander or higher	Delegated Appointing Authority	Minister
Gravity Factors				
Multiple Deaths or serious injury of personnel	Not to be used	Generally not to be used alone[(a)]	Appropriate	Appropriate
Death or serious injury of a person	Not to be used	Generally not to be used alone[(a)]	Appropriate	Appropriate
Sexual Offences	No. *See* DI(G) PERS 35–4	No. *See* DI(G) PERS 35–4	No. *See* DI(G) PERS 35–4	No. *See* DI(G) PERS 35–4
Offences against the DFDA or civil criminal law	No, refer to Service police or civil police	No, refer to Service police or civil police	No, refer to Service police or civil police	No, refer to Service police or civil police

	Routine Inquiry	Inquiry Officer	CDF Commission/ Board of Inquiry	General Court of Inquiry
Serious or systemic breakdown of service discipline or morale	Not appropriate	Not appropriate	Appropriate	May be appropriate if very senior officers involved
Damage, loss or malfunction of major Defence asset	Not Appropriate	May be used when facts are not complex	Appropriate	May be appropriate
Where a damages claim against the Commonwealth is likely	Yes, if very minor and matter is simple	Yes	Major loss or damage only	Major loss or damage only
Loss or damage to Defence property	Yes, if matter is simple	Yes	Major loss or damage only	Major loss or damage only
Motor vehicle accident not involving death or serious injury	Yes	Yes	Exceptional complexity only	Not appropriate
Redress of Grievance	Yes	Only where matter is serious and complex	Yes, where matter is very serious and extremely complex	No
Complaint of harassment or discrimination	Yes	Yes, if matter is serious and complex	Yes, if matter is very serious and extremely complex	No
Where there are international ramifications	Not appropriate	Not appropriate	Yes, but it may have to be a Combined Board of Inquiry	No
Potential for media scrutiny	Yes, but only in unusual circumstances	Yes, but only in unusual circumstances	Yes	Yes
Legal and Other Factors				
Can ADF witnesses be compelled to attend and give evidence?	Yes	Yes	Yes	Yes
Can civilian witnesses be compelled to attend and give evidence?	No	No	Yes	Yes
Is evidence taken on oath or affirmation?	No	No	No, but may be if any person is likely to be affected by inquiry	Yes

	Routine Inquiry	Inquiry Officer	CDF Commission/ Board of Inquiry	General Court of Inquiry
Can witnesses claim the privilege against self-incrimination	Yes	No (except if charged but charge not dealt with)	No (except if charged but charge not dealt with)	No (except if charged but charge not dealt with)
Can witnesses refuse to answer a question if they have a reasonable excuse?	Yes	Yes, but not on grounds of self-incrimination	Yes, but not on grounds of self-incrimination	Yes, but not on grounds of self-incrimination
Penalties specified in the Defence (Inquiry) Regulations can be applied to witnesses who refuse to appear or answer questions?	No	Yes	Yes	Yes
May affected persons be legally represented?	No (but they may seek legal advice prior to being interviewed)	No (Note: this is at the discretion of the Inquiry Officer but is not usual)	Yes	Yes
Will a transcript be required?	No	No	Yes	Yes
Is the inquiry to be held in public?	No	No	Yes, as a matter of policy, unless otherwise directed by the Appointing Authority (inquiries involving major accidents normally should be open)	Yes
Is a report of the inquiry required?	Yes	Yes	Yes	Yes

Note

(a) Generally only to be used in conjunction with a Chief of the Defence Force Commission of Inquiry or a Board of Inquiry.

Australian Government

Department of Defence

DEFENCE INSTRUCTIONS (GENERAL)

New instruction

OPS 13–15 *Incident scene initial action and preservation*

Department of Defence
CANBERRA ACT 2600

19 June 2009

Issued with the authority of the Chief of the Defence Force and the Secretary of the Department of Defence pursuant to section 9A of the *Defence Act 1903* for members of the Australian Defence Force.

Issued with the authority of the Secretary pursuant to section 20 of the *Public Service Act 1999* for Department of Defence Australian Public Service employees.

s22 [redacted]

NICK WARNER
Secretary

s22 [redacted]

A.G. HOUSTON
Air Chief Marshal
Chief of the Defence Force

LIST B—ISSUE NO OPS B/6/2009

Single Service filing instructions

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2. ARMY OPS 81–2
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Chief of the Defence Force

Sponsor contact:
Headquarters ADF Investigative Service

Review Date: 23 June 2012

DI(G) OPS 13–15
File as: (NAVY OPS 27–1
(ARMY OPS 81–2
(AIR FORCE OPS 5–45

INCIDENT SCENE INITIAL ACTION AND PRESERVATION

INTRODUCTION

1. Defence personnel may be involved in incidents on operations, training or routine activities in Australia or while deployed overseas that require subsequent review/inquiry or investigation by competent Defence authorities or external agencies, such as police. The preservation of an incident scene and any potential evidence therein may be critical to the conduct of such subsequent review/inquiry or investigation, recognising that operational and other considerations including safety of life may not allow for appropriate or in some cases any preservation of an incident scene.

2. While Australian Defence Force (ADF) Service Police (SP) receive specialist training in the securing and preservation of incident scenes, and would in the normal course be responsible, circumstances may exist where other personnel may be required to perform this function in a limited role until SP attend, if required.

3. This Instruction is not designed to impede commanders or require them to modify their operational considerations at an incident site. It is a fact however, that a variety of incidents may be subject to later review, inquiry or investigation and this Instruction provides guidance to enable the preservation of as much evidence as reasonably possible.

POLICY STATEMENT

4. The ADF recognises the need for incident scenes, whe ever possible, to be secured and preserved to protect potential evidence for any possible subsequent eview/inquiry or investigation.

5. This Instruction details the policy, responsibilities, training and procedures to be followed in respect of incident scene initial action and preservation.

SCOPE

6. This Instruction only applies to incident scene initial action and preservation aspects of ‘incident management’, not operational, jurisdictional or reporting aspects of incident management; which is covered in detail within other instructions.

7. The requirements of this Instruction apply to all Defence personnel who have received the mandatory (or however described) training. The Instruction may also be used as a guide to incident scene initial action and preservation by Defence personnel who have not undertaken the specific training.

DEFINITIONS

8. The definitions that apply to this Instruction are in annex A.

RESPONSIBILITIES

9. The Provost Marshal Australian Defence Force (PM ADF) as the Training Requirements Advisor is responsible for:

a. developing ADF REACT policy and procedures; and

b. delivering REACT training as part of mandatory force preparation training.

10. Headquarters Joint Operations Command (HQJOC) is responsible for advising the PM ADF of REACT training requirements and for programming the training in the force preparation training program.

11. The single-Services are responsible for modifying, developing and delivering established REACT training deliverables to meet its single-Service requirements however, only to the extent that it does not alter the learning Outcomes of that training.

12. Commanders at an incident scene are responsible for determining the extent to which the requirements and guidance in this Instruction will be implemented from the training they have received. This action will continue until such time as a more senior or qualified member (SP/Australian Defence Force Investigative Service (ADFIS)) is handed control or assumes control of the scene by virtue of their appointment.

COMPLIANCE

13. Failure to comply with this Instruction may lead to the contamination, loss or destruction of material or evidence that may be crucial to any subsequent review/inquiry or investigation of an incident.

14. All Defence personnel who have undertaken REACT training must comply with the obligations and requirements of this Instruction and that training. Where the circumstances of an incident, such as the operational environment, are such that the requirements of this policy and REACT training can not be fully complied with, professional judgement is to be applied to determine the most appropriate course of action.

15. Where it is determined by SP, ADFIS or a subsequent Board of Inquiry/Chain of Inquiry that the circumstances of an incident are such that the failure to comply with the requirements of this policy and REACT training was not justified, administrative or disciplinary action may be taken.

16. Defence personnel who have not undertaken REACT training should, as far as possible, apply the provisions of this Instruction.

TRAINING

17. Incident scene initial action and preservation training, referred to as REACT, is an acronym for:

a. **R**eview the situation.

b. **E**valuate the scene.

c. **A**ssist victims.

d. **C**ontrol and preserve the scene.

e. **T**ake notes and report the incident.

18. REACT is mandatory for ADF members and Defence civilians (as defined in annex A) deploying on specified operations. It is also incorporated into aspects of single-Service training for ADF members. Subject to Defence requirements, it may additionally be provided (upon request) to other ADF members and other Defence employees such as Australian Public Servants, however, this would not normally be the case. All ADF members and Defence civilians deploying on specified operations must undertake REACT training as part of mandatory force preparation training.

19. REACT training, as part of force preparation training comprises an (approximate) one-hour lecture with appropriate training aids. The content and delivery method is expected to change over time. REACT training as part of Force Preparation Training is to be delivered by appropriately qualified ADFIS or SP personnel of Sergeant Rank and above. For unit induction training, any member who has currency status may give REACT training.

20. The PM ADF is responsible for assigning resources to the conduct of REACT training to meet HQJOC requirements.

21. REACT currency is 12 months.

22. This training is to include handover procedures between the senior ADF member present at an incident and the SP or Inquiry Officer.

PRIORITIES

23. The safety and security of ADF members/civilians, mission or task requirements and the provision of first aid to any person requiring immediate medical attention take priority over the need to secure the scene.

INCIDENTS

24. Incidents that may result in subsequent inquiry or investigation include those that:

a. involve serious injury or death;

b. have political significance or are likely to attract adverse publicity;

c. involve damage to civilian property as a result of Defence operations or activities or significant damage to Defence property;

d. are a dangerous occurrence as defined in the *Defence Occupational Health Safety Procedures Manual*; or as defined in the *Occupational Health and Safety Act 1991*; and

e. fall under the category of a Notifiable Incident (reference paragraph 29.).

Incident investigation/inquiry process

25. Defence has a number of policies for the review and/or investigation of incidents including administrative inquiries, discipline investigations, SP/ADFIS investigations and referral of matters to the Federal, State, Territory or Host Nation authorities.

26. Preservation of an incident scene involves the protection of both the scene and physical evidence therein. The primary purpose of this preservation is to limit or eliminate the potential for contamination, loss or destruction of evidence which may be the subject of later review, inquiry or investigation.

27. On occasions, police personnel will not be readily able to attend incident scenes and the responsibility for the initial action and preservation of a scene will fall to the ADF members/civilians present when the incident occurred or first on the scene.

28. Securing and protecting an incident scene will lead to a more accurate reconstruction of the incident and assist subsequent investigation or review of the incident.

Notifiable Incidents

29. Notifiable Incidents are defined in Defence Instruction (General) (DI(G)) ADMIN 45–2—*Reporting and Investigation of Alleged Offences within the Australian Defence Organisation*. Accordingly if, an incident occurs and it becomes evident that the incident may fall under the guidelines of a Notifiable Incident, it must be immediately reported in accordance with DI(G) ADMIN 45–2. The Commander at the scene is required to liaise with the relevant investigative authority to ensure that any incident scene Initial Action and Preservation does not interfere with or impede any subsequent investigation.

INITIAL ACTION

30. ADF members/civilians present when an incident occurs, or those first on the scene after an incident, must access the scene quickly, gather information and complete a number of key tasks to preserve the scene for future review, inquiry or investigation.

31. The senior member present at the scene is to assume control of the scene and wherever possible, is to remain at the scene until IOs or police personnel (this includes Commonwealth, State, Territory and Service police) arrive.

REACT PROCESSES

Review the situation

32. The first priority for the Commander at the scene is the security of ADF members/civilians and the requirements of the mission. In light of the incident, the Commander must review the tactical situation and assess both immediate threat(s) and the overall situation and their impact on the mission. If necessary, guidance is to be sought from their higher Headquarters (HQ).

33. The Commander at the scene must continue to review the situation as long as they remain at the scene as well as determine the extent to which operational circumstances allow for the preservation of the incident scene and other action described in this Instruction.

34. It should be noted however; that if communications are available to a higher HQ then any action decided should be communicated to that HQ. This in no way negates the on scene commander's authority moreover, it allows for confirmation of correct actions.

Evaluate the scene

35. The evaluation of the scene must include the following aspects:

a. assess any hazard, eg electrical, gas or chemical danger or other threats to Defence personnel and take appropriate action;

b. check the area for the presence of hostiles/suspect(s); and

c. identify, segregate and record details of any witnesses to the incident.

Assist victims

36. The rendering or arranging for first aid or assistance to any person can, and in some cases must, occur concurrently with the review of the situation and evaluation of the scene.

37. In the situation of a medical emergency, which can be defined as, *an injury or condition that poses an immediate threat to a person's health or life, which requires medical intervention or a serious personnel injury occurs*, access to an incident scene is to be granted to medical personnel. All action (including medical treatment or removal of casualties and witnesses from the scene) by medical personnel are to be recorded and provided to IOs or police personnel on their arrival.

38. If a victim or involved persons has been removed for medical care, ADF members/civilians should identify and protect any of the victim's clothing or property that may remain at the scene.

39. If possible, medical staff are to be requested to collect the victims or involved persons clothing and equipment and any trace evidence that **may** be present in wounds or on the surface of a victim's or involved persons body. Note: 'When requested medical staff will collect trace evidence using specific collecting equipment provided for the task by ADFIS or other appropriate investigative body'.

Control and preserve the scene

40. The control and preservation of an incident scene is not to commence until the ADF Commander, at the scene, has reviewed the situation, evaluated the scene and assisted victims where required.

41. An incident scene is an area that must be treated with the utmost care so that potential evidence is not contaminated, lost or destroyed.

42. Where operational considerations and the conditions resulting from the review of the situation and evaluation of the scene allow, the following minimum actions are to be taken to protect and preserve an incident scene:

a. **Establish a perimeter to protect the scene.** This allows all personnel to visualise the boundaries and act accordingly. This small act alone can be a valuable asset to subsequent investigation at the scene.

b. **Establish crowd control.** There may be a requirement to control the movement of persons near an incident scene. Crowd control at the incident scene is normally accomplished by the use of a physical barrier which identifies the limitations of that movement. However, if a crowd becomes unruly or violent, the ADF Commander may have to allow access to local population or family of those involved (victims or injured people) into those areas. Should this action become necessary it must be remembered that evidence is likely to be contaminated, lost or destroyed if the scene, or entry to it, is not protected or controlled.

c. Prevent any damage or further damage to the scene.

d. Remove non-involved persons from the immediate area (and record their details).

e. Prevent unauthorised persons from entering the incident scene.

f. Ensure a single point of entry/exit to the incident scene is maintained and enforced.

g. Maintain an accurate log of the names and times that everyone enters or leaves the scene (see section on 'Take Notes and Report Incident').

h. **Search the local area.** A search of the immediate area around the incident scene may reveal potential witnesses, other incident scenes or wider boundary of incident, victims/injured ADF members/civilians or potential items of evidence that may have moved from the incident scene.

i. Maintain control of the scene until relieved by service or civilian police Host Nation authorities or IOs.

43. The most important aspect to the preservation of the scene is the fundamental principle of **'Do not touch or move anything unless necessary'**.

Outdoor scenes

44. Outdoor incident scenes are difficult to control for many reasons. For example, the dimensions of an outdoor scene may be difficult to accurately determine. In addition there may be a legitimate need to secure the scene from onlookers including the news media. Securing the incident scene may be important for facilitating subsequent investigation.

45. The ADF Commander at an outdoor incident scene will need to make a decision about securing the incident scene and take such actions, as they deem appropriate in all the circumstances to secure the scene as far as reasonably possible from interference prior to the arrival of police personnel or IOs.

Environmental factors

46. Environmental factors must also be considered in the preservation of an incident scene. If the weather conditions are likely to adversely affect the scene (eg it is raining at the incident scene or appears about to rain, snowing, windy etc) Defence personnel should, where reasonably possible, photograph the scene in order to provide a record of its physical characteristics at that time. Any such photographs are official documents and must be passed to SP or IOs.

47. If there are items of potential evidentiary value at the scene and the weather conditions deteriorate (eg it is raining or about to rain), the ADF Commander at the scene will, where possible, cover such items to prevent their destruction, loss or (further) contamination. For example this may include footwear impressions in snow or mud, or blood patterns on asphalt, etc.

48. If a cover is to be used, utilise a clean object which when covering the evidence does not come into direct contact with it. Examples of this would include hollow items such as an inverted bucket or garbage tin lid. A service 'hootchie' could also be used, however it should, if possible, be suspended over the item of potential evidence.

49. Other environmental factors, such as sea state (climatic conditions of the ocean), can affect the ability to secure an incident scene. The ADF Commander at the scene is responsible for the decision on what protection of the scene can be achieved.

50. Where an action is required to be taken specifically involving equipment involved in the incident that is likely to alter the incident scene, details of the status, condition and any applicable readings of the equipment at the time of the incident should be made:

a. For example, if an engine is required to be run or a vehicle moved, their conditions at the time of the incident are to be recorded prior to their operation. In this instance, detail would be recorded by notating the speedometer and odometer readings. A second person from the command group must corroborate this information.

51. As indicated above, it is important that items of potential evidentiary value are preserved or otherwise recorded wherever reasonably possible.

Take notes and report the incident

52. It is important that prior to the arrival of inquiry or police personnel, an accurate log is maintained of all actions taken by ADF members/civilians at an incident scene and other key information and activities that may affect subsequent review or investigation of the incident.

53. As a minimum, the following information is required to be recorded and made available to either the ADFIS, SP, IO and or police on their arrival:

a. day, date, time and location including Global Positioning System reading where available, of the incident;

b. a description of the scene;

c. details of the location of significant items at and around the scene;

d. who was present at the scene on arrival of the ADF members/civilians;

e. if known, who had departed the scene after the arrival of ADF members/civilians;

f. details of personnel who arrive and depart the scene prior to arrival of police;

g. if any person is permitted to enter the scene (eg medical personnel), record details of:

(1) who entered the incident scene,

(2) what was touched,

(3) what was moved, and

(4) where personnel walked.

h. all other action taken by ADF and non-ADF members/civilians involved at the scene.

54. If there are non-ADF members/civilians at the incident scene, such as locals or other nations' military personnel, ADF members/civilians should listen attentively, but unobtrusively to anything that is said at the scene that may be valuable in later enquiries. Where possible, notes of any information thought relevant, names and contact details should be recorded.

55. The Commander at the scene is to ensure that the chain of command is kept up to date with the situation at the incident scene, any actions taken and requests for additional assistance if required.

Lawful authorities attendance

56. On arrival of SP or Inquiry Personnel, the Commander at the scene must be prepared, on handing over the scene, to provide a full report of what occurred and actions taken to the SP or other investigative authority. The Commander at the scene must also be prepared to provide a formal report on request advising all actions and decisions made.

OCCUPATIONAL HEALTH AND SAFETY ASPECTS

57. To mitigate the potential of additional injuries occurring from hazards created by or following from the original incident (including but not limited to confined space toxic environments, flammable ignition sources and fuel leaks, electrical exposure, falls from height) the Commander is to ensure a full risk/hazard assessment is conducted (and recorded). Where hazards are identified and risks arise from the hazard, appropriate risk mitigation controls measures are to be continually monitored and modified as conditions or the context change. Any actions must be in accordance with the current Defence occupational health and safety policy.

POST INCIDENT ACTION

58. After completion of all action at the incident scene, the Commander must debrief personnel as required.

59. Commanders are to consider making use of the services of counsellors, padres, psychologists and other specialist support services for their personnel, particularly if the incident was traumatic in accordance with ADF policy on mental health. Refer to DI(G) PERS 16–25—*Critical Incident Mental Health Support in Defence*.

Related publications

Australian Defence Force Publication 06.1.4—*Administrative Inquiries Manual 2nd Edition*

Administrative Inquiries Manual

Defence Health Directive 210—*Policy on the prevention, detection and management of blood borne virus infection*

DI(G) ADMIN 45–2—*Reporting and Investigation of Alleged Offences within the Australian Defence Organisation*

DI(G) ADMIN 67–2—*Quick Assessment*

DI(G) PERS 11–2—*Notification of Australian Defence Force and non-Australian Defence Force casualties*

DI(G) PERS 16–25—*Critical Incident Mental Health Support in Defence*

Defence Safety Manual volume 1—'General'

Defence Safety Manual volume 2—'Military'

Form AC 563—*Defence OHS Incident Report*

Health Bulletin 2/2008—*Collection of samples for Australian Defence Force DNA Repository*

Sponsor: CDF

Annex:
A. Definitions

DEFINITIONS

1. For the purpose of this Instruction the following definitions apply:

a. **Commander** means—an individual in a military Service lawfully exercising authority over subordinates by virtue of rank or assignment.

b. **Dangerous occurrence** means:

(1) Dangerous occurrence is defined by Regulation of the *Occupational Health and Safety Act 1991* as an occurrence that:

(a) endangers health or safety of an employee at a workplace or;

(b) arises from operations carried on at a workplace, and endangers the health and safety of another person at or near a workplace.

(2) Dangerous occurrence is further described as an incident arising from an undertaking conducted by Defence that did not result in death, serious personal injury or incapacity, but which could have caused:

(a) the death of, or serious personal injury, to any person; or

(b) the incapacity of an employee for a duration of five or more successive working days or shifts.

c. **Defence** means—the Department of Defence, Defence Materiel Organisation, and the Australian Defence Force (ADF).

d. **Defence civilian**—a person (other than a Defence member) who:

(1) with the authority of an authorised officer, accompanies a part of the Defence Force that is:

(a) outside Australia, or

(b) on operations against an enemy; and

(2) has consented, in writing, to subject himself or herself to Defence force discipline while so accompanying that part of the Defence Force.

e. **Defence employee** means—a civilian employed by the Department of Defence under section 22 of the *Public Service Act 1999*.

f. **Defence member** means—as defined in section 3 of the *Defence Force Discipline Act 1982* a member of the Permanent Navy, the Regular Army or the Permanent Air Force; or a member of the Reserves who is rendering continuous full-time service or is on duty or in uniform.

g. **Defence personnel**—for the purpose of this Instruction means all Defence employees, and Defence members and the equivalents from other Defence organisations' on exchange to Defence.

h. **Incident means**—an occurrence or event, involving Defence personnel, information and property (including premises) where it is likely that an inquiry and or investigation will be required and include those that:

(1) involve serious personal injury or death;

(2) involve damage to civilian property (by ADF) or significant damage to Defence property;

(3) are a dangerous occurrence as defined in the *Defence Safety Manual*, volume 1—'General'; or

(4) have political significance or are likely to attract adverse publicity.

i. **Incident scene** includes—an area under Defence influence, associated with the incident, where evidence is known to exist. (eg a room where a person involved in the incident may dwell; a computer; records in an operational centre; or where a part of an aircraft may have come to rest.

j. **Inquiry Officer (IO)**—means An IO or Inquiry Assistant may be an officer, a warrant officer, or an ongoing member of the Australian Public Service (APS) performing duties at or above the classification of APS 4 and must be appointed in writing by an Appointing Officer by means of an Instrument of Appointment. Any other person may be appointed as an IO or Inquiry Assistant but must:

(1) consent to the appointment in writing; and

(2) the appointment must be approved by the Chief of the Defence Force, Chief of Navy, Chief of Army, or Chief of Air Force.

k. **REACT** means—Review (the situation), Evaluate (the scene), Assist (victims), Control (and preserve the scene) and Take (notes and report).

l. **Serious Personal Injury** means—in accordance with *Def nce Safety Manual*, volume 2—'Military', an injury to, or disease in, a person that is caused in the course of duties and for which the person requires:

(1) emergency treatment by a egiste ed medical practitioner (including psychologist); or

(2) treatment in a hospital as a casualty, without being admitted to the hospital; or

(3) admission to a hospital.

m. **Service Police**—means members of the Naval Police Coxswains, the Royal Australian Corps of Military Police, Security Police of the Royal Australian Air Force and members of the Australian Defence Force Investigative Service.

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This Publication may contain

SAFETY NOTICES or WARNING PAGES

if so, please read before using this publication

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DEFENCE AVIATION SAFETY MANUAL

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CHANGE STATUS PAGE

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NOTES TO READERS

The *Defence Aviation Safety Manual* (DASM), issued as an Australian Air Publication (AAP), is authorised by CAF noting that the other two services have endorsed the DASM as the corporate procedures to be used by Defence personnel involved in all areas of aviation safety management. It is issued only in electronic format.

The DASM deals exclusively with aviation safety and is the prime reference source for aviation safety in Defence. It details the Defence Aviation Safety Management System (ASMS) and provides both policy and guidance. Section 2 contains policy (ie compliance is mandatory). Section 3 contains guidance, explanation, best practices and interpretation. Both sections comprise 12 chapters which reflect the 12 elements of the Defence ASMS. Section 4, which deals with a discrete topic for a somewhat limited readership, contains both policy and guidance. The word 'must' is used in the imperative sense throughout the manual. The word 'may' is used in the permissive sense to state authority or permission to do the act prescribed.

The three Services, and indeed, individual FEGs, may have slightly different requirements with regard to the implementation of aviation safety management. Any differences in application between the Services are noted where required. The term FEG, when used in this manual, includes the Fleet Air Arm, 16th Aviation Brigade and Army Aviation Training Centre. The term 'all commanders' when used in this manual refers to the three environmental commanders, FEG commanders, officers commanding wings, unit commanders and sub-unit commanders.

AMENDMENTS INCORPORATED AT AL 9

The following paragraphs detail the changes incorporated at AL 9.

Section 2

Chapters 3, 4, 6, 8, 9, 11, and 12 have had minor changes to reflect DDAAFS' name change to DFSB.

Section 2, Chapter 7

Minor changes have been made to align with the new Section 3 Chapter 7.

Section 3

Chapters 3, 4, 6, 8, 9, 10, 11, and 12; Annexes A to I Chapter 3, A Chapter 9, A, B, C and E Chapter 10; and A Chapter 11 have all had minor changes to reflect DDAAFS' name change to DFSB.

Section 3, Chapter 7

Chapter 7 and associated annexes have been completely rewritten with new annexes. All old annexes and appendixes have been deleted except for Annex B which has been retitled Annex C.

Section 4

Chapters 2 and 3 have had minor changes to reflect DDAAFS' name change to DFSB.

List of Abbreviations

Minor changes to reflect DDAAFS' name change to DFSB.

SPONSOR

As the pre-eminent centre of expertise regarding aviation safety in Defence, the Defence Flight Safety Bureau (DFSB) is the sponsor for the DASM. The DASM will remain a dynamic document and everyone is asked to play an active part in contributing to its continuing improvement and applicability.

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It is certified that the amendments promulgated in the undermentioned Amendment Lists have been incorporated in this copy of the Publication:

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7	29 Jun 17	Pauline Clevett	P.Clevett	3 Jul 17
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FOREWORD

1. In line with Joint Directive 24/2016 *The Defence Aviation Safety Framework*, I have been appointed as the Defence Aviation Authority with accountability to the Chief of the Defence Force and Secretary of the Department of Defence for the regulation and oversight of all aspects of Defence Aviation. I am committed to a Defence Aviation Safety Framework that recognises and supports compliance with statutory safety obligations, and ensures that Defence Aviation remains responsive to emerging safety challenges, while enabling aviation capabilities in defence of Australia's national interests to be fully exploited.

2. Contemporary safety practice recognises the need for a comprehensive safety management system and, indeed, our Defence Aviation Safety Regulations require the establishment of an aviation safety management system (ASMS). This manual provides both policy and guidance to assist in the implementation and maintenance of the Defence ASMS.

3. Defence Aviation must give safety management the priority it deserves and ensure that the lead element of the Defence ASMS, 'Genuine Command Commitment', is enacted at all levels. However, our entire workforce needs to be equally committed if the health and safety of our people is to be an integral part of our day-to-day business.

4. Underpinning our command commitment to aviation safety is our safety culture. Safety culture is the glue that holds our ASMS together. Traditionally, the primary objective of safety has been to avoid negative consequences—harm to personnel, damage to equipment, reputation loss etc. However, organisational experience and research demonstrates that safety culture and the overall performance of an organisation are tightly interwoven. Establishing and maintaining a robust safety culture offers significant operational benefits by enabling organisations to more effectively deploy resources and manage risk.

5. Military aviation operations, exercises and training by their nature must involve some level of risk to achieve success, but our planning and execution must be thorough to ensure that risks are eliminated or otherwise minimised so far as is reasonably practicable to achieve each mission. Risk management must be an essential part of our culture and processes. In peacetime training or in conflict the loss of any of our people or an aircraft in an aviation accident is not acceptable.

GN Davies, AO, CSC
Air Marshal
Defence Aviation Authority

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SECTION 1

CHAPTER 1

DEFENCE AVIATION SAFETY MANAGEMENT

INTRODUCTION

1. Joint Directive (JD) 24/2016 by CDF and SECDEF establishes the Defence Aviation Safety Framework for the management of aviation safety within Defence. Within that framework the Defence Aviation Safety Authority (DASA) is required to implement a Defence Aviation Safety Program that promotes a generative safety culture and assures the effective management of aviation safety risks. Within the safety framework the responsibility for ensuring the safe operation of aviation systems rests with the command chain. The Defence Aviation Safety Management System (ASMS) is to be used by commanders to meet their aviation safety responsibilities.

2. This manual contains the Defence approved corporate procedures to be used by Defence personnel involved in all areas of aviation safety management. The expectation is that Military Air Operators (MAO), military Continuing Airworthiness Management (CAM) organisations, and military Part 145 organisations will adopt these procedures. which are promulgated to promote efficiency and consistency of Defence aviation safety management and are endorsed by individual Service command authorities.

DEFENCE AVIATION SAFETY MANAGEMENT SYSTEM

3. What is an ASMS? An ASMS is a systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies, procedures and plans. Aviation safety is progressed when the ASMS is coupled with the positive attitudes, beliefs, values and practices of the personnel within an organisation.

4. Objective. The objective of the Defence ASMS is to preserve human and materiel resources and enhance the well-being of personnel through continuous improvements in aviation safety management.

5. Defence ASMS. ASMSs within Defence are implemented through the chain of command and are the vehicles through which the requirements of the Defence ASMS are implemented. Each level of command will have an ASMS which mirrors and complements the Defence ASMS. This manual provides the wherewithal for commanders to implement their ASMS which forms part of the overarching Defence ASMS.

6. Scope. The Defence ASMS applies to all Defence Aviation activities[1], Defence Personnel and External Service Providers who may detect, contain or eliminate hazards in Defence Aviation. All Defence Personnel and External Service Providers, regardless of employment or specialisation, may be involved with Defence Aviation to varying degrees and therefore have an integral role in the ASMS.

7. The Defence ASMS comprises 12 elements as follows:

- **a.** Genuine Command Commitment,
- **b.** A Generative Safety Culture,
- **c.** A Defined Safety Organisation Structure,
- **d.** Communication,
- **e.** Documented Safety Policy,
- **f.** Training and Education,
- **g.** Risk Management,
- **h.** Hazard Reporting and Tracking,
- **i.** Investigation,
- **j.** Emergency Response,
- **k.** Survey and Audit, and
- **l.** Aviation Safety Management System Review.

[1] Requirements for Defence design organisations are currently under development.

STRUCTURE AND CONTENT OF THIS MANUAL

8. Section 1 provides an introduction to the Defence ASMS.

9. Section 2 contains the policy (mandatory requirements) for the implementation or maintenance of an ASMS. In other words this section provides the 'what must be done' with regards to an ASMS.

10. Section 3 provides additional information to assist in the application of the policy by providing a consistent range of guidance, explanation, best practices and interpretations. In general, this section provides the 'how to' with regards to an ASMS.

NOTE

- Compliance is mandatory in those instances where parts of Section 3 contain interpretation or explanation of policy.

11. Section 4 provides content from the withdrawn ADFP 731—*Medical Guide to Aircraft Accident/Incident Investigation.* It deals with a discrete (though related) topic for a somewhat limited readership and contains both policy and guidance.

ROLE OF THE DIRECTORATE OF DEFENCE AVIATION AND AIR FORCE SAFETY (DDAAFS)

12. DDAAFS is accountable to the Defence Aviation Authority (Defence AA) for matters concerning aviation safety and for assisting Defence personnel throughout the chain of command with advice and expertise to successfully implement and maintain their ASMS.

SECTION 2

CHAPTER 1

GENUINE COMMAND COMMITMENT

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 1 of the Defence ASMS is Genuine Command Commitment.

2. The whole ethos of Defence's attitude to safety – the Defence safety culture – is established from the outset by the extent to which commanders accept responsibility for safe operations, particularly the proactive management of risk. Regardless of the size, complexity or type of operation, there is no doubt that command determines the safety culture. Without a commander's whole-hearted commitment, any safety management system will be ineffective. The success of any ASMS is based on three critical components:

a. Safety must be recognised as a priority within the organisation.

b. Command must be committed to improving safety standards.

c. Appropriate resources must be allocated for safety management.

3. Accordingly, commanders must display the leadership and commitment necessary to support an enduring and effective ASMS within their respective organisation.

PURPOSE

4. This chapter provides policy on the implementation of Element 1 (Genuine Command Commitment) of the Defence ASMS.

REQUIREMENTS

5. Commanders at all levels must demonstrate genuine command commitment to ensure the implementation and success of the Defence ASMS and the ASMS of their organisation. In order to meet this requirement commanders must:

a. Ensure the structures and processes of their organisation's ASMS align with and support the 12 elements of the Defence ASMS.

b. Ensure the requirements outlined in the DASM (Section 2) are met by their organisation.

c. Provide the resources (human and materiel) and support required to maintain the ASMS(s) within their organisation. This includes, but is not limited to the following:

(1) All safety positions are filled with appropriately trained and qualified personnel.

(2) Succession planning is provided for all safety positions.

(3) Commit appropriate personnel to Aviation Safety Officer (ASO) training to cover succession planning.

(4) ASMS requirements and activities (e.g. aviation hazard reporting and tracking, aviation safety event investigation, safety audits, safety standdowns) are supported and adequately resourced.

(5) The necessary resources and support are provided to eliminate or otherwise minimise risk so far as is reasonably practicable (SFARP).

d. Ensure documentation and procedures relating to aviation safety policy and processes (e.g. Standing Instructions, Unit Orders) are adequate and reviewed at least every three years.

e. Promulgate and clearly display[1] a commander's aviation safety policy statement within one month of taking command.[2]

f. Clearly display[1] all higher command guidance and policy with respect to aviation safety.

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[1] The requirement to 'clearly display' may be met by use of a web page.

[2] An example commander's aviation safety policy statement is provided in Section 3 Chapter 5 Annex A.

g. Clearly articulate to all executives and supervisors that aviation safety is embedded in all aspects of Defence Aviation activities.

SECTION 2

CHAPTER 2

A GENERATIVE SAFETY CULTURE

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 2 of the Defence ASMS is A Generative Safety Culture. Safety culture represents and influences the way in which safety is managed and prioritised in the organisation, and reflects the attitudes, beliefs, perceptions and values that personnel share in relation to safety. Defence Aviation strives for a 'generative safety culture' wherein safety performance is maximised and safety behaviour is fully integrated into everything the organisation does.

PURPOSE

2. This chapter provides policy on the implementation of Element 2 (A Generative Safety Culture) of the Defence ASMS.

REQUIREMENTS

3. Commanders at all levels must engender a generative safety culture throughout their organisation. To achieve this they must undertake the following:

a. Take responsibility for the safety culture within their command.

b. Understand and educate their subordinates on what constitutes a generative culture.

c. Ensure all members can raise safety issues without fear or favour.

d. Maintain robust reporting mechanisms to facilitate the communication of safety issues by all personnel.

e. Maintain robust feedback mechanisms to ensure personnel are aware of management's response to aviation safety issues raised.

f. Ensure all raised aviation safety issues and suggestions are considered by the relevant Aviation Safety Committee or the appropriate executive/s.

g. Ensure just and fair treatment of human error and violation.

h. Encourage all personnel to actively search for improvements to aviation safety.

i. Demonstrate the characteristics of a generative safety culture.

j. Acknowledge safety-enhancing behaviour.

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SECTION 2

CHAPTER 3

A DEFINED SAFETY ORGANISATION STRUCTURE

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 3 of the Defence ASMS is A Defined Safety Organisation Structure.

2. A defined safety organisation structure ensures that commanders have an appropriate structure in place to support their ASMS, which incorporates documented duties, responsibilities and chains of command, and is staffed by appropriately trained personnel. Commanders should ensure that all members are aware of who is allocated which ASMS duties. The safety organisation structure will be embedded throughout the chain of command and supported by the Defence Flight Safety Bureau (DFSB).

PURPOSE

3. This chapter provides policy on the implementation of Element 3 (A Defined Safety Organisation Structure) of the Defence ASMS.

REQUIREMENTS

4. Commanders must structure and resource their organisation (including subordinate units if applicable) to support their ASMS. Commanders must also ensure the following:

a. All members with aviation safety responsibilities have promulgated duty statements.

b. Responsibilities for emergency response are allocated and promulgated.

c. Procedures are established and maintained that support hazard identification, reporting, investigation and risk management.

5. COMAUSFLT, COMD FORCOMD and ACAUST must ensure the following requirements are met:

a. If appropriate to the Command structure, appoint a Command Aviation Safety Officer (CASO for Air Command).

b. If appropriate to the Command structure, appoint a Command Maintenance and Engineering Aviation Safety Officer (CMEASO for Air Command).

6. Force Element Group commanders (FEGCDRs)/Military Air Operators (MAOs) must meet the following requirements:

a. If appropriate to the FEG structure, appoint an appropriately qualified Group Aviation Safety Officer (GASO). This is to be the selected member's primary duty and other duties are to be minimal.

NOTE

- For some FEGs, allocation of GASO duties at the wing/regiment level, or based on weapons systems may be more appropriate. Depending on FEG requirements, the duties and responsibilities of the GASO and Wing/Regiment Aviation Safety Officer (WASO/RASO) may be combined in the one position.

b. Appoint a FEG Hazard Tracking Authority (HTA) for each Aviation System.

c. Establish an Aviation Hazard Review Board (AHRB) under the auspices of the HTA for each Aviation System. The AHRB must meet at least biannually. (Refer Section 2 Chapter 8 for further detail regarding AHRBs.)

7. Requirements for wing/regiment commanders (OC WG/Regt CO) include the following:

a. If appropriate to the wing/regiment structure, appoint an appropriately qualified WASO/RASO. This is to be the selected member's primary duty and other duties are to be minimal.

b. Establish an Aviation Safety Committee (ASC) that meets at least biannually. (Refer to Section 2 Chapter 4 for further detail regarding ASCs.)

8. Unit commanders, must ensure the following requirements are met:

a. Appoint an appropriate number of UASO positions to support the ASMS. UASO(s) are to have no other secondary duties.

b. For units with embedded maintenance personnel, appoint an appropriate number of Maintenance Aviation Safety Officers (MASO). While MASOs may have other secondary duties or responsibilities these must not conflict with or impair their safety role.

c. For units with a contracted workforce, encourage the contractor to be an active participant in the unit's ASMS and to nominate a responsible person as the Safety Liaison Officer (SLO).

d. Promulgate clearly to all personnel, which members are responsible for the various aspects of the ASMS. All members should be aware of supervisor responsibilities for aviation safety and the identity and contact details of key aviation safety personnel.

e. Establish an ASC that meets at least biannually. (Refer Section 2 Chapter 4 for further detail regarding ASCs.)

9. Requirements for base/station commanders[1] of Defence bases/stations[2] that host flying operations, are as follows:

a. Appoint an appropriately qualified Base Aviation Safety Officer (BASO) responsible for supporting and managing all aspects of the base ASMS. The selected member is to have no other secondary duties.

NOTE

- NAS Nowra BASO duties are conducted by LCDR (Flying).

b. Establish an ASC that meets at least biannually. (Refer Section 2 Chapter 4 for further detail regarding ASCs.)

10. MAOs of ADF projects conducting flying operations, must meet the following requirements:

a. Dependent on the project workforce structure, appoint a HTA.

b. Dependent on the project workforce structure, establish an AHRB that meets at least biannually. (Refer Section 2 Chapter 8 for further detail regarding AHRBs.)

c. Dependent on the project workforce structure, appoint an appropriately qualified UASO (for projects utilising ADF aircrew for flying operations). Invite the contractor to nominate an aviation safety representative with UASO responsibilities (for a contracted aircrew workforce).

d. Dependent on the project workforce structure, appoint an appropriately qualified MASO (for projects utilising ADF maintenance personnel to support flying operations). Invite the contractor to nominate an aviation safety representative with MASO responsibilities (for a contracted maintenance workforce supporting flying operations).

[1] In this chapter 'base/station commander' refers to the officer who commands or has authority over Defence agencies that would respond to an airfield emergency.
[2] Base/station is used in a broad sense here to describe RAAF Bases, Naval Air Stations, Army Airfields and Barracks, and any other type of site which may host flying operations.

SECTION 2

CHAPTER 4

COMMUNICATION

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 4 of the Defence ASMS is Communication.

2. An effective ASMS relies on good communication throughout the command chain and within units, from the highest to the lowest levels. The structure of the organisation will shape the lines of communication. Commanders must establish and promulgate a safety information communication strategy, using all available tools that are practicable for their command. All members of the command should know how important information will be communicated to them and where to find it.

3. Commanders' recognition (by way of awards and the like) of personnel who make a significant contribution to aviation safety standards is an integral part of an effective ASMS.

PURPOSE

4. This chapter provides policy on the implementation of Element 4 (Communication) of the Defence ASMS.

REQUIREMENTS

5. Commanders at all levels must establish and promulgate a safety information communication strategy, using all available tools that work for their command. This strategy must include:

a. promulgation and prominent display of the commander's aviation safety policy statement;

b. prominent display of all higher commanders' aviation safety guidance and policy statements;

c. regular reiteration of policy regarding open and honest reporting of errors, hazards and aviation safety events;

d. promulgation, and regular exercise of, a process for rapidly and accurately disseminating urgent aviation safety information to all personnel;

e. utilisation of available communication means (e.g. Email, briefings) to communicate and control aviation safety information;

f. dissemination of pertinent aviation safety information;

g. regular communication with the relevant staff in DFSB; and

h. regular communication with the Command Aviation Safety Officer and the Command Maintenance and Engineering Aviation Safety Officer (or their equivalents).

NOTE

- Communication with DFSB and the associated Command ASO and Command Maintenance and Engineering ASO is to include and ensure the provision of advanced notification and consultation for planned activities such as safety standdowns, Aviation Hazard Review Boards (AHRBs), wing/regiment aviation safety committee (WASC/RASC) meetings to enable DFSB/Command ASO attendance and/or support of such activities. For DFSB, this communication is to be via the group e-mail ddaafs@defence.gov.au.

6. Unit commanders must meet the following requirements:

a. Ensure appropriate media is used to provide personnel with ready access to aviation safety information, including (for example):

(1) this manual and covering Defence Instructions (DIs);

(2) minutes of unit and wing/regiment/base Aviation Safety Committee (ASC) meetings;

(3) urgent aviation safety information; and

(4) details of safety appointments.

b. Ensure results of audits along with the commander's planned response are released promptly to all personnel.

7. Commanders who are required to establish an ASC[1] must adopt the following procedures:

a. Meetings of the ASC are to be held at least biannually.

b. Copies of minutes of the meeting are to be sent to parent command headquarters and DFSB. The BASC/SASC must also send a copy of their meeting minutes to all aviation units on base.

c. When aviation safety issues are identified during ASC meetings:

(1) an appropriate action item is to be raised;

(2) an action officer is to be identified;

(3) a specified time is to be allowed for investigation, staffing and action as required by the meeting, and officers constituting the committee are to be advised of results within that timeframe; and

(4) results are to be sent for information to those agencies which receive minutes of the committee meeting.

8. Commanders must recognise personnel who make a significant contribution to aviation safety. Some examples of awards given in recognition are:

a. The Good Show Award[2] recognises an individual for a specific act which prevented, or in other circumstances could conceivably have prevented, a significant safety event involving an aircraft.

b. A FEG, wing or unit safety award can be used by any commander to recognise the actions of personnel, when their actions positively affect aviation safety. Such awards can be of any nature the commander finds suitable.

c. Navy Safety Awards, Army SAFE Awards and Air Force Safety Awards.

d. The Royal Aeronautical Society (RAeS) Aviation Safety Award recognises an individual or collective effort which enhances aviation safety in Defence.

[1] See Section 2 Chapter 3 for details of commanders who are required to establish an ASC.

[2] Navy equivalent is the Defence Aviation Safety Bravo Zulu (BZ) Award.

SECTION 2

CHAPTER 5

DOCUMENTED SAFETY POLICY

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 5 of the Defence ASMS is Documented Safety Policy.

2. An effective ASMS must be supported by robust, current and documented policy. Commanders at all levels must ensure that relevant documentation is available to all personnel, and adequately managed. Documents can be in any medium so long as they are accessible, useful and easily understood.

PURPOSE

3. This chapter provides policy on the implementation of Element 5 (Documented Safety Policy) of the Defence ASMS.

REQUIREMENTS

4. Commanders at all levels must ensure relevant safety-related documentation in support of the organisation's ASMS is comprehensive and current. The following requirements must be met:

a. Documents are to be reviewed at least every three years and revised as necessary.

b. Obsolete documents and data are to be removed promptly from all points of issue and points of use to ensure against unintended use.

c. Archival documents and data retained for legal or knowledge preservation purposes or both are to be suitably identified.

d. Amendment status of documentation is to be recorded.

5. Commanders must ensure that relevant safety-related documentation supporting the organisation's ASMS is available to all personnel. The current versions of relevant documents are to be available at all locations where operations essential to the effective functioning of the ASMS are performed. Examples of relevant documentation include but are not limited to:

a. DI(G) OPS 02–2—*Defence Aviation Safety Program*

b. AAP 6734.001—*Defence Aviation Safety Manual*

c. AAP 7001.048—*Defence Aviation Safety Program Manual*

d. AAP 8000.010(AM1)—*Defence Operational Airworthiness Manual*

e. eTAMM AAP 7001.053(AM1)—*Electronic Technical Airworthiness Management Manual*

f. single-Service aviation safety policy documents, where applicable

g. the commander's aviation safety policy statement

h. a document detailing the organisation's ASMS, including the structure, duty statements, appointments and responsibilities

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SECTION 2

CHAPTER 6

TRAINING AND EDUCATION

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 6 of the Defence ASMS is Training and Education. Whereas safety event investigations are reactive tasks in the ASMS, training and education are proactive in nature. Effective training and education enables the ASMS objectives to be met by ensuring that all personnel who conduct or directly support aviation operations are appropriately trained and competent to perform their safety-related duties.

2. The Defence ASMS education and training framework is designed to support command obligations in relation to knowledge, understanding, awareness and skilling of Defence personnel required under Defence and single-service WHS policy.

PURPOSE

3. This chapter provides policy on the implementation of Element 6 (Training and Education) of the Defence ASMS.

REQUIREMENTS

4. All commanders must implement a training and education program. The following requirements must be met:

a. Ensure that all subordinates are provided with aviation safety training appropriate to each individual's responsibilities and involvement in the ASMS.

b. Ensure that initial and continuation training requirements, responsibilities for development of training content and scheduling as well as training records management are captured within the appropriate level ASMS documentation.

c. Ensure that safety training addresses specific issues encountered in local contexts.

d. Take appropriate action to measure the effectiveness of safety education and training activities and to improve training where necessary.

e. Monitor compliance with relevant training and education instructions.

5. Commanders of organisations providing initial and advanced aviation and aviation-related training courses must ensure that relevant aviation safety training is included in such training. The following requirements must be met:

a. Training courses must incorporate dedicated aviation safety modules or include aviation safety elements.

b. Risk Management (RM) and Aviation Non-Technical Skills (NTS) training modules must be incorporated in initial, type conversions (or equivalent) and refresher training courses.

6. FEG Commanders (FEGCDRS)/Military Air Operators (MAOs) must ensure their subordinate aircrew, Joint Battlefield Airspace Control Officers (JBAC), Unmanned Aerial System (UAS) operators, aerospace engineering officers and aircraft maintenance personnel are trained and current in RM and Aviation NTS. When considered necessary, other aviation related categories should include this training in their curriculum and follow the policy guidelines. Requirements are as follows:

a. RM continuation training (otherwise called mandatory, compliance or re-currency training) is to be completed at intervals of not more than two years.

b. Aviation NTS continuation training is to be completed at intervals of not more than two years.

7. Commanders of units operating Aviation Systems must ensure that all members allocated ASMS duties have appropriate training. This requirement includes:

a. nominating personnel for aviation safety training courses, to ensure that the organisation is able to meet resource requirements;

b. ensuring members have completed prerequisite training before undertaking ASMS management duties (eg ASO (I) Course for Unit Aviation Safety Officers (UASOs) and Maintenance Aviation Safety Officers (MASOs));

c. ensuring that members' completion of appropriate training is recorded in PMKeyS; and

d. ensuring that the unit has at least one trained UASO and, if the unit incorporates an Approved Maintenance Organisation (AMO), a MASO (for Service AMOs) or Safety Liaison Officer (SLO) (for civilian AMOs).

NOTE

- Commanders may also appoint assistant safety/liaison officers as required (eg for large units or those operating more than one aircraft type).

8. Commanders of units operating Aviation Systems must ensure an ongoing safety education program is established. Examples of activities which serve to meet this requirement are:

a. prominent display (or distribution) of appropriate aviation safety related material, for example:

(1) Defence, civil and foreign military aviation safety publications;

(2) aviation safety web-site addresses including the DFSB web-site; and

(3) pertinent hazard reports and Aviation Safety Reports (ASRs);

b. conduct of regular aviation safety issue briefings to unit personnel; and

c. conduct of biannual aviation safety standdowns where all available unit personnel attend and aviation activities (including maintenance) on the standdown day are minimised.

9. DFSB is to provide training and support to satisfy ASMS objectives. This includes:

a. provision of training for:

(1) ASO (I) Course;

(2) Aviation Safety Officer (Advanced) (ASO (A)) Course;

(3) Aviation Incident Investigation Course;

(4) Aviation NTS Trainer Course;

(5) Aviation NTS Foundation Course;

b. support to other Defence ASMS training including:

(1) control of RM training content;

(2) Aviation NTS continuation training content; and

c. PMKeyS reporting of DFSB training course attendees successfully completing that training.

NOTE

- DFSB is available to provide advice and support to prepare personnel selected to perform duties as a member of a Chief of the Defence Force Commission of Inquiry (CDFCOI), or Board of Inquiry (BOI) inquiring into an aviation accident.

SECTION 2

CHAPTER 7

RISK MANAGEMENT

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 7 of the Defence ASMS is Risk Management (RM).

2. The effective management of risk is an integral part of all Defence activities. The aim of RM is to support the successful achievement of the Defence mission in a manner that enhances air power and readiness whilst mitigating the risk of harm to personnel, preventing the loss of or damage to equipment, and damage to the reputation of the organisation.

3. The WHS Act enshrines the principle that workers and other persons should be given the highest level of protection against harm to their health and safety from hazards and risks arising from work. The WHS Act imposes a legal obligation on all Defence personnel to ensure health and safety by:

a. eliminate risk to health and safety, so far as is reasonably practicable; and

b. if it is not reasonably practicable to eliminate risks to health and safety, then those risks must be minimised so far as is reasonably practicable.

PURPOSE

4. This chapter provides policy on the implementation of Element 7 (Risk Management) of the Defence ASMS.

REQUIREMENTS

5. All commanders must implement RM within their commands. The following requirements must be met:

a. FEG Commanders (FEGCDRs)/Military Air Operators (MAOs) are to ensure each wing or subordinate element has an Aviation Risk Register, which details applicable risks, their treatments, and a decision to proceed undertaken by a Risk Management Authority consistent with the level of residual risk.

b. FEGCDRs/MAOs are to ensure each wing or subordinate element has a documented fatigue related risk policy[1].

c. Maintain a register of noteworthy risks[2] within the command.

d. Ensure the availability of working-level instructions that identify the methods by which subordinate commanders apply appropriate RM including RM review processes and exception reporting.

e. Ensure application of RM in decision-making and planning.

f. Produce Mission Risk Profiles (MRP) and Risk Management Plans (RMP) and ensure their integration into aviation activities.

g. Monitor compliance with relevant RM instructions by subordinates.

h. Appoint a suitably qualified person to ensure RM processes are monitored and reviewed.

i. Ensure that RM assessments are reviewed periodically according to the nature of the risk. For noteworthy risks, this period is not to exceed 12 months; for other risks, the period is not to exceed 24 months.

j. Ensure RM orders, instructions and procedures are reviewed at least every three years.

[1] Guidance on managing fatigue related risk can be found on the DFSB website.

[2] Refer Sect 3 Chap 7 for definition of a noteworthy risk.

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SECTION 2

CHAPTER 8

HAZARD REPORTING AND TRACKING

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 8 of the Defence ASMS is Hazard Reporting and Tracking.

2. Hazard reporting and tracking is both a proactive and reactive process that occurs either when a hazard is identified in the workplace (proactive), or after a hazard has resulted in an aviation safety event (reactive). The process involves reporting the hazard or event, investigating the hazard/event, establishing contributing factors and defences, framing actions and recommendations, and establishing and tracking actions taken to prevent the hazard resulting in an event or to prevent a recurrence.

3. The aim of any aviation hazard report is to document hazards to aviation safety, which have been discovered in the workplace/through an event investigation, and to make recommendations for commanders to assist them in controlling or eliminating identified hazards. The term 'hazard reporting' covers all safety reports used by the Defence ASMS, including Operational Hazard Reports (OPHAZs), Aviation Safety Reports (ASRs), and Confidential Incident Reports (CONFIRs). Chapter 9 provides more detail on the investigation of events.

4. Reporting a hazard or an event has very little safety value unless the report identifies recommendations and actions that will prevent an aviation safety event. Commanders must ensure that all actions and recommendations resulting from aviation safety hazard and event reports are actioned in reasonable timeframes. The Aviation Safety Reporting Tool in Sentinel provides tools and mechanisms to facilitate this process.

PURPOSE

5. This chapter provides policy on the implementation of Element 8 (Hazard Reporting and Tracking) of the Defence ASMS.

REQUIREMENTS

6. All commanders must proactively manage hazards. To achieve this they must:

a. Encourage and support open and honest reporting of hazards and aviation safety events by all personnel.

b. Ensure all reported hazards and events are treated in a just and fair manner; that is, personnel are responsible and accountable for their actions but the context within which those actions were made is taken into consideration.

c. Ensure the reporting of all aviation safety events is coordinated by a qualified ASO.

d. Review hazard reports and aviation safety reports of their unit and subordinate units to ensure the investigation is of the required standard, implemented actions and recommendations are effective, and potential trends that may necessitate remedial action have been identified.

7. FEG Commanders (FEGCDRs)/Military Air Operators (MAOs) have an additional requirement to establish a closed-loop system of review. To accomplish this they must:

a. Document instructions for the internal processing of all aviation safety reports. These instructions should include, but should not be limited to:

(1) any additional reportable occasions which may be type or equipment specific;

(2) the internal reporting chain, including guidance on the roles and requirements of individual positions within the group, wings/regiments, units and flights/detachments;

(3) guidance on investigation of hazards and events within the group; and

(4) the logging and tracking of hazards and hazard reduction measures specific to the group, its roles and operations, and aircraft type or type-specific equipment, using the Aviation Safety Reporting Tool in Sentinel.

b. Appoint FEG HTAs[1] for each Aviation System.

c. Establish an Aviation Hazard Review Board (AHRB), that meets at least biannually, under the auspices of the HTA for each Aviation System.

(1) The AHRB(s) must ensure all accepted recommendations are actioned to completion. Where this is not achieved, the AHRB shall inform the chain of command of further action required to achieve resolution. Similarly, if required actions are outside the HTA's authority or resources, the HTA recommendation and associated actions should be forwarded to the parent command for resolution.

(2) The AHRB(s) must validate risk assessment outcomes.

(3) Copies of AHRB minutes are to be sent to DFSB.

8. Commanders must utilise the Aviation Safety Reporting Tool in Sentinel to record, investigate, action, track, review and analyse Defence aviation safety events. Event reporting is to be within the required timeframes (specified in Section 3 Chapter 8).

9. Commanders must, where appropriate, notify other Defence and Commonwealth agencies in accordance with the reporting requirements and timeframes for certain aviation safety events to satisfy WHS management and Commonwealth-legislated requirements. (Refer to section 3 chapter 8 for specific reporting requirements.)

10. Commanders must ensure that all actions and recommendations resulting from OPHAZs and ASRs are communicated to relevant personnel and tracked to completion in a timely manner. When completion is not possible in the required timeframes, the relevant FEG HTA is to be advised.

11. DFSB must manage and regulate access to the Aviation Safety Reporting Tool in Sentinel as well as facilitate effective interpretation of data and related safety performance metrics.

[1] In Air Force the FEG HTA is typically the Wing Officer Commanding. The HTA in Navy is COMFAA and the HTA in Army is DG Avn.

SECTION 2

CHAPTER 9

INVESTIGATION

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 9 of the Defence ASMS is Investigation.

2. The prevention of harm to personnel and the preservation of valuable operational assets are important goals of Defence Aviation. To aid in achieving these goals, the factors contributing to aviation safety events must be identified so that measures are taken to mitigate risk and to reduce the probability of recurrence. An aviation safety investigation does not apportion blame or determine liability.

3. Determination of the contributing factors in an event requires the conduct of a structured and effective investigation. All investigations must include safety recommendations that reduce the probability of recurrence. The investigation report is released as an Aviation Safety Report (ASR) using the Aviation Safety Reporting Tool in Sentinel. A separate report will also be produced for Class A event investigations and, if required, some Class B event investigations.

PURPOSE

4. This chapter provides policy on the implementation of Element 9 (Investigation) of the Defence ASMS.

REQUIREMENTS

5. Commanders are responsible for ensuring effective and timely investigation of aviation safety events. To achieve this they must:

a. ensure investigating officers are provided adequate training, support and resources to complete the investigation in accordance with the requirements of this manual;

b. ensure event notification and reporting timeframes listed in this manual are adhered to;

c. ensure all investigations include appropriate safety recommendations enabling measures to be undertaken that reduce the probability of recurrence; and

d. ensure accepted safety recommendations resulting from investigations are tracked to completion using the Aviation Safety Reporting Tool in Sentinel.

6. For those events which have an associated investigation (ie investigation has not been bypassed in the ASR tool in Sentinel) the following requirements must be met:

a. Wing/Regiment/Fleet Air Arm commanders (OC WG/Regt CO/COMFAA), are to review ASRs of subordinate units to ensure the investigation and reporting is of the required standard.

b. Unit commanders are to:

(1) appoint investigating officers who have experience and demonstrated competence in conducting aviation safety investigations; and

(2) seek specialist advice or investigative support (e.g. WASO/RASO/FASO or DFSB) when the scope of the investigation is beyond unit capability.

NOTE

- If an experienced and competent investigating officer is not available, then, as an alternative, a member who is briefed and/or mentored by an ASO trained investigator on the investigation and reporting process/methodology may be appointed.

7. For Class B events, MAOs must engage DFSB to conduct an independent investigation. Depending on the nature and circumstances of the event, DFSB may decide not to undertake the investigation. In this case the MAO must:

a. consult with DFSB (Director or Deputy Director Safety Investigation) to determine:

(1) whether an Aviation Safety Investigation Team (ASIT) needs to be appointed;

(2) the composition of the ASIT (if appointed);

(3) what level of external assistance/participation is required (e.g. DFSB, DSTG etc); and

(4) the most appropriate Terms of Reference (TOR) for the investigation;

b. ensure the investigation is conducted by an investigator/investigation team independent of the event unit;

c. ensure the appointed lead investigator is ASO-trained or is a qualified Aviation Safety Investigator (ASI); and

d. review the ASR (and separate investigation report if produced) to ensure the investigation and reporting is of the required standard.

8. For Class A events, MAOs must engage DFSB to conduct an independent investigation.

NOTE

- The Appointing Authority for an ASIT investigating a Class A event will be the applicable Service Chief.

9. The protection of perishable and/or erasable data is critical to the success of any investigation. In the event of an aviation safety event the flight recorder equipment from all aircraft involved is to be quarantined IAW the instructions provided in Section 3 Chapter 9 Annex I of this manual. Policy relating to flight recorder equipment can be found in; ORO.85-Flight Recorder and Locating Equipment, AAP 7001.054—*Electronic Airworthiness Design Requirements Manual* and Section 3 Chapter 9 Annex I of this manual.

10. DFSB is to provide specialist advice and support to aviation safety investigations as required.

SECTION 2

CHAPTER 10

EMERGENCY RESPONSE

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 10 of the Defence ASMS is Emergency Response.

2. One of the goals of Defence is to achieve zero aviation significant safety events resulting from organisational and systemic deficiencies. Notwithstanding this goal, Defence must be prepared to respond to accidents involving Defence Aviation assets, both in Australia and in foreign locations.

3. Defence aviation organisations at all levels must have appropriate emergency response plans in place with suitably trained and equipped personnel to respond immediately and effectively to aviation emergencies, including significant safety events.

4. Worst case emergency planning as a philosophy has definite advantages and should be the planning philosophy adopted. If all **realistic** circumstances are considered, unforeseen difficulties or deficiencies will be minimised in emergency situations.

PURPOSE

5. This chapter provides policy on the implementation of Element 10 (Emergency Response) of the Defence ASMS.

REQUIREMENTS

6. Commanders[1] of Defence facilities that host flying operations must ensure preparedness for appropriate response to emergencies. To achieve this they must:

a. Promulgate, regularly review and exercise at least annually (either partial, desk-top or full-scale) an Aerodrome[2] Emergency Plan (AEP). A full-scale exercise involving all parties must be conducted at least every two years. The AEP is to:

(1) consider emergencies involving all aircraft that operate into the aerodrome, and

(2) outline all duties and responsibilities for relevant staff.

b. Ensure an aerodrome emergency response kit (‘crash kit’) is compiled and maintained with appropriate equipment necessary for response to an aviation emergency, including significant safety events, on or near the aerodrome.

7. Unit commanders must ensure preparedness for appropriate response to emergencies. To achieve this they must:

a. Promulgate, regularly review and exercise at least annually (either partial, desk-top or full-scale) a Unit Emergency Plan (UEP).[3] A full-scale exercise involving all parties must be conducted at least every two years. The UEP is to:

(1) dovetail with the home aerodrome’s AEP,

(2) consider emergencies involving the unit on deployments and operations, and

(3) outline all duties and responsibilities for relevant unit staff.

b. Ensure a unit emergency response kit (‘crash kit’) is compiled and maintained with appropriate equipment necessary for response to an aviation emergency, including significant safety events, involving the unit.

c. Provide appropriate unit representation for AEP exercises applicable to the unit.

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[1] In this chapter ‘Commanders of Defence facilities that host flying operations’ refers to the officer who commands or has authority over Defence and/or other agencies that would respond to an airfield emergency.

[2] ‘Aerodrome’ includes all Defence facilities that are capable of launch and recovery of manned and/or Category 1 and/or 2 unmanned aircraft.

[3] If possible conduct the UEP exercise in conjunction with an airfield emergency response exercise.

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SECTION 2

CHAPTER 11

SURVEY AND AUDIT

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 11 of the Defence ASMS is Survey and Audit.

2. Conformity and compliance is achieved through a program of aviation safety surveys and compliance audits. These management tools form a critical part of the feedback loop within the Defence ASMS.

3. Aviation safety surveys are used to measure individuals' perceptions of the organisation's systems, policies, practices, and procedures thereby enabling an assessment of the collective attitudes and beliefs of personnel within that organisation. The goals of aviation safety surveys are to measure and improve the safety culture and effectiveness of the organisation's ASMS, and to assist in hazard identification. Ultimately the goal is to reduce the number of aviation safety events. An aviation safety survey is an important part of the review, reporting and improvement processes that support the Defence ASMS.

NOTE

- The DFSB Snapshot Survey is designed to support commanders in the management of safety culture in their unit, as well as provide feedback on a range of factors that impact the safety and wellbeing of personnel. It meets the survey requirements of the Defence ASMS as well as the Air Force Work Health and Safety Management System (RAAFSafe).

4. Aviation safety audits measure compliance – checking that the organisation's ASMS structure, procedures and practices comply with reference manuals and standards (ie policies accord with philosophies, procedures comply with policies, and that practices comply with procedures). COMAUSFLT, COMD FORCOMD and ACAUST are responsible for ensuring the ASMSs of their subordinate FEG/Wing/Units are audited to comply with the requirements of this manual.

PURPOSE

5. This chapter provides policy on the implementation of Element 11 (Survey and Audit) of the Defence ASMS.

REQUIREMENTS

6. Safety Survey program. Commanders must facilitate continuous improvement of safety culture and the effectiveness of the ASMS through an annual aviation safety survey of their workforce. If deemed necessary, periodic aviation safety surveys may also be conducted. Requirements are as follows:

a. Ensure a safety survey program is in place.

b. Ensure maximum survey participation is encouraged from subordinate unit personnel.

c. Ensure all personnel are given sufficient time and opportunity to complete the survey.

d. Survey reports are to be provided to Wing/Regiment subordinate units within 28 days of survey administration (DFSB are to be provided reports for those surveys not administered by DFSB).

e. Encourage subordinate unit commanders to promulgate survey results within 28 days of receipt to their chain-of-command and all unit personnel, and outline the commander's intended response to the survey results. There are multiple mechanisms that can be utilised for the promulgation and recording of survey results; including: tabling safety meeting discussions, back-briefs and dot point briefs. Importantly, all results should be contextualised and, where possible, alternate data sources (eg audit outcomes, aviation safety event data and workplace discussions) used to verify emerging patterns.

7. Audits. COMAUSFLT, COMD FORCOMD and ACAUST must ensure compliance with this manual and related subordinate orders and instructions through two-yearly audits. Requirements are as follows:

a. Ensure a compliance audit program is in place.

b. Ensure audits are conducted by personnel with the specified training and qualifications.

c. Ensure audits of FEGS and their subordinate elements are conducted at least two-yearly.

d. Ensure the audit team leader presents the FEG commander, subordinate commanders, and the Defence Aviation Safety Authority (DASA) with an audit report within one month of completion of the audit.

e. Ensure non-compliances and non-conformances identified in Corrective Action Requests (CARs) are rectified within the specified time periods and the relevant agencies notified.

f. Ensure a process to track CARs is in place.

SECTION 2

CHAPTER 12

AVIATION SAFETY MANAGEMENT SYSTEM REVIEW

INTRODUCTION

1. The Defence ASMS is based on 12 elements. Element 12 of the Defence ASMS is Aviation Safety Management System Review.

2. Defence must continue to evolve in its safety philosophy and processes by adapting world's best practice to suit the nature of Defence activities, or leading the thinking in this realm. The ultimate aim of aviation safety within Defence is the preservation of human and material resources to generate combat capability in all Defence Aviation operations through continuous improvement in aviation safety management.

3. Commanders must conduct regular reviews of their established ASMS to strive for continuous improvement and to ensure that the aims of the ASMS are being achieved. Regular review is also assisted through the conduct of Aviation Hazard Review Boards (AHRBs) (or equivalents), aviation safety committee meetings, surveys and audits. The results should be communicated widely both to all command/unit staff and the chain of command.

4. DFSB, as the sponsor of the DASM, will staff a review of Defence ASMS policy every 3 years.

PURPOSE

5. This chapter provides policy on the implementation of Element 12 (Aviation Safety Management System Review) of the Defence ASMS.

REQUIREMENTS

6. All commanders must ensure the effective implementation and continuous improvement of the ASMS through a program of ongoing review. The following requirements must be met:

a. Fulfil the requirements of DASM Chapter 11 in relation to the conduct of surveys and audits, and the implementation of any resulting recommendations.

b. Conduct a review of any safety trends/issues arising from event reports during aviation safety committee meetings, recording the actions arising from this review and reporting them to relevant elements of the chain of command.

c. Review information from AHRBs for applicability to their ASMS, recording the actions arising from this review and reporting them to relevant elements of the chain of command.

d. Document a periodic review of the organisation's ASMS policy and instructions.

7. DFSB must oversee and staff any necessary reviews of Defence ASMS policy. The requirements to be met are as follows:

a. Using the ASMS Continuous Improvement Process (see Section 3 Chapter 12), and with reference to the stated goals of the Defence ASMS, conduct a review of policy (including but not limited to this manual) for the Defence ASMS at least once every 3 years.

b. Review the results and reported activities of ASMS participants, including AHRBs, aviation safety committees, surveys and audits, to support the review and continual improvement of Defence ASMS policy.

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SECTION 3

CHAPTER 1

GENUINE COMMAND COMMITMENT

INTRODUCTION

1. Safety is a command responsibility. The commander at any level must take a personal interest in safety management and safety event prevention, since a commander's attitude and example will bear directly on the success of an Aviation Safety Management System (ASMS). An ASMS will only be successful if driven and championed by the commander. Command commitment to the ASMS is the single most important element to the system's success. The commander must accept the requirement for a robust ASMS and ensure all subordinates are aware of the command commitment to the ASMS.

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2.

DEMONSTRATING COMMITMENT TO THE ASMS

3. Commanders at all levels should have a good understanding of the Defence ASMS and its 12 elements. The commander is then well placed to ensure continued compliance with the requirements outlined for each element in Section 2 of this manual. A good understanding of the Defence ASMS will also help commanders to instil a commitment to aviation safety and the support of the ASMS within their unit/subordinate unit(s). With an understanding of what resources and support are required and why, the provision of such by commanders throughout the command chain should be more effective.

4. Some additional guidance for suggested actions and behaviours to demonstrate such commitment is as follows:

a. **Provision of Adequate Resources to Conduct Unit/Subordinate Unit(s) Activity.** Commanders should ensure their unit/subordinate unit(s) is adequately resourced to conduct assigned activities safely.

b. **Actioning Safety Issues and Resourcing Corrective Action.** Commanders should afford safety issues a high priority, implement definitive and timely action, and provide the required resources to resolve the issue.

c. **Correcting Any Observed Unsafe Behaviours and Practices.** This will ensure unsafe behaviours and practices are eliminated as quickly as possible and before they result in an event. It will improve safety culture and, importantly, positively demonstrate commitment to safety. Remember – the standard that you walk past is the standard that you accept.

d. **Communication of Safety Issues and Decisions.** Commanders should encourage three-way communication (that is: upwards, downwards, and to external stakeholders) regarding safety issues and decisions so that key ASMS appointments and, if appropriate, all personnel of the unit/subordinate unit(s) are aware of safety issues confronting the organisation/unit and any decisions/actions taken to address those issues.

e. **Commander's Aviation Safety Policy statement.** The commander's aviation safety policy statement should outline the importance of the ASMS and what the system is meant to achieve. The policy statement should be personalised to fit the commander's beliefs and priorities – it should not be a repeat of the previous incumbent's policy statement. The policy statement should be distributed, advertised and clearly displayed so that personnel are aware of its content and the commander's commitment to the ASMS. Regular review of the policy statement should also be conducted to ensure its continued applicability. An example commander's aviation safety policy statement is provided in Section 3 Chapter 5 Annex A.

f. **Attendance and Active Participation in all Safety Meetings, Boards and Safety Training Activities.** Commanders should chair all safety committee meetings and review boards of their command. The commander should encourage all supervisors and managers within the command to attend and participate in such meetings. A high priority should be afforded to these meetings and, where possible, the command's (and commander's) schedule should accommodate the attendance of

all required personnel. Such activities and proceedings should be given sufficient priority and resourcing, and conducted as effectively and efficiently as possible.

g. Review of Event/Hazard Reports. Unit commanders should review, analyse and action accordingly all event and hazard reports. Subordinate executive staff should be encouraged to do likewise in an effort to identify trends and hazards so that timely action can be taken to enhance aviation safety.

h. Review of Audit and Survey Reports. Wing/regiment and unit commanders should review all audit and survey reports and action accordingly. Subordinate supervisors and managers should likewise be encouraged to review these reports and provide input as required.

i. Contribution to Safety Standdowns and Safety Newsletters. Wing/regiment and unit commanders should actively participate in, and contribute to safety standdowns and support/contribute to any safety promotional material such as wing/regiment or unit safety newsletters. Subordinate supervisors and managers should likewise be encouraged to contribute and participate. Attendance at safety standdowns by the wing/regiment/unit commanders and all subordinate supervisors/managers will help demonstrate the importance and value placed on such events.

CONCLUSION

5. Demonstration of genuine command commitment to the ASMS will encourage subordinate personnel to proactively assist in the effective functioning of the ASMS through active participation, willingly highlighting safety concerns, and openly reporting safety issues. Command commitment to the ASMS is the single-most important element to the system's success.

SECTION 3

CHAPTER 2

A GENERATIVE SAFETY CULTURE

INTRODUCTION

1. Defence Aviation strives for a generative safety culture, wherein safety performance is maximised and safety behaviour is fully integrated into everything the organisation does. This manual defines the policy, processes and procedures of the Defence ASMS to ensure that the progression of aviation safety and safety of our people remain an integral part of day-to-day business. However, systems, policy, processes and procedures are insufficient to guarantee safety. A strong and effective safety culture is critical for ensuring that our systems work in practice. It also plays a vital role in the ongoing enhancement of the ASMS by ensuring that everyone involved in Defence Aviation, irrespective of their position, takes responsibility for safety.

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2. It provides information regarding the definition, characteristics, advantages, maturity levels, measurement and maintenance of a strong and effective safety culture.

DEFINING SAFETY CULTURE

3. In simple terms, safety culture can be described as ‘the way things are done around here’. This description emphasises that safety culture is more than what people say about safety — it is concerned with the realities of safety. While all organisations value safety, the strength of an organisation’s safety culture influences how other organisational objectives are to be achieved. For example, the desire to complete the mission can, at times, be in conflict with the need to minimise exposure to risk or potential hazards. With this in mind, one could argue that a better way to describe the desired Defence Aviation safety culture is ‘making safety a priority around here — mission first, safety always’. If people believe that safety is not the priority, or not today’s priority, it will influence their decision and actions, allowing unsafe acts or conditions, and ultimately aviation safety events, to occur.

4. In more formal terms, safety culture can be defined as the product of individual and group values, attitudes, competencies and patterns of behaviour that determine commitment to, and the style and proficiency of, an organisation’s safety management system (Health and Safety Commission report, 1993, p. 23). This definition emphasises that safety culture is not restricted to individual attitudes. Rather, safety culture is made up of the individual, group, and organisational beliefs, attitudes, values and norms that drive the commitment to achieving safety.

5. Traditionally, the primary objective of safety has been to avoid negative consequences – harm to personnel, damage to equipment, reputation loss etc. However, organisational experience and research demonstrates that safety culture and the overall performance of an organisation are tightly interwoven. Establishing and maintaining a robust safety culture offers significant operational benefits by enabling organisations to more effectively deploy resources and manage risk.

CHARACTERISTICS OF A STRONG AND EFFECTIVE SAFETY CULTURE

6. According to Professor James Reason (1997), a strong and effective safety culture is comprised of four elements—reporting, just and fair, flexible and learning. The four subcomponents combine to form a safety conscious, informed culture, where the ASMS integrates data from all events and combines them with information from proactive measures such as safety audits and climate surveys. The four elements of an informed safety culture are described in further detail below.

7. **Reporting Culture.** Our goal is to foster a culture wherein all personnel readily report problems, errors, events and issues openly and honestly. An effective reporting culture means that personnel are not reluctant to report safety matters for fear of negative consequences resulting from honest mistakes.

8. Processes must be in place to ensure personnel can see the value in reporting safety issues and can identify a benefit to their action. Successful reporting systems commonly feature best-practice procedures, which are effective in determining the quantity and quality of event reports. These features include:

a. indemnity against disciplinary proceedings (as far as is practicable);

b. confidentiality or de-identification when necessary;

c. separation of the person/group collecting and analysing event reports from those with authority to institute disciplinary proceedings or impose sanctions;

d. providing rapid, useful, accessible and intelligent feedback to the reporting community; and

e. making it easy to report safety events.

9. Just and Fair Culture. A just and fair culture lies at the heart of an effective safety management system and is essential to maintain and improve safety performance. A just and fair culture means a culture in which individuals are encouraged to report safety related information and the organisation's analysis of reported events focuses on system performance and contributing factors first; not on apportioning blame and/or focus on individual responsibilities. It does not, however, absolve individuals and supervisors of their normal responsibilities. Individuals are held accountable for their actions, omissions or decisions, but the organisation must consider if the actions are commensurate with an individual's experience and training. The key principles of a just and fair culture are:

a. An agreed standard determines acceptable and unacceptable behaviour. The Safety Behaviour Management Tool provides commanders with a tool to determine acceptable and unacceptable behaviours and commensurate action. Positive behaviour and actions are captured and encouraged, however, wilful violations, serious carelessness and destructive acts are not tolerated.

NOTE

- The Safety Behaviour Management Tool can be found on the DFSB website https://objective/id:AB27737139 .

b. Investigation of safety events should focus on the system performance and contributing factors first and not on apportioning blame and/or focus on individual responsibilities. DFSB recommends the use of the substitution test which involves substituting the individual involved with another individual of similar training and experience and then asking, "Given all the same conditions, would the other person have behaved any differently?" If the answer is no, or probably not, then individual blame should not be apportioned, as it is likely to mask underlying systemic deficiencies.

c. Reward or penalty for safety related behaviour must be timely. Delays between the action and the reward or sanction reduce effectiveness in achieving behavioural change.

d. Safety data must be managed, stored, protected and disclosed. The organisation should use de-identified data for safety learning purposes.

10. Flexible Culture. The culture of the organisation needs to be able to adapt to changing circumstances and demands while maintaining a focus on safety. In a flexible culture, decision-making processes vary depending on the urgency of the decision and the expertise of the people involved. During very high tempo operations or crisis situations personnel who may be relatively low in the hierarchy, but who have the greatest expertise or knowledge, may be empowered to make decisions which would normally be made at a higher level.

11. Learning Culture. A learning culture relates to the organisation's ability to draw the right conclusions from its safety information systems and the willingness and capacity to implement reforms when necessary. In practice, a learning culture requires personnel at all levels to observe behaviours in the workplace, reflect on how and why they occur, create solutions and act on what has been learnt. At an organisational level, it reflects the organisation's willingness to change based on safety indicators and hazards uncovered through assessments, audits, and investigations. The organisation should seek to foster a culture that not only reviews past actions but also the organisation's assumptions (ie its systems, policies, procedures and other safeguards) that caused them.

MATURITY LEVELS OF A SAFETY CULTURE

12. Safety culture develops progressively over time. As illustrated in Figure 2–1, an organisation's safety culture can be described in terms of the following five levels of development or maturity:

a. Generative. The ultimate state, where safety performance is maximised and safety behaviour is fully integrated into everything the organisation does. The value system associated with safety and safe working is fully internalised as a belief, almost to the point of invisibility.

b. Proactive. Unexpected change is a challenge. Workforce involvement starts to move the initiative away from a purely top-down approach. The organisation uses safety data to inform safety programs.

c. Calculative. Safety is driven by management systems, with a large volume of data collection. Safety is seen as an impost rather than something that is actively sought by the workforce.

d. **Reactive.** The organisation acknowledges that safety is important; however, the organisation's beliefs, methods and practices are basic. Any action taken is typically after the event.

e. **Pathological.** Safety is seen as a problem caused by workers. The main drivers are the business performance and a desire not to get caught by the regulator.

13. It is important to note that an organisation's safety culture may not develop consistently. For example, an organisation may be reactive in one area and proactive in another. Likewise, different groups and work teams might develop more rapidly than other parts of the organisation. Accordingly, the safety culture maturity model is **not** an assessment tool, rather it is intended to help organisations reflect on how safety culture can mature or evolve from a poor culture to an excellent or ideal culture.

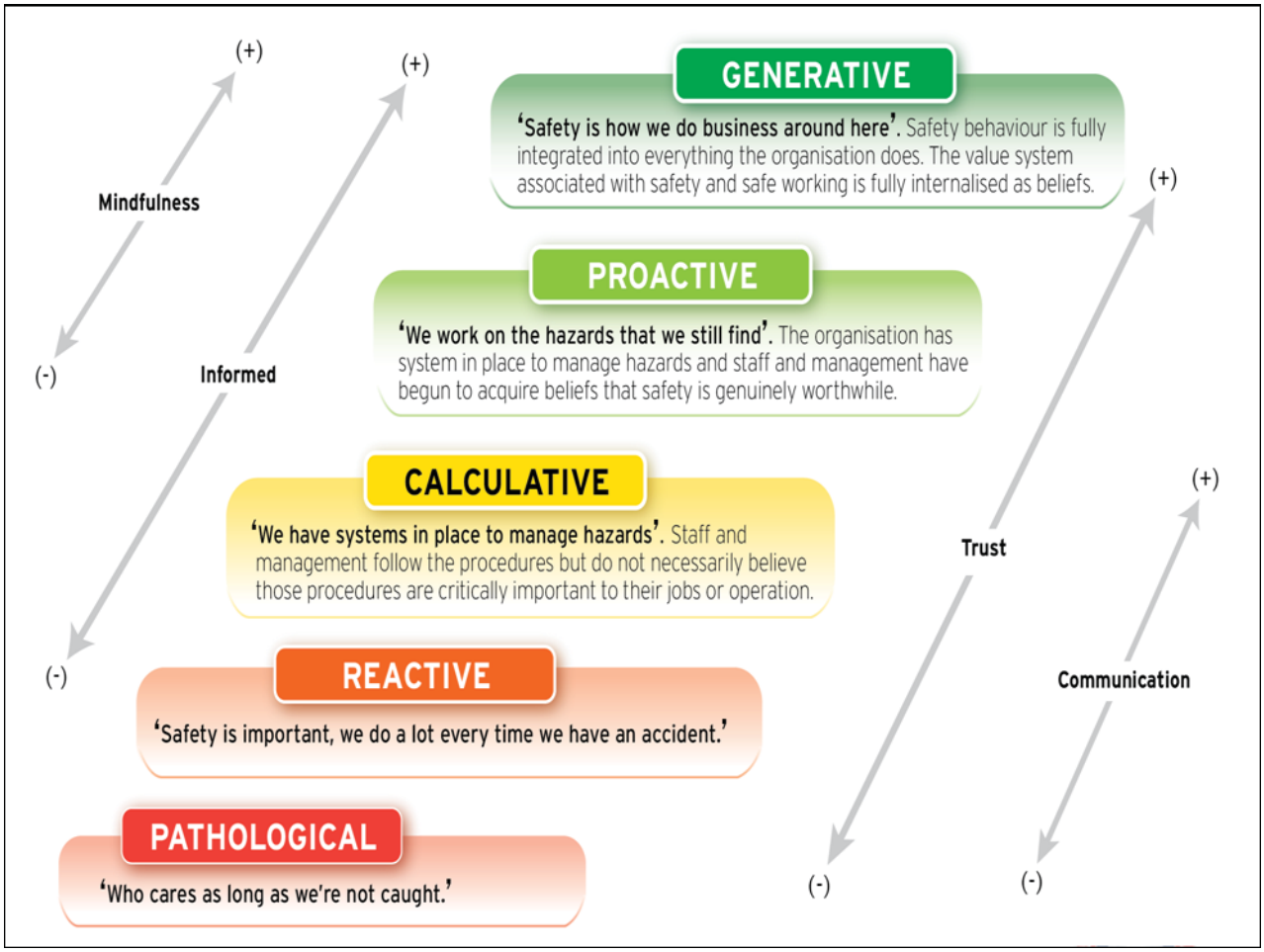

Figure 2–1 Maturity Levels of a Safety Culture

KEY ENABLERS

14. Leadership commitment, communication and organisational mindfulness are three key enablers for maintaining and enhancing a strong safety culture.

15. **Leadership Commitment.** A strong safety culture begins with leadership commitment. Leaders at all levels of the organisation should want to hear bad news – before the near misses become safety events. In striving for a generative safety culture, leaders should set the example regarding safety, allocate adequate time and resources to safety matters, acknowledge safety concerns and suggestions, and give feedback on decisions (ie even if the decision is to do nothing). Feedback to the workforce must be timely, relevant and clear.

16. **Communication.** Communication is the linchpin of safe operations. It allows personnel to be informed of hazards and risks, and discuss and determine mitigation strategies to prevent harm. So too, effective communication allows the workforce to engage with each other, feel heard, formulate ideas and common goals, and overcome negative attitudes. Open lines of communication should occur up, down and across the chain of command.

17. **Organisational Mindfulness.** Mindful organisations understand that long periods of success breed complacency and they are, therefore, wary of success – they are wary of the possibility of failure. It is important to generate personal and collective commitment, accountability, communication and learning, and to question the manner

in which things are done. Simply relying on rigid compliance with policies and procedures is not enough to ensure safety – we must challenge assumptions and identify unsafe acts or conditions, recognising that these may be the precursors to larger organisational influences or pre-conditions for unsafe acts.

IDENTIFYING A NEGATIVE SAFETY CULTURE

18. In order to achieve a generative safety culture we must also be able to identify the difference between a positive and negative safety culture. "Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventative measures" (Health and Safety Commission report, 1993, p.23). However, such definitions are rather abstract, so it is useful to explain what a negative safety culture looks like. In general terms, a negative safety culture means that safety is sacrificed, even when people are saying that safety comes first – practice differs from espoused values and policy. Simple examples would be where personnel concerns about safety are consistently not addressed; where there appears to be no learning from past events; where safety reviews/audits state the system is safe but operational people believe a significant safety event is imminent; or where safety is believed to be someone else's responsibility.

MEASURING AND MAINTAINING DEFENCE AVIATION SAFETY CULTURE

19. Proactive organisations learn from the hazards they have encountered, but generative organisations proactively look for new hazards and validate old hazards. They have a culture of mindfulness. Maintenance of the safety culture is a part of the process that has to be set up as a target in its own right. Monitoring and measuring the organisation's safety performance through the use of tangible metrics is essential for the maintenance and enhancement of the ASMS. This requires the use of proactive as well as reactive methodologies to monitor known safety risks and detect emerging safety issues.

20. Reactive Measurement. This methodology involves analysis of past outcomes or events. Hazards are identified through investigation of events. Safety events are clear indicators of system deficiencies and therefore can be used to determine the hazards that either contributed to the event or are latent. While the reporting of safety events is an inherent and necessary component of the ASMS, in isolation this approach is insufficient to achieve the desired safety outcomes.

21. Proactive Measurement. This methodology involves analysis of existing or real-time situations, which is the primary job of the safety assurance function with its audits, evaluations, employee reporting, and associated analysis and assessment processes. This involves actively seeking hazards in the existing processes. Shifting an organisation's mindset from reactive to proactive safety management requires multiple tools that capture the psychological, behavioural and situational characteristics influencing safety outcomes. No single measurement tool will provide thorough assessment of organisational culture or its impact on safety performance. Rather, we may be informed of areas of strength and target areas for improvement by a combination of tools and information. Examples are shown in Figure2–2.

Psychological Measurement	Behavioural Measurement	Situational Measurement
Surveys	Surveys	Audits
Interviews	Audits	Risk assessment
Focus groups	Training/competency assessment	Training evaluation
	Observation	

Figure 2–2 Measurement and Methods

22. Workforce surveys may provide an inexpensive source of significant safety culture information. Safety surveys generally provide qualitative information that may require validation to determine appropriate corrective action. Refer to Section 3 Chapter 11 (Survey and Audit) for detailed information and guidance on the conduct of safety culture surveys, including the DFSB Snapshot Survey.

23. If any combination of reactive or proactive measurement occurs with minimal feedback or outcome for the workforce, disenchantment or disengagement may result. As such, all assessment methods should include a 360 degree feedback loop to be effective and to allow for continuous improvement. This is shown in Figure 2–3.

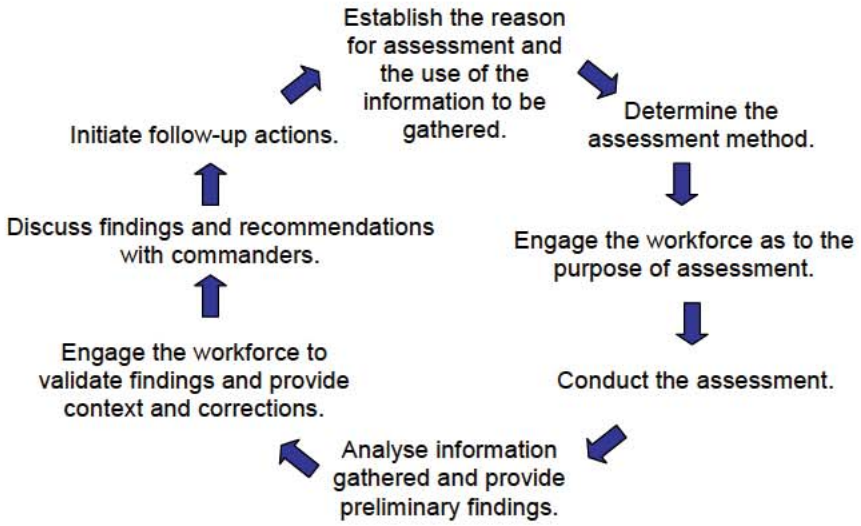

Figure 2–3 Assessment Feedback Loop

RECOGNITION

24. Public recognition of positive safety behaviours is a powerful way for commanders, managers and supervisors to demonstrate their personal commitment to safety, as well as to influence the behaviour of the organisation.

25. Informal recognition may involve public acknowledgement within a group that an individual, team or external stakeholder has made a positive contribution to safety outcomes. Examples might include highlighting the actions of personnel who report a 'near miss' that has broader lessons for everyone to benefit from, or personnel who progress development of an engineering control to reduce the risk being presented by a particular hazard.

26. Formal recognition may involve use of award schemes such as the Good Show Award, the Royal Aeronautical Society Aviation Safety Award or Service specific aviation safety awards as detailed in Section 3 Chapter 4 (Communication).

STRIVING FOR A GENERATIVE SAFETY CULTURE

27. A generative safety culture is very much an idealised or aspirational level of safety performance. In practice, as organisations approach this level of maturity they become more aware of their weaknesses and, as a result, continue to identify opportunities for improvement. In many ways, aspiring to have a generative culture is like trying to achieve perfection. It is good to work hard towards perfection while recognising that you are unlikely to achieve it. Accordingly, all elements of the organisation from senior leadership, commanding officers, executive managers, supervisors and the front-line workforce must commit to continually striving for a generative safety culture. Everyone, within their respective span of control, holds responsibility for enhancing the safety performance of Defence Aviation.

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SECTION 3

CHAPTER 3

A DEFINED SAFETY ORGANISATION STRUCTURE

INTRODUCTION

1. Commanders must have an appropriate structure in place to support their ASMS. It must incorporate documented duties, responsibilities and chains-of-command, and be staffed by appropriately trained and qualified personnel. It is important to ensure that all members are aware of who is allocated which ASMS duties. The safety organisation structure will be embedded throughout the chain of command and supported by the Defence Flight Safety Bureau (DFSB).

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2 along with interpretation and explanation of policy. It also provides information on the safety organisation structure for operations and exercises; details national and international safety linkages and responsibilities; and highlights the safety aspects of customer-contractor relationships. Suggested responsibilities for key aviation safety appointments are also provided.

SERVICE SPECIFIC IMPLEMENTATION REQUIREMENTS

3. Each Service has a unique organisation structure and may have specific implementation requirements of the Defence ASMS.

4. Navy. The RAN's Service Aviation Safety Board is committed to the upholding of the Service's safety culture in accordance with the goals of the Service Safety Council. The Service Aviation Safety Board for Navy is known as AIRSAFE and is responsible to Chief of Navy through the Navy Safety and Regulatory Council for safety policy development and oversight of all safety aspects of Naval aviation. Terms of reference for the RAN's Service Aviation Safety Boards are detailed in Annex A.

5. Army. Reserved.

6. Air Force. Reserved.

RESPONSIBILITIES AND ASMS STRUCTURES

DFSB

7. DFSB is the Centre of Expertise for aviation safety within Defence and is accountable to the Defence Aviation Authority (Defence AA) for the strategic management of Defence Aviation safety. It is responsible for formulating Defence Aviation safety policy on behalf of the Defence AA, monitoring the effectiveness of the Defence ASMS, investigating all Defence Aviation Class A events and selected other events, providing advice, services and tools to commanders and their subordinates in the implementation and management of their ASMS, providing aviation safety education and training, and developing strategies and programs to enhance Defence aviation safety.

8. The organisational structure of DFSB is available on the DFSB intranet website.

Environmental Commanders

9. Specific aviation safety responsibilities of COMAUSFLT, COMD FORCOMD and ACAUST are as follows:

a. When appropriate, appointment of Aviation Safety Investigation Teams (ASITs), on behalf of their Command, to investigate Command specific aviation safety events (unless a higher-level Appointing Authority is required).

b. When required, tasking Command elements to provide assistance in the conduct of aviation safety investigations.

c. Ensuring their FEGs and subordinate elements comply with this manual and related subordinate orders and instructions through two-yearly audits.

10. Command Aviation Safety Officer. COMAUSFLT, COMD FORCOMD and ACAUST may appoint a Command ASO who is responsible for supporting and managing all aspects of the Command ASMS. The selected

member is to be ASO Advanced Course trained. The appointment is to be the selected member's primary duty and other duties are to be minimal. Recommended responsibilities of the Command ASO are outlined in Annex B.

11. Command Maintenance and Engineering Aviation Safety Officer (CMEASO). COMAUSFLT, COMD FORCOMD and ACAUST may appoint a CMEASO responsible for supporting and managing maintenance/engineering aspects of Command aviation safety. The selected member is to be ASO Advanced Course trained. Recommended responsibilities of the CMEASO are outlined in Annex C.

Force Element Group Headquarters

12. All aviation FEGs in Defence are unique in terms of numbers of Aviation System types, geographical spread, and subordinate wing/regiment/unit structure. Therefore, while Force Element Group commander (FEGCDR) responsibilities for the FEG's ASMS are identical, the actual organisational structure put in place by the FEGCDR to support the FEG ASMS will differ. FEGCDRs should promulgate an appropriate ASMS structure to meet the intent of this chapter.

13. FEG Aviation Safety Officer. Recommended responsibilities of a FEG Aviation Safety Officer (Group Aviation Safety Officer (GASO) for Air Force; Fleet Aviation Safety Officer (FASO) for Navy; SO2 Force Preservation for Army) are outlined in Annex D. The selected member is to be ASO Advanced Course trained. The appointment is to be the selected member's primary duty and other duties are to be minimal.

Wing/Regiment Headquarters

14. Wing/Regiment Commanders (OC WG/Regt CO). OC WG/Regt CO specific aviation safety responsibilities are as follows:

a. Management of aviation safety standards at wing/regiment level.

b. Provision of advice on aviation safety policy development to the relevant FEGCDR.

c. Acting as the wing/regiment HTA and, if so appointed, the FEG HTA.

d. If so appointed, chairmanship of the FEG Aviation Hazard Review Board (AHRB).

e. Tasking wing/regiment elements to provide assistance in the conduct of aviation safety investigations.

15. Wing/Regiment Aviation Safety Officer (WASO/RASO). The WASO/RASO is responsible to the OC WG/Regt CO for managing and coordinating all aspects of the wing/regiment ASMS. Depending on the FEG and/or wing/regiment structure, the WASO/RASO may be appointed to support a particular weapons system. Recommended responsibilities of WASOs/RASOs are outlined in Annex E.

a. WASO/RASO Appointment. The WASO/RASO position is to be established at the SQNLDR (equivalent) level given the importance of the role and duties associated with the position. The WASO/RASO should be granted direct access to the OC/CO for safety matters to ensure that the OC/CO is kept informed of wing/regiment safety issues. The WASO/RASO should be qualified on one of the Aviation Systems that the wing/regiment operates. WASOs/RASOs are to be ASO Advanced course trained. The appointment is to be the selected member's primary duty and other duties are to be minimal.

NOTE

- The WASO/RASO position is to be regarded as a 'head of shop'/executive staff member and as such is to be included in, and have an active role in, wing/regiment executive meetings.

Unit Commands

16. Commanding Officers/Officers Commanding/Senior Air Traffic Control Officers (CO/OC/SATCO). The ASMS implemented by the unit commander should dovetail with, and promote the objectives of the wing/regiment ASMS. The unit commander establishes the goals, monitors achievements of the unit's ASMS and sets the standard.

17. UASO. The UASO manages and coordinates all aspects of the unit's ASMS on behalf of the unit commander and accordingly is the figurehead/champion for unit aviation safety. Recommended responsibilities of UASOs are outlined in Annex F.

a. UASO Appointment. The UASO should be one of the unit's more experienced members who has credibility and a strong motivation/interest in promoting aviation safety. The UASO should be granted

direct access to the unit commander for safety matters so that the commander can be kept informed of safety issues within the unit. UASOs are to be, as a minimum, ASO Initial course trained and have no other secondary duties.

b. Assistant UASO Appointment. Ideally, the UASO should be supported by one or more assistant UASOs. The chosen member should have sufficient experience on type (e.g. at least Category C for aircrew), credibility and motivation/interest in promoting aviation safety. The assistant UASO should, as a minimum, complete the Aviation Incident Investigator course.

18. Unit Maintenance Aviation Safety Officer (MASO). The unit commander in consultation with the SMM should appoint a MASO. (Not required where the MASO is an established position.) The MASO should be one of the unit's more experienced members who has credibility and a strong motivation/interest in promoting aviation safety. The MASO should be granted direct access to the unit commander for safety matters so that the commander can be kept informed of safety issues within the maintenance organisation. MASOs must not have other secondary duties or responsibilities that may conflict with or impair their safety role. Recommended responsibilities of the MASO are outlined in Annex G.

a. Assistant MASO Appointment. Ideally, the MASO should be supported by one or more assistant MASOs. The chosen member should have credibility and motivation/interest in promoting aviation safety. The assistant MASO should, as a minimum, complete the Aviation Incident Investigator course.

Base/Station Commands

19. Base/Station Aviation Safety Officer (BASO/SASO). The base/station commander of Defence bases/stations that host flying operations should appoint a BASO responsible for supporting and managing all aspects of the base ASMS. BASOs are to be, as a minimum, ASO Initial course trained prior to performing the role and are to complete the ASO Advanced Course as soon as reasonably practical following posting into a BASO role. The BASO is to have no other secondary duties. Recommended responsibilities of the BASO are outlined in Annex H.

Contractors

20. Safety Liaison Officers (SLOs). For aviation units with a contracted workforce, the contractor should be encouraged to be an active participant in the unit's ASMS and nominate a responsible person as the Safety Liaison Officer (SLO). For a contracted aircrew workforce, the SLO would be assigned the roles and responsibilities of a UASO. For a contracted maintenance workforce, the SLO would be assigned the roles and responsibilities of a MASO.

NOTE

- Policy intent is that some aviation safety officer positions, given their substantial roles and responsibilities, are established positions that personnel are posted to and hence are the incumbent's primary duty. This would include the CASO, GASO and WASO (and their equivalent) positions. Aviation safety officer positions that do not necessitate full-time resourcing may be accomplished as a secondary duty. Unit level safety appointments would typically fall in this category, hence, for example, a member allocated the UASO secondary role could be a squadron pilot (their primary duty and posted position).

AVIATION SAFETY IN OPERATIONS AND EXERCISES

21. Guidance on the establishment of a safety organisation for an operation or exercise is provided in Annex I.

NATIONAL AND INTERNATIONAL AVIATION SAFETY RESPONSIBILITIES

22. Although Defence has responsibility for the implementation of its own ASMS including the investigation of aviation safety events involving State operated aircraft, much is to be gained by the sharing of information and resources with other agencies/organisations. Full dissemination of major aviation safety event data relies on formal Memorandums of Understanding (MOU), Treaties and Conventions to be negotiated and signed between sovereign nations, their Government departments and defence forces. Broadly speaking these agreements can be divided into two categories, aviation safety investigation, and the sharing of aviation safety information.

23. On behalf of Chief of Air Force (CAF), DFSB will manage, coordinate and control accident investigation activities at the accident crash site for all accidents involving Defence and foreign military aircraft in Australian territory, including:

a. accident site access control;

b. accident site work health and safety requirements;

c. accident site mapping; and

d. liaison with external agencies (emergency response personnel, police, Air Traffic Control etc).

NATIONAL RESPONSIBILITIES

24. Within Australia the government departments that liaise with the ADF in aviation safety areas include:

a. Civil Aviation Safety Authority (CASA);

b. Australian Transport Safety Bureau (ATSB);

c. Airservices Australia (AsA); and

d. Emergency Management Australia (EMA).

Agreements with Australian Civil Agencies

25. Defence has an agreement with CASA on the promotion of aviation safety and airworthiness while a Letter of Agreement has been signed with AsA for the exchange of safety information.

26. Defence (DFSB and DSTG) and the ATSB have an MOU for cooperation relating to transport safety investigation. This MOU deals with mutual assistance, sharing of expertise, mutual training opportunities, joint and parallel investigations, and the participation by members of either organisation in investigations carried out by the other organisation.

INTERNATIONAL RESPONSIBILITIES

Aviation Safety Investigation

27. The underpinning document for the investigation of aircraft accidents involving other countries is the Chicago Convention. Originally signed in Chicago in 1944 to aid international aviation transport, its annexes include agreements on the investigation of aircraft accidents. Although not intended for or enforceable for, State aircraft, it is accepted as the world standard by a large number of military aviation safety organisations and is referred to and used in most cases for State aircraft investigations. The aim of International Civil Aviation Organisation (ICAO) Annex 13 to the convention is to ensure that investigations are conducted to identify causes and to prevent further accidents as opposed to apportioning blame.

28. Australia's ratification of the Chicago Convention is summarised as follows:

a. Australia is a signatory to the Convention on International Civil Aviation concluded at Chicago on 7 December 1944. This international convention is known as the Chicago Convention. The Convention established ICAO.

b. By Section 3A of the Air Navigation Act 1920 (Commonwealth), Australia has ratified and given domestic legal effect to the articles of the Chicago Convention and the protocols and annexes approved by the assembly of ICAO. The text of the Chicago Convention and the protocols are incorporated into the Air Navigation Act 1920 (Commonwealth) as Schedules to that Act.

c. Article 37 of the Chicago Convention provides that ICAO shall adopt standards and recommended practices for aircraft accident investigation. These standards and recommended practices were first adopted by ICAO in 1951 and designated as Annex 13 to the Chicago Convention.

d. Article 26 of the Chicago Convention requires member countries to investigate civil aircraft accidents in accordance with procedures recommended by ICAO as contained in Annex 13.

Accidents Involving Air and Space Interoperability Council (ASIC) Air Standard 85/2A Signatories

29. Australia is a signatory to Air and Space Interoperability Council (ASIC) Air Standard (AIRSTD) 85/2A Investigation of Aircraft/Missile Accidents/Incidents. Accordingly, in the event of a military aircraft accident involving the equipment, facilities or personnel of the ADF and another AIRSTD 85/2A signatory (i.e. United States, United Kingdom, Canada or New Zealand), the procedures and provisions of AIRSTD 85/2A are to be observed. DFSB maintains the current edition of AIRSTD 85/2A should individual units require access to this document.

30. In the absence of any formal signed agreement, for accident investigation involving aircraft or personnel of two or more foreign countries, Annex 13 offers a good start point to commence the investigation. AIRSTD 85/2A reflects the content of Annex 13.

Memorandums of Understanding

31. In addition to the ASIC agreement, the ADF has entered into MOUs with other nations regarding aviation safety issues. Current MOUs include agreements with:

a. the United States Navy (USN), relating to the mutual exchange and use of selected USN and RAAF F/A-18, P-3B/C, C-130, UH-1H, CH-47 and CH-46 Aircraft Mishap Reports;

b. the United States Coast Guard, regarding the exchange of technical information;

c. the Department of National Defence of Canada concerning flight safety cooperation and the exchange of flight safety information;

d. the United Kingdom Ministry of Defence, regarding aviation safety cooperation and the exchange of flight safety information; and

e. the Republic of Singapore Air Force (RSAF), regarding the conduct of air safety investigations and the reporting and exchange of flight safety information. The MOU with the RSAF is included for reference in Annex J.

Data Sharing

32. The ADF currently has signed agreements in place for the sharing of aviation safety information with branches of the defence forces of the United Kingdom and the United States of America (USA). These are primarily in place for the sharing of information of common aircraft types operated by the three countries but in practice are not restricted to this information. DFSB maintains these links and is the point of contact for this information.

Status of Forces Agreements

33. Although primarily in place to define the status of defence personnel of nations when visiting, training or exercising in the territory of another nation, Status of Forces Agreements (SOFAs) can provide a basis for investigations should an aviation safety event occur. Commanders need to check these agreements prior to committing personnel or equipment to joint exercises or training.

34. The ADF has current SOFAs or the equivalent with the USA, Papua New Guinea, Singapore, Malaysia and New Zealand. Directorate of Military Administrative Law (DMAL) within Defence Legal Division, maintains copies of all current SOFAS and can advise whether a particular SOFA provides for investigation of Defence safety events in the host country.

35. Any nation exercising within Australia is to agree to investigation of any accidents in accordance with the terms included in the Exercise Agreement.

CUSTOMER–CONTRACTOR RELATIONSHIPS

36. Any contractor who has an effect, either directly or indirectly, on a weapon system should be subject to this ASMS. Accordingly, such requirements should be written into contracting documents. The nature of this customer-contractor relationship is described in Annex K.

CONCLUSION

37. The requirement for a safety organisation must be applied wherever aviation safety is managed. This includes operations and exercises, as well as with customers-contractors. The guidance provided on these aspects of the safety organisation is intended to supplement other sources of information and facilitate compliance with Section 2 requirements.

Annexes:

A. Service Aviation Safety Board Terms of Reference (RAN)
B. Command ASO Aviation Safety Responsibilities
C. Command Maintenance and Engineering Aviation Safety Officer Aviation Safety Responsibilities
D. FEG ASO Aviation Safety Responsibilities
E. Wing/Regiment ASO Aviation Safety Responsibilities
F. Unit ASO Aviation Safety Responsibilities
G. Unit Maintenance ASO Aviation Safety Responsibilities
H. Base/Station ASO Aviation Safety Responsibilities

I. Aviation Safety in Operations and Exercises

J. Memorandum of Understanding Between the Australian Defence Force and the Singapore Armed Forces Concerning the Conduct of Air Safety Investigations and Reporting and The Exchange of Flight Safety Information

K. Customer-Contractor Relationships

SERVICE AVIATION SAFETY BOARD TERMS OF REFERENCE (RAN)

1. The *Commonwealth Work Health and Safety Bill 2011* and *Work Health and Safety Act 2011* require Navy to provide a safe working environment for its personnel and employees when undertaking operations and activities. Navy also has obligations to the Australian community to ensure that maritime capability and infrastructure is fit for service and conforms to environmental legislative requirements. The Safety Management System – Navy (SMS-N) has been established to integrate the regulatory activities of personnel, processes and tools and is the fundamental link in managing safety within the Royal Australian Navy (RAN). Within the SMS-N construct, Safety Boards (SHIPSAFE, SUBSAFE, SHORESAFE, ARMSAFE and AIRSAFE) are utilised as a means of providing the Chief of Navy with an independent confidence, or otherwise, that ships, submarines, aircraft, establishments and their related equipment are being maintained and operated in a manner which is considered safe. Aviation is a little different in that there is a separate Airworthiness system that oversees technical and operational airworthiness regulatory systems, Navy Aviation and AIRSAFE lay within both SMS-N and the ADF Aviation Safety System. It is not the intent of the AIRSAFE Board to duplicate the OA and TA regulatory oversight functions. Rather, the AIRSAFE Board focuses on Aviation Safety and would only expect to deal with regulatory issues as part of resolving a significant or systemic safety issue. The general responsibilities of the Aviation Safety Boards and the ADF Aviation Safety Management System (ASMS) are laid down in the Defence Aviation Safety Manual (DASM).

2. A description of the Navy Aviation Safety Management System (NA-SMS) can be found in ABR 5150 Chapter 9.

3. Commander Fleet Air Arm (COMFAA) Vision for AIRSAFE. The COMFAA vision for AIRSAFE is that it is a small board that monitors and reviews the NA-SMS much like the Airworthiness Board monitors and reviews the processes that contribute to airworthiness.

4. Command, Safety and Risk Acceptance. Safety and risk acceptance are command responsibilities. CN commands the Navy and is ultimately responsible for safety and risk acceptance in the Navy. The Commander Australian Fleet commands Naval Air Squadrons and is responsible for aviation safety management and risk acceptance. By direction from COMAUSFLT, COMFAA is responsible for the policy, processes, health and operation of the NA-SMS which includes the Fleet Air Arm Safety Cell (FAASC) and the Aviation Systems Safety Committee (ASSC).

5. AIRSAFE is an independent Board of review that monitors the health of the NA-SMS and provides advice to COMFAA on the NA SMS's compliance with the ADF Aviation Safety System and its effectiveness in managing Navy aviation safety issues. AIRSAFE does not accept risk on behalf of the command chain nor does it supplant command's safety management and compliance responsibilities.

6. AIRSAFE Board Mission. The AIRSAFE Board's mission is to monitor, nurture and improve the Navy's Aviation Safety Management System. In particular AIRSAFE reviews safety trends and Navy Aviation risks. AIRSAFE advises the command chain on risk acceptance and reviews and then proposes actions that command might take to ensure that those risks brought to the attention of the Board are eliminated or otherwise minimised so far as is reasonably practicable (SFARP).

7. AIRSAFE Responsibilities. The general responsibilities of AIRSAFE are laid down in ABR 5150 Chapter 9 Annex A. The Board is responsible for overseeing the health of the NA-SMS within the overall structure of SMS-N. Specifically, AIRSAFE is responsible for the following:

a. AIRSAFE members are responsible, through the Board Chair, to COMFAA for oversight of the NA-SMS and its compliance with the DASM, ABR 6303 and ABR 5150.

b. AIRSAFE is to ensure that the NA-SMS closed loop Hazard reporting and treatment system is closing hazard reports in an effective and timely manner and is to advise COMFAA accordingly.

c. Aviation risks with an AVRM residual HRI of High and greater (or SMS-N HRI of 9 or less) should be referred to AIRSAFE by COMFAA for review.

d. Advising COMFAA on aviation safety issues.

e. Significant hazards that cross Force and Safety Board boundaries may be reviewed by AIRSAFE and those hazards are to be bought to the attention of the relevant Force Commander and Safety Board Chair through COMFAA.

f. AIRSAFE is to review ASIT recommendations, command's acceptance or rejection of those recommendations and is to monitor closure of accepted recommendations. AIRSAFE shall ensure the command chain loads the findings, recommendations and closure actions into the Aviation Safety Reporting Tool in Sentinel.

g. AIRSAFE members are to be provided with reports of a CDF Commission of Inquiry (COI) into Navy aviation accidents. The command chain is to keep AIRSAFE apprised of the progress to close recommendations. AIRSAFE is to monitor closure/implementation of all accepted recommendations of COI.

h. AIRSAFE is to review all ASRs and associated independent investigations of Class B events, and if considered necessary, advise COMFAA on further actions that may be appropriate.

i. Aviation safety trends are to be monitored and issues of concern raised with COMFAA.

j. Safety cases for new aviation equipment may be referred by command or regulators to AIRSAFE for independent review and/or advice on additional risk treatments not considered in the safety case.

k. AIRSAFE is to report the proceedings of the Board to COMFAA; who, in conjunction with input received through the NA-SMS, will report aviation safety issues to COMAUSFLT through FLEETSAFE.

8. Membership. The Chair is responsible to COMFAA for the activities of the Board and is accountable for the process that leads to Board outcomes and advice. Ultimately the operation of the Board is the responsibility of the Chair. The Executive Members of the AIRSAFE Board shall be the appropriate Regulator's Delegates and each will be accountable for their contribution to the operation of the Board. Attendees are SMEs within the NA-SMS that report to the Board and provide advice to assist in the resolution of identified issues. Observers are people whose position in the NA-SMS/ADF Aviation Safety System is such that they and the Board significantly benefit from direct contact with the Board. AIRSAFE membership is as follows:

a. Chair – As appointed by COMFAA;

b. Director-General Navy Certification and Safety (DGNCS) (EM and Safety Regulator Delegate); and

c. Director DFSB (EM – Defence Aviation Safety representative).

9. AIRSAFE attendees are:

a. Chief of Staff, Fleet Air Arm (Capability Manager and Operations Delegate);

b. CO HMAS ALBATROSS (Shore Infrastructure Regulator Delegate);

c. Commander Naval Aviation Systems Program Office (NASPO) Representative and Configuration Control Board Chair;

d. Director Navy Aviation Projects (DNAP) (DMO/Major Projects delegate);

e. Chief Staff Officer—Aviation Engineering (MAB delegate);

f. Commander Operational Airworthiness and Standards (COAS)—ASSC Chair;

g. Training Authority—Aviation (TA–AVN) (Personnel and Training SME);

h. SI-OPS2 (Position filled by RAN officer)—Defence Flight Safety Bureau (DFSB) (Executive Director (ED) AIRSAFE Board and secretary); and

i. Fleet Aviation Safety Officer (FASO).

10. AIRSAFE Business Rules. The AIRSAFE Business Rules are outlined in detail at ABR 5150 Chapter 9 Annex A.

COMMAND ASO AVIATION SAFETY RESPONSIBILITIES

1. The recommended responsibilities of a Command Aviation Safety Officer, appointed by the associated environmental commander are provided below.

Genuine Command Commitment

2. Manage and coordinate all aspects of the Command's ASMS on behalf of the commander.

3. Advise the commander on all aviation safety related matters.

4. Provide advice to the commander on relevant and significant aviation safety related matters derived from the Aviation Safety Reporting Tool in Sentinel or other means.

5. Assist the commander with the development, review and management of relevant aviation safety policy statements.

6. Assist subordinate elements with the resolution of aviation safety issues.

A Generative Safety Culture

7. Liaise with and assist subordinate FEGs in the development and sustainment of their ASMS.

8. Continually monitor and positively influence the safety culture of subordinate elements.

A Defined Safety Organisation Structure

9. Work closely with subordinate element safety teams, including any civilian contract workforce, to ensure that the established safety organisation structure is maintained and resourced to support the ASMS.

Communication

10. Liaise with external aviation safety organisations on behalf of the commander.

11. Liaise, where appropriate, with civilian agencies.

12. Liaise with DFSB on relevant aviation safety matters.

13. Maintain awareness of aviation safety issues throughout the subordinate elements of the command.

14. Disseminate appropriate external source aviation safety material to subordinate elements.

15. Coordinate command safety awards on behalf of the commander.

Documented Safety Policy

16. Ensure command aviation safety related orders and instructions are reviewed and updated in accordance with the Command review process.

Training and Education

17. Monitor the command's compliance with relevant training and education instructions.

Risk Management

18. Provide risk management advice and support to the commander and subordinate elements.

19. Provide aviation safety and aviation risk management advice and support to the Air and Space Operations Centre for specific operations as required.

Hazard Reporting and Tracking

20. Use the Aviation Safety Reporting Tool in Sentinel and other tools to conduct analysis of aviation events and hazards.

21. Manage the command's aviation hazards, including collation and analysis of data in the Aviation Safety Reporting Tool in Sentinel.

22. Monitor event reporting by subordinate elements for completeness, accuracy and timeliness.

Investigation

23. Investigate selected aviation safety events as directed by the commander.

24. Participate as required in investigations at the Class B event level.

25. Assist in the coordination of command aviation safety investigation, CDF Commission of Inquiry (COI) and Board of Inquiry (BOI) administration requirements.

26. Ensure, on behalf of the commander, that accepted recommendations of CDF COIs, BOIs, and Aviation Safety Investigation Teams (ASIT) are actioned.

Emergency Response

27. Coordinate command management of accident response procedures.

28. Monitor the compliance of subordinate elements with the requirement for AEP/UEP.

Survey and Audit

29. Oversee the conduct of aviation safety audits of subordinate elements at the required intervals.

ASMS Review

30. Conduct a regular review of the command's ASMS. (This review can be informed by the outcomes of safety investigations, AHRBs, aviation safety committee meetings, surveys and audits.)

Prerequisite Training

31. The following courses are prerequisites for performing the CASO role:

a. Aviation Safety Officer (Initial) Course 209130.

b. Aviation Safety Officer (Advanced) Course 111632.

Other Training Opportunities

32. The following training opportunities complement the ASO(I) and ASO(A) courses by providing a pathway for CASOs to build on the knowledge required to perform the CASO role:

a. State based Emergency Management Services training applicable to ISC functions: Unit expense.

b. ATSB – Human Factors for Transport Safety Investigators: Unit Expense.

c. ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

COMMAND MAINTENANCE AND ENGINEERING AVIATION SAFETY OFFICER (CMEASO) AVIATION SAFETY RESPONSIBILITIES

1. COMAUSFLT, COMD FORCOMD and ACAUST may appoint a CMEASO who should work closely with the CASO and manage and coordinate all maintenance/engineering aspects of command aviation safety in line with the recommended responsibilities below.

Genuine Command Commitment

2. Advise the commander on maintenance/engineering aspects of all aviation safety related matters.

3. Assist the commander with the development, review, and management of relevant safety policy statements.

A Generative Safety Culture

4. Continually monitor and positively influence the safety culture of subordinate elements.

A Defined Safety Organisation Structure

5. Work closely with subordinate element safety teams, including any civilian contract workforce, to ensure that the established safety organisation structure is maintained and resourced to support the ASMS.

Communication

6. Liaise with external aviation safety maintenance organisations on behalf of the commander.

7. Liaise with DFSB on the maintenance/engineering aspects of aviation safety related matters.

8. Maintain awareness of maintenance/engineering aviation safety issues throughout the subordinate units of the command.

9. Dissemination of appropriate external source aviation maintenance/engineering safety material to subordinate units.

Documented Safety Policy

10. Ensure command aviation safety related orders and instructions are reviewed and updated in accordance with the command review process.

Training and Education

11. Monitor the command's compliance with relevant training and education instructions particularly with regard to maintenance personnel and MASOs.

Risk Management

12. Provide risk management advice and support to the commander and subordinate elements particularly with regard to maintenance activities.

Hazard Reporting and Tracking

13. Use the Aviation Safety Reporting Tool in Sentinel and other tools to conduct analysis of aviation maintenance/engineering events and hazards.

14. Manage the command's aviation maintenance/engineering hazards, including collation and analysis of data in the Aviation Safety Reporting Tool in Sentinel.

Investigation

15. Investigate the maintenance/engineering aspects of selected aviation safety events, as directed by the commander.

Emergency Response

16. Coordinate the maintenance aspects of command management of accident response procedures.

Survey and Audit

17. Nil.

ASMS Review

18. Nil.

Prerequisite Training

19. The following courses are prerequisites for performing the CMEASO role:

a. Aviation Safety Officer (Initial) Course 209130.

b. Aviation Safety Officer (Advanced) Course 111632.

Other Training Opportunities

20. The following training opportunities compliment the ASO(I) and ASO(A) courses by providing a pathway for CMEASOs to build on the knowledge required to perform the CMEASO role:

a. State based Emergency Management Services training applicable to ISC functions: Unit expense.

b. ATSB – Human Factors for Transport Safety Investigators: Unit Expense.

c. ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

FEG ASO AVIATION SAFETY RESPONSIBILITIES

1. Force Element Group commanders (FEGCDRs) should appoint, when appropriate to the Force Element Group (FEG) structure, a FEG Aviation Safety Officer (Group Aviation Safety Officer for Air Force (GASO); Fleet Aviation Safety Officer (FASO) for Navy; SO2 Force Preservation for Army). Recommended responsibilities for these appointments are provided below.

Genuine Command Commitment

2. Manage and coordinate all aspects of the FEG's ASMS on behalf of the commander.

3. Advise the commander on all aviation safety related matters.

4. Provide advice to the commander on relevant and significant aviation safety related matters derived from the Aviation Safety Reporting Tool in Sentinel or other means.

5. Assist the commander with the development, review and management of relevant aviation safety policy statements.

6. Assist subordinate elements with the resolution of aviation safety issues.

A Generative Safety Culture

7. Liaise with and assist subordinate elements in the development and sustainment of their ASMS.

8. Continually monitor and positively influence the safety culture of subordinate elements.

A Defined Safety Organisation Structure

9. Work closely with subordinate and higher headquarters safety staff, as well as any civilian contract workforce, to ensure that the established safety organisation structure is maintained and resourced to support the ASMS.

Communication

10. Coordinate (if appropriate to the FEG structure) Aviation Safety Committee meetings and act as secretary.

11. Liaise with DFSB on relevant aviation safety matters.

12. Maintain awareness of aviation safety issues throughout the FEG .

13. Disseminate appropriate aviation safety material to subordinate elements.

Documented Safety Policy

14. Review and update FEG aviation safety related orders and instructions at the required intervals.

Training and Education

15. Monitor the FEG's compliance with relevant training and education instructions.

Risk Management

16. Provide risk management advice and support to the commander and subordinate elements.

17. Review FEG risk management orders, instructions and procedures at the required intervals.

18. Monitor FEG compliance with risk management instructions and processes.

19. Manage the establishment and maintenance of unit risk registers.

20. Coordinate risk management training for the FEG.

21. If required, delegate risk management responsibilities to a suitably qualified FEG member.

Hazard Reporting and Tracking

22. Manage FEG aviation hazards, including collation and analysis of data in theAviation Safety Reporting Tool in Sentinel.

23. Monitor event reporting by subordinate elements for completeness, accuracy and timeliness.

24. If appointed as the Aviation Hazard Review Board (AHRB) secretary, provide staff support to the duties of the Hazard Tracking Authority (HTA).

25. Participate in AHRBs as directed and provide command support as required.

Investigation

26. Investigate selected aviation safety events as directed by the commander.

27. Ensure, on behalf of the commander, that accepted recommendations of CDF COIs, BOIs, and Aviation Safety Investigation Teams (ASIT) are actioned.

Emergency Response

28. Coordinate FEG management of accident response procedures.

29. Provide oversight and input to subordinate unit AEP/UEP.

Survey and Audit

30. Assist higher headquarters staff with safety audits of the FEG.

31. Coordinate and conduct aviation safety audits of subordinate elements at the required intervals unless achieved by other command audits.

ASMS Review

32. Conduct a regular review of the FEG's ASMS. (This review can be informed by the outcomes of safety investigations, AHRBs, aviation safety committee meetings, surveys and audits.)

Prerequisite Training

33. The following courses are prerequisites for performing the FEG ASO role:

a. Aviation Safety Officer (Initial) Course 209130.

b. Aviation Safety Officer (Advanced) Course 111632.

Other Training Opportunities

34. The following training opportunities complement the ASO(I) and ASO(A) courses by providing a pathway to build on the knowledge required to perform this role:

a. ATSB – Human Factors for Transport Safety Investigators: Unit Expense.

b. ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

WING/REGIMENT ASO AVIATION SAFETY RESPONSIBILITIES

1. Wing/regiment commanders (OC WG/Regt CO) should appoint, when appropriate to the wing/regiment structure, a Wing/Regiment Aviation Safety Officer (WASO/RASO). Recommended responsibilities for the WASO/RASO are provided below.

Genuine Command Commitment

2. Manage and coordinate all aspects of the wing/regiment's ASMS on behalf of the OC/CO.

3. Advise the OC/CO on all aviation safety related matters.

4. Provide advice to the OC/CO on relevant and significant aviation safety related matters derived from the Aviation Safety Reporting Tool in Sentinel or other means.

5. Assist the OC/CO with the development, review and management of relevant aviation safety policy statements.

6. Assist subordinate units with the resolution of aviation safety issues.

A Generative Safety Culture

7. Liaise with and assist subordinate units in the development and sustainment of their ASMS.

8. Continually monitor and positively influence the safety culture of subordinate units.

A Defined Safety Organisation Structure

9. Work closely with subordinate and higher headquarters safety staff, as well as any civilian contract workforce, to ensure that the established safety organisation structure is maintained and resourced to support the ASMS.

Communication

10. Coordinate Aviation Safety Committee meetings and act as secretary.

11. Liaise with DFSB on relevant aviation safety matters.

12. Maintain awareness of aviation safety issues within subordinate units.

13. Disseminate appropriate aviation safety material to subordinate units.

Documented Safety Policy

14. Review and update wing/regiment aviation safety related orders and instructions at the required intervals.

Training and Education

15. Monitor the wing/regiment's compliance with relevant training and education instructions.

Risk Management

16. Provide risk management advice and support to the OC/CO and subordinate units.

17. Review wing/regiment risk management orders, instructions and procedures at the required intervals.

18. Monitor wing/regiment compliance with risk management instructions and processes.

19. Manage the establishment and maintenance of wing/regiment risk registers.

20. Coordinate/deliver risk management training for the wing/regiment.

21. If required, delegate risk management responsibilities to a suitably qualified wing/regiment member.

Hazard Reporting and Tracking

22. Manage wing/regiment aviation hazards, including collation and analysis of data from the Aviation Safety Reporting Tool in Sentinel.

23. Monitor event reporting by subordinate units for completeness, accuracy and timeliness.

24. If the OC/CO is appointed as a Hazard Tracking Authority (HTA), conduct the duties of the Aviation Hazard Review Board (AHRB) secretary

Investigation

25. Investigate selected aviation safety events as directed by the OC/CO.

26. Ensure, on behalf of the OC/CO, that accepted recommendations of CDF COIs, BOIs, and Aviation Safety Investigation Teams (ASIT) are actioned.

Emergency Response

27. Coordinate Wing/Regiment management of accident response procedures.

28. Provide oversight and input to subordinate unit AEP/UEP.

Survey and Audit

29. Assist the FEG ASO with safety audits of the wing/regiment and units.

ASMS review

30. Conduct a regular review of the wing/regiment's ASMS. (This review can be informed by the outcomes of safety investigations, AHRBs, aviation safety committee meetings, surveys and audits.)

Prerequisite Training

31. The following courses are prerequisites for performing the WASO/RASO role:

a. Aviation Safety Officer (Initial) Course 209130.

b. Aviation Safety Officer (Advanced) Course 111632.

c. Aviation Risk Management (AVRM) course code 215040

Other Training Opportunities

32. The following training opportunities complement the ASO(I) and ASO(A) courses by providing a pathway to build on the knowledge required to perform this role:

a. State based Emergency Management Services training applicable to ISC functions: Unit expense.

b. ATSB – Human Factors for Transport Safety Investigators: Unit Expense.

c. ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

d. National Search and Rescue School – Search and Rescue Officer training: Unit Expense.

e. Aviation Non-Technical Skills Trainer course PMKeyS code 213653

UNIT ASO AVIATION SAFETY RESPONSIBILITIES

1. The unit commanding officer should appoint a Unit Aviation Safety Officer (UASO). Recommended responsibilities for the UASO are provided below.

Genuine Command Commitment

2. Manage and coordinate all aspects of the unit's ASMS on behalf of the CO.

3. Advise the CO on all aviation safety related matters.

4. Provide advice to the CO on relevant and significant aviation safety related matters derived from the Aviation Safety Reporting Tool in Sentinel or other means.

5. Assist the CO with the development, review and management of relevant aviation safety policy statements.

A Generative Safety Culture

6. Continually monitor and positively influence the safety culture of the unit.

7. Develop and implement strategies to promote a generative safety culture.

A Defined Safety Organisation Structure

8. Work closely with higher headquarters safety staff, as well as any civilian contract workforce, to ensure that the established safety organisation structure is maintained and resourced to support the ASMS.

Communication

9. Liaise with DFSB on relevant aviation safety matters.

10. Coordinate unit aviation safety committee meetings and act as secretary.

11. Assist and/or participate in base/station/ship and higher level safety committee meetings as well as AHRBs.

Documented Safety Policy

12. Review and update unit aviation safety related orders and instructions at the required intervals.

Training and Education

13. Develop and implement the unit aviation safety training program (including safety standown, risk management, and non-technical skills continuation training).

14. Coordinate aviation safety promotion and training within the unit.

15. Coordinate safety standdowns.

Risk Management

16. Provide risk management advice and support to the CO.

17. Review unit risk management orders, instructions and procedures at the required intervals.

18. Monitor unit compliance with risk management instructions and processes.

19. Manage the establishment and maintenance of unit risk registers.

20. Coordinate/deliver risk management training for the unit.

21. If required, delegate risk management responsibilities to a suitably qualified unit member.

Hazard Reporting and Tracking

22. Use the Aviation Safety Reporting Tool in Sentinel and other tools to conduct trend analysis of aviation safety events to guide safety management activities.

23. Review all ASRs and ensure the investigations and reports are of the required standard and completed within the required timeframes.

Investigation

24. Conduct unit level investigations.

25. Provide advice and guidance to unit members in their conduct of investigations.

26. Assist with the implementation of recommendations and actions arising from investigations.

Emergency Response

27. Provide emergency response advice to the CO and ensure the UEP is reviewed, exercised, and updated at the required intervals.

Survey and Audit

28. Coordinate the conduct of aviation safety surveys and audits of the unit.

ASMS review

29. Conduct a regular review of the unit's ASMS. (This review can be informed by the outcomes of safety investigations, AHRBs, aviation safety committee meetings, surveys and audits.)

Prerequisite Training

30. The Aviation Safety Officer (Initial) Course 209130 is a prerequisite for performing the UASO role.

Other Training Opportunities

31. The following training opportunities are available to build on the knowledge gained from the ASO(I) course :

- **a.** Aviation Safety Officer (Advanced) Course 111632.
- **b.** Aviation Risk Management (AVRM) Course 215040
- **c.** Aviation Non-Technical Skills Trainer Course 213653
- **d.** State based Emergency Management Services training applicable to ISC functions: Unit expense.
- **e.** ATSB – Human Factors for Transport Safety Investigators: Unit Expense.
- **f.** ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

UNIT MAINTENANCE ASO AVIATION SAFETY RESPONSIBILITIES

1. The unit commander, in consultation with the SMM, should appoint a MASO. Recommended responsibilities for the MASO are provided below.

Genuine Command Commitment

2. Work collaboratively with the UASO to manage and coordinate all aspects of the unit's ASMS.

3. Advise the UASO, SMM and CO on maintenance aviation safety related matters.

4. Provide advice to the CO on relevant and significant maintenance aviation safety related matters derived from the Aviation Safety Reporting Tool in Sentinel or other means.

A Generative Safety Culture

5. Continually monitor and positively influence the safety culture of the unit.

6. Develop and implement strategies to promote a generative safety culture.

A Defined Safety Organisation Structure

7. Work closely with the UASO and higher headquarters safety staff as well as any civilian contract workforce on all aspects of aviation safety within the unit.

Communication

8. Liaise, where appropriate, with the UASO, SMM, CMEASO and DFSB on all aspects of aviation safety affecting the maintenance element of the unit.

9. Assist the UASO with the convening of unit aviation safety committee meetings and attend such meetings.

10. Assist and/or participate in base/station/ship and higher level safety committee meetings as well as AHRBs.

Documented Safety Policy

11. Review and update unit maintenance aviation safety related orders and instructions at the required intervals.

Training and Education

12. Work closely with the UASO to develop and implement the maintenance aspects of the unit aviation safety training program.

13. Coordinate maintenance aspects of safety standdowns.

14. Coordinate aviation safety promotion and training within the maintenance element of the unit.

Risk Management

15. Assist the UASO with all risk management duties.

16. Coordinate/deliver risk management training for unit maintenance personnel.

Hazard Reporting and Tracking

17. Use the Aviation Safety Reporting Tool in Sentinel and other tools to conduct trend analysis of aviation safety events to guide safety management activities.

18. Review all unit maintenance Aviation Safety Reports (ASRs)/Operational Hazard (OPHAZ) reports and ensure the investigations and reports are of the required standard and completed within the required timeframes.

Investigation

19. Conduct unit level investigations.

20. Provide advice and guidance to unit members in their conduct of investigations.

21. Assist with the implementation of recommendations and actions arising from investigations.

Emergency Response

22. Assist the UASO with duties related to unit emergency response and the Unit Emergency Plan (UEP).

Survey and Audit

23. Assist the UASO with the conduct of aviation safety surveys and audits of the unit.

ASMS review

24. Assist the UASO in the conduct of regular reviews of the unit's ASMS.

Prerequisite Training

25. The Aviation Safety Officer (Initial) Course 209130 is a prerequisite for performing the MASO role.

Other Training Opportunities

26. The following training opportunities are available to build on the knowledge gained from the ASO(I) course :

- **a.** Aviation Safety Officer (Advanced) Course 111632.
- **b.** Aviation Risk Management (AVRM) Course 215040
- **c.** Aviation Non-Technical Skills Trainer Course 213653
- **d.** State based Emergency Management Services training applicable to ISC functions: Unit expense.
- **e.** ATSB – Human Factors for Transport Safety Investigators: Unit Expense.
- **f.** ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

BASE/STATION ASO AVIATION SAFETY RESPONSIBILITIES

1. The Base Aviation Safety Officer (BASO) (or equivalent) is responsible to the air base designated manager of safety to provide aviation safety subject matter expertise in support of continued safe air base aviation activities. Recommended responsibilities for the BASO are provided below.

Genuine Command Commitment

2. Manage a tailored ASMS applicable to the resident aviation units/typical aviation operations and local operating environment.

3. Advise the air base designated manager of safety on aviation safety related matters.

A Generative Safety Culture

4. Continually monitor and positively influence the safety culture of the unit.

5. Develop and implement strategies to promote a generative safety culture.

A Defined Safety Organisation Structure

6. Work closely with higher headquarters safety staff as well as any civilian contract workforce on all aspects of aviation safety within the unit.

Communication

7. Liaise with DFSB, WASO (E), E&IG and resident aviation elements on aviation safety issues.

8. Coordinate base aviation safety committee meetings and act as secretary.

Documented Safety Policy

9. Sponsor base orders and instructions applicable to the conduct of safe aerodrome operations.

Training and Education

10. Coordinate aviation safety promotion and training through the Base Aviation Safety Committee.

Risk Management

11. Provide risk management advice and support to the air base designated manager of safety.

12. Review aerodrome risk management orders, instructions and procedures at the required intervals.

13. Monitor compliance with aerodrome risk management instructions and processes.

14. Manage the establishment and maintenance of aerodrome risk registers.

Hazard Reporting and Tracking

15. Use the Aviation Safety Reporting Tool in Sentinel and other tools to conduct trend analysis of aviation safety events to guide safety management activities.

16. Review all unit ASRs and ensure the investigations and reports are of the required standard and completed within the required timeframes.

Investigation

17. Investigate air base aviation safety events.

18. Support DFSB/FEG/Wing investigations when requested.

Emergency Response

19. Manage and exercise the Base Aerodrome Emergency Plan (AEP).

20. Assist base elements with AEP responsibilities to develop and exercise individual response plans.

Survey and Audit

21. Coordinate the conduct of aviation safety surveys and audits relating to the aerodrome.

22. Assist resident aviation elements with the conduct of aviation safety surveys audits.

ASMS review

23. Conduct a regular review of the unit's ASMS. (This review can be informed by the outcomes of safety investigations, AHRBs, aviation safety committee meetings, surveys and audits.)

Prerequisite Training

24. The following courses are prerequisites for performing the BASO role:

a. Aviation Safety Officer (Initial) Course 209130.

b. Aviation Safety Officer (Advanced) Course 111632.

c. Air Force Base Aviation Safety Officer (BASO) training – Modules 1 and 2 course 214663 and 214664 (or equivalent Army/Navy training).

d. Certificate IV in Workplace Training and Assessment.

Other Training Opportunities

25. The following training opportunities are available to expand the knowledge of the BASO:

a. State based Emergency Management Services training applicable to ISC functions: Unit expense.

b. ATSB – Human Factors for Transport Safety Investigators: Unit Expense.

c. ATSB – Aviation Accident Investigation Fundamentals: Unit expense.

d. Contract Management training: Unit expense, TBC.

e. National Search and Rescue School – Search and Rescue Officer training – Unit Expense.

f. MILSAR through HQJOC. TBC.

g. Aviation Risk Management (AVRM) course code 215040.

h. Aviation Non-Technical Skills Trainer Course 213653.

i. Lead internal/external auditor training: unit expense.

j. Contract management training: unit expense.

AVIATION SAFETY IN OPERATIONS AND EXERCISES

INTRODUCTION

1. The Defence Aviation Safety Management System (ASMS) applies equally in operations and exercises as it does in peacetime training. Its application in all phases of an operation or exercise should enhance capability, mission effectiveness and flexibility. This chapter will concentrate on the application of aviation safety in actual operations, taking into account lessons learnt from previous Defence aviation operations. The guidance contained applies equally to the planning and conduct of major exercises.

PLANNING

2. Aviation safety should be considered from the earliest stages of planning for an operation. Every operation is unique, and the required aviation safety structure and organisation required for the operation will also be unique. However, the principles that should be followed during the planning stage apply equally to all operations. Planning for aviation safety in operations should consider the type of ADF aviation safety structure required, responsibility and accountability for aviation safety, aviation safety appointments/staffing, safety reporting, emergency response and aviation safety event investigation.

Aviation Safety Structure

3. Each operation will require a safety management structure that takes into account the unique operational circumstances. Factors to consider may include size of the ADF aviation contribution, types of weapons systems involved, coalition partners, lead nation, diplomatic considerations, command and control arrangements, coalition safety organisations, air standards or other agreements that may apply, and responsibility for operating base safety management. In the planning phase, the advice of aviation safety specialists such as DFSB personnel, Fleet Air Arm Safety Cell, Forces Command Aviation Branch Force Preservation Staff and the Headquarters Air Command Command Aviation Safety Officer, as applicable, can be sought as to the most suitable safety structure for the operation in question.

Responsibility and Accountability for Aviation Safety

4. During the planning stage, the commander responsible for aviation safety during the operation should be nominated. Generally, the officer or appointment assigned operational command of ADF aviation elements in the operation will be responsible for aviation safety. During planning, the nominated commander should consult aviation safety subject matter experts to ensure satisfactory arrangements for aviation safety management for the entire operation are in place.

Safety Appointments

5. Safety appointments applicable to the operation should be nominated during the planning phase. The number and level of safety appointments will depend on the size and structure of the ADF aviation elements deployed. For large coalition operations, a designated trained ADF Aviation Safety Officer (ASO) should be appointed. Within the ADF command and control arrangements, the commander should nominate a designated trained ASO. Depending on operational requirements, these two positions may be part-time and combined. All ADF aviation detachments/elements should nominate an ASO, and if applicable a Maintenance Aviation Safety Officer.

Safety Reporting

6. Safety reporting requirements should be determined in the planning stage. Aviation Safety Report (ASR) submission and tracking mechanisms need to be agreed and set in place. The classification of ASRs and the submission requirements for PROTECTED and above ASRs need to be clarified. Where information is to be reported following an event that is classified, unclassified information pertaining to the event should still be raised in the Aviation Safety Reporting Tool in Sentinel with a reference to the appropriate classified file holding further information. Hazard reporting and tracking procedures and requirements should be determined and included in planning. Processes and mechanisms for the reporting of safety issues through the operational command chain should be determined and promulgated. Existing systems such as the ADF Activity Analysis Database System (ADFAADS) may be one means of capturing classified safety information.

Risk Management

7. Aviation Risk Management (AVRM) principles apply equally to planning for operations and exercises as they do for peacetime training.

Emergency Response

8. Emergency response plans need to be considered in the planning phase. Responsibilities for operating base emergency response will depend on the ownership of the base, agreements with the host nation (if applicable) and coalition capabilities. Planning should ensure that, if possible given the operational constraints, adequate emergency response will be in place before the first ADF aviation assets arrive in theatre.

Accident Investigation

9. Responsibilities for aviation accident investigation should be determined during the planning phase. International agreements such as Memorandums of Understanding (MOU) and Air Standards may apply. Procedures for accident investigations may be very complex depending on coalition partners involved and the number of national elements that may be operating with ADF aviation assets. Procedures for establishing lead investigation agencies should be agreed as early as possible. DFSB will be the lead Defence agency for accident investigations and as such, DFSB advice should be sought during planning. Callout procedures for response to, and investigation of, accidents in theatre should be developed. If necessary, force preparation of ADF accident investigation nominated staff, including the relevant DFSB appointments, should begin as early as possible.

Work-up

10. Depending on the operational scenario, and for most major exercises, a work-up phase may be available. The work-up has proven to be an extremely busy and, on occasion, an emotional time for all involved. Work-up training should be commenced as soon as practicable, structured in an outcome driven format, and planned in accordance with AVRM principles. The work-up plan should, where possible, allow for personnel personal requirements such as pre-deployment leave.

Deployment

11. The deployment phase of the operation will present a variety of safety challenges depending on the area of operations and operational scenario. AVRM should be used to establish the deployment hazards and apply the necessary hazard mitigators to ensure risks are reduced to the appropriate level. Hazards to consider during the deployment phase may include:

a. Deployment Distance. The further the deployment distance, the more crew rest and fatigue management issues will need to be considered in deployment planning. Arranging departure schedules to enable crews to arrive in theatre in the least fatigued state is an important consideration.

b. Deployment Routing. Long distance deployments may require careful routing to ensure safety is not compromised. Depending on deployment distances, aircraft and personnel may be required to perform several en route stops, perhaps at unfamiliar airfields involving unique hazards including terrain, temperature, weather, approach, runway, parking/hardstand facilities and unique Air Traffic Control (ATC) procedures.

c. Operating Base Hazards. Depending on the theatre of operations, the operating base(s) may present multiple hazards that ADF personnel are not familiar with. Such hazards may include temperature extremes (both heat and cold), rough surfaces, sand, dust, ice, snow, heavy air and ground traffic, language difficulties, different ATC procedures, complex command and control arrangements, disease, hygiene, austere personnel accommodation and working conditions, and inadequate crew rest facilities. As much as possible the deployment plan should consider and mitigate the hazards relevant to the particular operation. Training in dealing with the hazards, including the use of simulators, should be considered if applicable and time permits.

d. Circadian Dysrhythmia. The area of operations may be considerably displaced from the home base time zone. Deployment planning will need to consider the effects of circadian dysrhythmia to ensure, as much as possible, that personnel not only arrive in theatre with as low as possible fatigue levels, but personnel are also given sufficient time to recover from circadian dysrhythmia before performing operational duties.

e. Fatigue Management. The work-up to, and then the deployment itself, will be a busy time for all personnel as well as possibly physically and emotionally challenging. As much as possible, the deployment should be planned to minimise the hazard posed by personnel fatigue.

In-Theatre Preparation

12. Depending on the operational scenario, there may be preparation time in-theatre before operations commence, or operations may commence on arrival. If operations commence on arrival, all safety considerations for commencing operations will need to be considered and taken care of during planning and deployment. If there is preparation time in

theatre, this time should be used to review the operation's ASMS and ensure all elements are in place. Through the appointed ASO(s), the commander responsible should ensure the following aspects are in place:

a. **Safety Management Structure.** Once in theatre the commander with aviation safety accountability should ensure the safety structure is appropriate and functional and make/request changes as required. It may be appropriate (if applicable) to 'plug in' to the safety structure of the lead nation or base operating authorities.

b. **Responsibility and Accountability.** Responsibilities and accountability for aviation safety devised in the planning stage should be reviewed once in theatre to ensure no changes are necessary.

c. **Safety Appointments.** The safety appointments devised in the planning stage should be reviewed to ensure appropriate reporting chains, sufficient command safety support, and that all necessary safety considerations are covered.

d. **Communication and Liaison.** Communication of safety information and liaison with the safety staffs of the host nation and coalition forces (if applicable) will be essential to ensure the maximum safety of operations. To this end, commanders should ensure that their safety staff meet, and set up communication processes with, relevant host nation/coalition safety staff. This could include 'tapping in' to coalition safety briefings and operating base safety meetings.

e. **Safety Reporting.** The identification, reporting and tracking of aviation safety hazards is just as important on operations as in peacetime training. The Aviation Safety Reporting Tool in Sentinel should be used to report and track hazards through OPHAZs and ASRs. Where classification of information prevents the Aviation Safety Reporting Tool in Sentinel being used, unclassified details should still be raised within Aviation Safety Reporting Tool in Sentinel, with a reference to the applicable file containing further information. If the Aviation Safety Reporting Tool in Sentinel is not suitable or available, DFSB should be consulted to enable the establishment of suitable hazard reporting and tracking mechanisms.

f. **Safety Committees.** Depending on the operational command and control arrangements and expected duration of the operation, the ADF aviation command and detachment/elements should establish an appropriate Aviation Safety Committee (ASC) structure to ensure effective communication of safety information, and that hazards are identified and actioned as soon as possible. This may involve establishing both a deployed element and Base ASC or 'plugging in' to host nation/coalition partner committee structures. The important thing is to ensure mechanisms appropriate to the operation are in place to facilitate rapid communication of safety issues to commanders with the authority and resources to respond to the issues. A 'lessons learnt' book, updated and reviewed by the detachment ASO, available for perusal by all personnel, may enable the documentation of ideas and initiatives to improve safety and facilitate improved communication of safety information.

g. **Emergency Response.** Depending on the scenario, ADF elements may be responsible for emergency response, or this responsibility may be held by host nations/coalition partners. Regardless, the ADF aviation commander should ensure that satisfactory emergency response plans are in place and that all ADF personnel/appointments with emergency response responsibilities are trained and practiced in their roles. If possible, the emergency response plan for each base should be reviewed and practiced as soon as possible.

h. **Accident Investigation.** Aviation accidents involving ADF aircraft on operations and exercises will be investigated by DFSB. To this end all DFSB Safety Investigation staff and appropriate subject matter experts from involved Force Element Groups (FEG) should be force-prepared for deployment and placed on short notice-to-move. Deployed emergency response plans should consider the requirements of the Aviation Safety Investigation Team (ASIT) upon arrival in theatre, which, depending on the area, may be up to 48 hours after the accident. The actual emergency response to an accident will depend on a variety of factors, including operational security of the accident site, accessibility, nation of occurrence, involvement of personnel/aircraft from other nations and other factors. The booklet *Hazards at aircraft accident sites Guidance for police and emergency personnel* (available from DFSB) provides guidance on what to do following an accident. If possible, response to an accident should facilitate:

(1) if feasible, the establishment of an exclusion zone around the accident site (up to 500 feet and one kilometre);

(2) rescue and recovery of all personnel involved in the accident;

(3) if accessible, securing and quarantining the accident site after rescue operations are completed, including making the area safe from hazardous materials and explosive ordnance;

(4) quarantining of all documentation relevant to the accident, including scheduling plans, Air Tasking Orders (ATOs), authorisation book, mission planning, mission briefing, flying orders, standing instructions, log books, aircraft maintenance documentation, etc;

(5) if accessible, retrieval and quarantining of any crash data recorder equipment and any other recordable data/information (Maintenance Status Display Recording System, Head-Up Display tapes, ATC tapes, etc);

(6) toxicological samples of all personnel involved, if possible supervised by an aviation medicine (AVMED) qualified medical officer;

(7) where applicable, post-mortem examination of members deceased as a result of the accident, and if not possible use of morgue facilities until a post-mortem can be organised;

(8) compiling a list of all known witnesses and their contact details; and

(9) interviewing of witnesses to the accident by ASO-qualified personnel, but only after consultation with DFSB.

13. If there is scope for in-theatre preparation, the relevant commander may consider using external aviation safety expertise to assist in ensuring all elements of the ASMS are adequately implemented. To this end, the relevant DFSB staff could be used to review the arrangements in place and advise the commander of any suggested improvements. Such a review would also facilitate DFSB liaison with host nation and coalition partners to confirm arrangements for emergency response to, and investigation of, ADF aviation accidents in theatre.

OPERATIONS

14. During operations, the responsible commander should ensure regular review of the operation's ASMS. This review process should be structured according to the requirements of the operation. Safety should be included in all major staff meetings, which designated safety staff at the appropriate level should attend. Safety should be an integral part of operations, just as it is in peacetime training.

15. Depending on the size and anticipated length of time of the operation, the commander should establish appropriate hazard reporting and tracking. ASR and OPHAZ reports should be submitted using the Aviation Safety Reporting Tool in Sentinel, unless not permitted due operational security restrictions or DRN connectivity problems. Actions and recommendations should be assigned to those agencies, either involved in the operation or at home, who have the authority and resources to mitigate the identified hazard.

16. For longer operations, personnel may be rotated at regular intervals, including safety staff. Such rotations should be planned to facilitate proper handover/takeover of deployment safety responsibilities.

Aviation Safety Management System Review

17. For longer operations, a structured ASMS review process will assist in ensuring hazards are identified, reported, tracked and actioned, and that lessons are learnt. Review processes could include the following:

a. **Aviation Safety Committee Meetings.** Regular operating base and detachment ASC meetings should be held, with distribution of the minutes to parent command and DFSB.

b. **Aviation Safety Review Team.** An Aviation Safety Review Team (ASRT) visit by aviation safety specialist staff such as DFSB staff and/or Command/FEG ASOs. The purpose of the ASRT visit would be to independently review the operation's ASMS and provide suggestions for improvements. The ASRT should if possible, visit all bases and operation aviation detachments. Detachment visits and personnel interviews by the ASRT may bring safety issues and hazards to light that were not revealed by the in-place ASMS.

c. **Conduct of an Aviation Safety Survey.** Such a survey could be conducted as part of an ASRT visit or by correspondence by DFSB. An aviation safety survey should be considered only for longer-term deployments where the benefits obtained from the survey will be worth the time and resources required to complete it.

d. **Conduct of an Aviation Safety Audit.** An audit of the ASMS could be conducted as part of an overall operational audit. Again, this may only be worthwhile on longer-term deployments.

Redeployment

18. Safety considerations for redeployment are similar to the deployment phase, with the exception that (generally speaking) personnel will be redeploying to a familiar environment. An additional consideration, however, is the mind-set of personnel returning home after experiencing what may have been extremely challenging physical and mental conditions for extended periods of time. Hazards to consider during the redeployment phase may include the following:

a. **Redeployment Distance.** The further the redeployment distance, the more crew rest and fatigue management issues will need to be considered in redeployment planning. Arranging departure schedules to enable crews redeploying aircraft to arrive home in the least possible fatigued state is an important consideration.

b. **Redeployment Routing.** Long distance redeployments may require careful routing to ensure safety is not compromised. Depending on redeployment distances, aircraft and personnel may be required to perform several en route stops, perhaps at unfamiliar airfields involving unique hazards including terrain, temperature, weather, approach, runway, parking/hardstand facilities and unique ATC procedures.

c. **Circadian Dysrhythmia.** The area of operations may be considerably displaced from the home base time zone. Redeployment planning will need to consider the effects of circadian dysrhythmia to ensure, as much as possible, that personnel not only arrive home with as low as possible fatigue levels, but personnel are also given sufficient time to recover from circadian dysrhythmia before performing any duties.

d. **Fatigue Management.** Operations, and then the redeployment itself, may be a busy time for all personnel as well as possibly physically and emotionally challenging. As much as possible, the redeployment should be planned to minimise the hazard posed by personnel fatigue.

e. **Mind–set.** Personnel who have safely completed what may have been arduous and challenging activities for a long period of time away from home may find it difficult to fully concentrate on the task at hand during re-deployment. Possible hazards include fatigue, complacency, inattention and get-home-itis. Planning and authorisation for the deployment should consider and mitigate these hazards.

RETURNING TO NORMAL OPERATIONS

19. Personnel returning from operations may take some time to re-adjust to home conditions, depending on the type of operation, location, duration and the conditions experienced while on deployment. In addition, depending on the operation, operators may have concentrated on specific tasks using specific skill sets and may require significant recurrency training in other skill sets before resuming ‘normal’ peacetime operations. Tasking of personnel after returning from deployment should consider these factors to ensure a safe return to peacetime training. Extensive de-briefing of personnel and reinforcement of ‘normal’ peacetime training limits and boundaries will facilitate the safe return to ‘normal’ operations.

LEARNING THE LESSONS

20. Every operation/exercise is unique, however, often lessons learnt are generic and can inform future operations/exercises. Processes should be in place to ensure all aviation safety lessons from an operation/exercise are recorded, ‘learnt’ by the organisation and included in planning for the next operation/exercise.

21. OPHAZ and ASR reports from the operation/exercise should be reviewed by the relevant FEG Hazard Tracking Authority (HTA) to ensure all appropriate actions have been taken and recommendations actioned. To this end, the convening of a special FEG Aviation Hazard Review Board (AHRB) to review all safety aspects of the operation may be appropriate. DFSB and command safety staff attendance at the special board may facilitate the lessons being ‘learnt’ at the organisational level and captured for future operations.

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MEMORANDUM OF UNDERSTANDING BETWEEN THE AUSTRALIAN DEFENCE FORCE AND THE SINGAPORE ARMED FORCES CONCERNING THE CONDUCT OF AIR SAFETY INVESTIGATIONS AND REPORTING AND THE EXCHANGE OF FLIGHT SAFETY INFORMATION

1. This Memorandum of Understanding (MOU) between the Australian Defence Force and the Singapore Armed Forces, hereinafter referred to as the Parties, records the understanding reached between the Parties for the investigation and reporting of accidents and incidents involving Service aircraft, associated weapons and stores and Surface to Air Missiles (SAM). This MOU is made pursuant to and is to be read in conjunction with:

a. the Exchange of Notes constituting a Status of Forces Agreement (SOFA) between the Government of Australia and the Government of Singapore, dated 1 December 1971; and

b. the Exchange of Notes constituting a Status of Forces Agreement (SOFA) between the Government of Australia and the Government of the Republic of Singapore, done at Singapore on 10 February 1988.

2. Where there is any inconsistency or conflict between the terms of the above SOFAs and this MOU, the terms of the relevant SOFA will prevail over this MOU.

3. Annexes to this MOU form an integral part of this MOU, but where there is a conflict, the terms of this MOU will prevail. Annexes may be amended at any time by the mutual consent in writing of the Parties.

Definitions

4. In addition to those definitions listed in the SOFAs, the following definitions will apply:

a. 'Accident or Incident' – means an occurrence determined by either Party to be an accident or incident in its territory, territorial waters, or on its ships involving an aircraft or SAM of the other Party.

b. 'Service Aircraft' – means any machine or device belonging to or operated by the Armed Forces or Services of either Party capable of flight, whether manned or unmanned, and including any stores carried or mounted on the aircraft.

c. 'Air Safety Investigation (ASI)' – means a process conducted into any accident or incident which includes the gathering and analysis of information, the drawing of conclusions, the determination of cause(s) and, where appropriate, the making of recommendations to prevent a similar occurrence.

d. 'Accident Investigation Team (AIT)' – means a team formed by the Parties to conduct an ASI.

e. 'Host Nation' – means the nation on, or above whose territory, territorial waters, or on whose ship an accident or incident occurred.

f. 'Host Party' – means the Party representing the Host Nation.

g. 'Intellectual Property' – means all copyright and all rights in relation to inventions, registered and unregistered trademarks (including Service marks), registered and unregistered designs, and circuit layouts, and any other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.

h. 'Operating Party' – means the Party, which is not the Host Party, operating the aircraft or SAM involved in the accident or incident.

i. 'Surface to Air Missile (SAM)' – means any surface launched device intended for flight belonging to the Service of either Party, which is not an aircraft.

Scope

5. This MOU applies to the conduct of ASIs into accidents or incidents involving Service aircraft or SAMs of either Party located or deployed in the territory of the other Party. ASIs will be conducted in accordance with the laws, regulations, and policies of the Host Nation. ASIs will be conducted for the sole purpose of determining flight safety issues arising out of any accident or incident and will not pre-empt or replace any other necessary or requisite investigation by either Party.

6. Where Service aircraft or SAMs of a third party country are involved in any accident or incident with Service aircraft or SAMs of an operating Party in the territory of the Host Nation, the military authority of that third party country may be invited to participate in the ASI if the Parties mutually consent to such invitation. A condition of the invitation to the third country to participate is that country will enter, prior to commencement of its participation, into

a written undertaking to comply with the terms of this MOU. It will be the responsibility of the Host Nation to issue the invitation and obtain the written undertaking. The Host Party will ensure that the third country participating in the ASI complies with its written undertaking.

7. ASIs into accidents or incidents involving Service aircraft or SAMs and civilian aircraft will be conducted in accordance with the provisions of Annex 13 to the International Civil Aviation Organisation Convention on International Civil Aviation. Where the Government of the Operating Party has laws or regulations requiring their national civil aviation authorities investigate any accidents or incidents involving civilian aircraft registered in the Operating Party's country, the Host Party may, if its laws permit, invite those national civil aviation authorities to participate in the Host Nation's civil safety investigation.

Policy

8. Each Party will use its best efforts to:

- **a.** provide timely notification, to the other Party, of any occurrence which is likely to be an accident or incident within the terms of this MOU,
- **b.** make available operational, technical, and medical experts for advice or consultation. These experts may be provided for appointment to an AIT as members or observers,
- **c.** provide timely and appropriate information from any AIT to the other Party, and
- **d.** routinely exchange flight safety information on issues of mutual interest.

Air Safety Investigation

9. An AIT will be formed to conduct an ASI. The Parties recognise the desirability of conducting only one ASI into any accident or incident and will seek to achieve that end.

10. The Operating Party will have the sole discretion to conduct its own investigation into an accident or incident involving solely its aircraft or SAM(s) in the territory, territorial waters, or on ships of the Host Party, and which involves no other authority or agency in the Host Nation. The Operating Party may, however, determine such an occurrence to be an accident or incident within the terms of this MOU and request that an ASI be conducted pursuant to this MOU. If the Operating Party is unable or determines not to conduct its own investigation into any accident or investigation it will advise the Host Nation. In such circumstances, the Host Party may itself determine to conduct an ASI pursuant to the terms of this MOU.

Accident Investigation Team

11. The Parties will mutually determine the composition of an AIT. An AIT will be composed of members who are appropriately qualified investigators, technical and medical advisers and observers. Except as otherwise provided in this MOU, members of the AIT will usually be members of the Armed Forces of the Parties.

12. Each Party will advise the other Party of the designated senior member of its personnel participating in an AIT. Where the AIT is into an accident or incident only involving Service aircraft or SAMs of the Operating Party and personnel from both Parties constitute an AIT, the designated senior member from the Operating Party will be the chairman of the AIT. If the accident or incident involves aircraft or SAM(s) from both Parties, the designated senior member from the Host Party will be appointed chairman of the AIT.

13. No person who may be deemed to be directly associated with the cause of the accident or incident, or who may have a personal interest in the outcome of an ASI may be appointed as, or remain as, a member or observer to an ASI or act as an adviser to an ASI.

14. If, before or during an ASI, it is determined that the personnel, aircraft, or SAM(s) of a third country are involved or may have contributed to an accident or incident, the military authority of that third country may be invited to participate in the ASI if the Parties mutually consent to such invitation. Where the third country is invited to participate in the AIT, it will abide by the provisions of this MOU pursuant to its written undertaking as provided in paragraph 5 of this MOU. The third country may nominate a designated senior member to sit on the AIT. Personnel of the third country will be instructed by the relevant authority of their country to comply with the laws and regulations of the Host Party insofar as they are applicable to the ASI.

15. The proceedings of an ASI will be conducted in a strictly confidential manner. Any person not involved in the ASI will not be allowed to be present during such procedures unless expressly permitted by the Chairman.

16. The Parties will adhere to standard procedures in the event of an accident or incident. These procedures are detailed in annex A to this MOU.

17. Upon completion of the ASI, the AIT will prepare an Air Accident Investigation Report (AIR) which includes, but is not limited to the following sections:

a. factual circumstances;

b. investigations and analysis;

c. findings and cause(s); and

d. recommendations to prevent similar occurrences.

18. The AIR will be forwarded to the appropriate military authorities of the Parties and any other participating country.

19. Any statement, photograph, or other information obtained for or relating to the ASI may be attached to the AIR. The AIR need not contain only the unanimous views of the AIT members. All points of view may be stated in the AIR. Each of the designated senior members will indicate in the AIR his or her concurrence with the ASI methodology, findings, and recommendations or any reasons for non-concurrence.

20. The AIR will be a document complete in itself. The Parties may use the AIR as they each deem appropriate. If a third country has participated in the ASI, it will be given a copy of the AIR which it may use within its defence organisation for defence purposes but not including any third party sales or transfers. However, the third country will not release the AIR to any other party or person without the consent of both Parties.

21. Subject to the national laws, regulations and policies of the countries of the Participants, the AIR will not be used in any civil or criminal proceedings, nor will it be used to determine liability or compensation for any claim that may arise as a result of the accident or incident.

22. Each Party, including any third countries invited to participate, will bear its own costs of participating in the AIS and the production of the AIR. Where costs are jointly incurred on behalf of all participants then these costs will be divided equally between the participants and paid as mutually determined by them.

Flight Safety Information

23. The Parties, when they mutually determine to do so, may exchange flight safety information pursuant to this MOU which may cover, but not be limited to:

a. flight safety publications,

b. summaries of significant incident reports,

c. accident reports,

d. training publications and materials, and

e. other material of mutual interest.

24. Neither Party will use flight safety information provided by the other Party for any purpose other than for its defence purposes nor disclose, sell or transfer such information to third parties, including individuals, organisations, or governments without the prior written approval of the other Party. Each Party will endeavour to take all lawful steps available to it to keep free from disclosure under any legislative provision any information exchanged or otherwise disclosed under this MOU. Information will not be used in any civil or criminal proceedings, nor will it be used to determine liability or compensation for any incidents or accidents involving either Party's aircraft.

25. While it would normally be expected that flight safety information will be exchanged free of charge by the Party providing the information, there may be circumstances in respect of specific types of information or requests for information where the providing Party will incur extra costs. Where the providing Party determines that such circumstances have arisen it will, prior to providing the information, advise the other Party of these extra costs. If the requesting Party consents to bear these extra costs, the Parties will mutually determine the procedure for the payment of these costs. The information will be passed to the requesting Party as soon as practicable after payment of the costs.

Security

26. Information released to either Party will be limited to information, including classified information, which is releasable to the other Party's parent Government. Any release of information pursuant to this MOU will be subject to the Agreement between the Government of Australia and the Government of the Republic of Singapore for the reciprocal protection of classified information transmitted between the Australian Department of Defence and the Singapore Ministry of Defence which entered into force on 7 June 1997.

27. The Host Party will ensure that any third party country invited to participate in an ASI will comply with the written undertaking referred to in paragraph 5 of this MOU. The third country will undertake not to exchange or communicate any classified information exchanged or communicated to it in the course of an ASI with third parties except with the written approval of the Party from whom the information originated. The third country receiving such classified information will undertake to accord to the information a standard of physical and legal protection not less than that which it accords to its own classified information of corresponding classification.

Intellectual Property

28. Any intellectual property resulting directly from the joint activities of the Parties under this MOU will be jointly owned by the Governments of the Parties. The Participants will mutually determine on the handling and disposal of any such intellectual property. Where a single Party creates intellectual property as a result of its individual conduct of an ASI under this MOU, the Government of that Party will own the intellectual property.

Finance

29. Except as otherwise provided in this MOU, each Party will be responsible for meeting its own costs under this MOU.

Settlement of Disputes

30. Any disputes arising from the interpretation or implementation of this MOU will be resolved amicably and expeditiously by consultation or negotiation between the Parties.

Commencement, Amendment, Review and Termination

31. This MOU will enter into effect on the date of the last signature.

32. This MOU may be amended in writing by mutual consent at the request of either Party. The Parties may mutually consult to a review of this MOU at any time.

33. This MOU may be terminated by either Party giving written notice to the other Party of its intention to terminate the MOU, in which case it will terminate six months after the date of the notice of termination. Alternatively, the Parties may mutually determine to terminate this MOU at any time. Any ASI being conducted at the time of termination of this MOU will be finalised regardless of any such termination of this MOU. Notwithstanding termination, the Parties will continue to abide by the terms of this MOU as regards all matters arising pursuant to this MOU prior to its termination.

34. To facilitate implementation of this MOU, the Parties will nominate their Points of Contact in annex B to this MOU. Each Party will be responsible for maintaining the currency of the details of its Points of Contact. A Party may amend its entry in Annex B at any time and advise the other Party in writing.

For the Australian Defence Force	For the Singapore Armed Forces
[Original Signed]	*[Original Signed]*
A.G. HOUSTON	Lim Kim Choon
Air Marshal	Brigadier General
Chief of Air Force	Chief of Air Force
Date: 5th April 2003	Date: 24th April 2003
Place: Headquarters RAAF	Place: Headquarters RSAF
Canberra, Australia	Singapore

Annexes:

A. Actions by Host Nation

B. Points of Contact – National Flight Safety Agencies

ANNEX A TO
FLIGHT SAFETY MOU
DATED APRIL 2003

ACTIONS BY HOST NATION

When an accident or incident involving military aircraft and/or SAM(s) of an Operating Party occurs, the nearest representative of the Operating Party (Military Attache/Adviser, military base etc) will be notified immediately. The accident/incident will be reported in accordance with local procedures to the applicable national flight safety agencies listed at Annex B to this MOU. The report to the Operating Party will contain the names (if known) and the location of the personnel involved, and the nature and seriousness of any injuries. The Operating Party will be invited to send an investigating group as the nucleus of a combined AIT to investigate the accident/incident in accordance with the provisions of this MOU. Upon being notified of an accident/incident, the Operating Party will advise the Host Nation of:

its intentions concerning participation in the accident investigation, and

the names of the personnel comprising their investigating group and the designated senior member of the group.

All assistance necessary will be rendered to the injured, and human remains will be removed in accordance with national procedures. In the case of fatal accidents, an officer will be provided to initiate the necessary legal actions required by local law. The local military authorities will accord the honours to fatalities prescribed by the Host Nation, and will treat fatalities in accordance with the wishes of the Operating Party as far as practical.

An officer, preferably with flight safety qualifications, will be sent immediately to the scene of an accident/incident to facilitate the work of the AIT by taking photographs and collecting all possible written statements and other information before the AIT has arrived. Thereafter, this officer will assist the AIT as required, and if possible, will be included in the investigating group of the Host Nation.

A medical practitioner, preferably with aeromedical specialist qualifications, will be provided to initiate the necessary aeromedical investigation, and to subsequently assist the medical members of the AIT as required.

The Host Nation will be responsible to guard the scene of the accident/incident to ensure that the scene and the wreckage remain undisturbed where possible until the AIT has arrived. When there is reason to suspect the presence of hazardous conditions (explosives, radiation, chemicals, electricity, carbon fibre composites etc) an appropriate safety zone around the hazardous conditions will be established pending information and advice from the Operating Party. The guard is to remain throughout the investigation and until the wreckage has been recovered. If the Operating Party provides guards to assist in securing the scene of the accident/incident, these guards will abide at all times by the laws of the Host Nation. If wreckage and/or human remains must be moved before the AIT arrives, appropriate photographs, drawings and map marking will be made before the wreckage is moved to permit a subsequent reconstruction of the scene of the accident/incident. If recovery of the wreckage is made by the Host Nation at the Operating Party's request, the payment of recovery costs will be met by the Operating Party in accordance with the provisions of any MOU for accidents/incidents involving military aircraft of either nation for operations within Australia and Singapore.

ANNEX B TO
FLIGHT SAFETY MOU
DATED APRIL 2003

POINTS OF CONTACT – NATIONAL FLIGHT SAFETY AGENCIES

AUSTRALIAN DEFENCE FORCE

Director Defence Aviation and Air Force Safety
Department of Defence
F4–1–047
PO Box 7933
CANBERRA BC ACT 2610
AUSTRALIA

Telephone: +61 2 612 87416 (Work)
Mobile: s22
Facsimile: +61 2 612 87720

Deputy Director Safety Investigation
Department of Defence
F4–1–113
PO Box 7933
CANBERRA BC ACT 2610
AUSTRALIA

Telephone: +61 2 612 87491

DDAAFS Duty Officer mobile phone No is +61 2 6144 9199. (24 Hours)

SINGAPORE ARMED FORCES

Head Air Force Inspectorate
Republic of Singapore Air Force
AFPN 8056
303 Gombak Drive
#03–32
Singapore 669645

Telephone: 65 768 3670
Telefax: 65 765 1916

Staff Officer Analysis Investigation (Ops)
Air Force Inspectorate
AFPN 8056
303 Gombak Drive
#03–32
Singapore 669645

Telephone: 65 768 3673
Telefax: 65 765 1916

CUSTOMER–CONTRACTOR RELATIONSHIPS

1. Previous chapters reinforce the necessity to have a robust and transparent Aviation Safety Management System (ASMS) that includes all the stakeholders associated with the operation of the relevant weapon system. These chapters also cover features of a healthy ASMS which, after reading this chapter, can be compared to any contractual arrangement you may be involved with. For those who wonder if this is applicable to their activities; if you or your organisation has an effect, direct or indirect, on an Australian Defence Force (ADF) weapon system then welcome to the ASMS. This chapter details the different relationships involved within Defence Aviation operations and how those organisations should interact from an aviation safety viewpoint. A point to note is that the considerable effort put into the Defence Aviation Safety Regulations will make this task all the easier. This chapter in no way is a challenge to any regulations, rather it is an adjunct.

IDENTIFYING THE RELATIONSHIPS

2. If one of the purposes of the Defence Aviation Safety Manual (DASM) is to improve overall safety of operations, then we need to identify and understand the current relationships that exist within Defence aviation activity contracting. From there, we can improve the current ASMS from a customer/contractor perspective. One of the immediate difficulties for many relationships is overcoming the paradigm of who is the customer.

Commercial Relationships

3. One of the major hurdles in customer/contractor relationships to overcome can be the powerful influence of the commercial relationship on the ASMS. The simple commercial model of the majority of contracted activities within Defence aviation is that of a ‘triad’; the operating unit, the contracting authority, and the contractor. The current commercial relationship ‘triad’ often results in reluctance by contractors to discuss aviation safety in terms of safety events in the workplace for fear of jeopardising any future commercial activity. Within the current paradigm, meeting the regulatory requirements can be the main aim of the contractor, as that is what the contracting authority requires and audits against. Meeting regulatory requirements does make the contractor a safer organisation and provides a more satisfactory outcome for Defence. However, as we know from previous chapters, it is only through open reporting and proper investigation of all events as part of an ASMS that we will make any organisation safer in an overall sense.

4. As described above, a reluctance to report the errors and lapses that occur within any workforce, let alone one of a contractor’s workforce, can be understandable. But we have to face the fact that as long as humans are involved, there will be a need to have an error-resistant system, available by adoption of some basic principles of a contemporary ASMS. Some organisations may even extend the commercial influence by asking for additional resources to be a part of the ASMS. This may take the form of requesting exactly ‘who’s requirement is it to conduct investigations’ followed by the often asked question of ‘who is then going to pay’. This mindset potentially overlooks the obvious benefits of prevention of recurrence and possible concomitant increased commercial margins in the longer term.

5. From the operating unit’s perspective, there may be concern about aviation safety within the contractor’s organisation. The fact that limited information may be released by some organisations on events does not give units the assurance that such events do not occur. Indeed some organisations may only externally report on those events that reach a threshold level such as tools/objects/incomplete actions found after deeper maintenance type activities. This has the effect of limiting the understanding of the operator’s as to the health of the Contractor’s quality management system, as no other information appears. Without closed loop reporting coupled with meaningful actions and recommendations, safety events will likely recur. As explained, the reasons a contractor may not externally report are different to service maintenance and engineering organisations, but the outcome is the same. Service organisations have generally recognised the need to emerge from a punitive culture to one where errors are recognised as such, and contributing factors are fed back into the system to try and prevent recurrence.

Aviation Safety

6. Participants in the ASMS are far from being a simple ‘triad’, indeed there are many more involved. Consider an ADF transport aircraft (rotary or fixed wing) that has contractor maintenance carried out. Some of the relationships are between:

a. passenger and squadron;

b. intra-squadron between operations and maintenance;

c. the contracting authority (as the Systems Program Office (SPO)) and the squadron;

d. the contractor and contracting authority; and

e. the squadron and contractor.

7. The following paragraphs will explore each relationship as it affects the ASMS. Note that there are other contractor relationships such as Air Traffic Control, base support, emergency response plans, civilian qualified flying instructors etc.

Passenger and Squadron

8. Does everyone involved understand their role in the aviation safety relationship as it exists? Consider the passenger, that person brings nothing to the ASMS (except the comfort that there is one) and is in no position to assess the quality of the ASMS. The operator of the platform on the other hand, has an obligation to the passenger and must include the passenger in their overall ASMS, including the subset of cabin safety. While a single direction relationship, it bears some consideration.

Operations and Maintenance

9. The ASMS relationship intra-squadron between operations and maintenance has gone through an evolution. It was not that long ago that the safety focus was concentrated on operations, within that, the man/machine interface. We have now expanded our understanding of aviation safety to include significant stakeholders such as maintenance and engineering. Acceptance into this ASMS relationship as latecomers has provided maintenance and engineering with many significant cultural and policy hurdles to overcome. However, this is being addressed particularly by introduction of a common reporting philosophy, the Aviation Safety Report (ASR). Also, Squadrons are now setting aside time specifically to address issues of aviation safety and the information flow between the two 'sides'. Both sit at the same table as part of the unit aviation safety committee and a slow, steady cultural change is occurring. Within maintenance, the concept of a just and fair culture as enjoyed by operators is being accepted.

Contracting Authority and Squadron

10. This relationship can often break down first. The squadron may not be satisfied with the product as received from another source (such as the contractor) and duly submits the appropriate technical report. This may be defect or deficiency and could have even been preceded by an ASR. The contracting authority generally investigates via quality assurance staff with the results communicated to the Squadron and FEG. If an ASR is raised, the investigation will generally stop at the technical issue if there was one, although ASR in Sentinel does allow actions to be levied against units external to the Squadron. There may be complete to virtually no visibility at all to what process broke down, and how recurrence is to be prevented. If there is no visibility, this breeds mistrust and stifles the ability of the squadron to also learn from the event. The contracting authority often seems remote from the actual happenings and the agents are often placed in an awkward position, particularly if the contracting authority is satisfied with proceedings but the squadron is not. Importantly to the squadron, the contracting authority is responsible for creating a culture such that the contractor is willing and able to demonstrate internal issues that manifest themselves as events are being dealt with as part of a system.

Contractor and Contracting Authority

11. This is where the commercial relationship exists and the standards of the contract are set. The contract should normally include the Defence Aviation Safety Regulations as a requirement. This system is designed to minimise any performance shortfall by specifying minimum requirements and then having audit/oversight with agents such as RCLO/DQA. Issues such as tool control, categorisation, required qualifications and FOD control, together with other airworthiness-specific parameters can be addressed in the contracting mechanism if it is deemed a requirement. Under this arrangement, direct visibility to the operating unit of the contractor's processes may not be catered for and, unless an informal arrangement is struck, visibility has to come via the contracting authority, such as the SPO. An issue with this relationship is problems that beset the Maintenance Authorising Body's ability to support the system in place often manifest themselves as intrusions on aviation safety. How that might happen is lack of resource, variable life-of-type knowledge, sub-optimal contracts, overheated spares pipelines, and measured engineering support that often transfers culturally to the contractor.

Squadron and Contractor

12. In aviation safety terms, this is the relationship that requires the most effort. Both of these organisations may be Part 145 Maintenance Organisations and may work on the same weapon system. Other significant resources they probably share are the common engineering support organisation, spares procurement and spares pipeline, among others. For maintenance contracts, the Part 21J Engineering Organisation sponsors all the servicing schedules that they both use. Does it therefore not make sense to be common members of the one ASMS? The current system approach based model provides an interface to contractors by RCLO/DQA as agents. Direct visibility to the squadron of outside processes is not catered for and current visibility has to come via the SPO/DASA or similar agencies if required. Possible problems with this arrangement are explained in paragraph 10. One of the perceived difficulties facing a successful ASMS is the middle man (the logistic authority) may be bypassed. In the current theory, the operating unit

is the logistic authority customer, not the contractors. Really they are all part of the ASMS and there is no reason for anyone to be bypassed or feel they have lost control of processes that they will ultimately be held accountable for.

Getting Well

13. From what we can see, much of our ASMS is internally oriented. We do have some contractors as active participants of the ASMS and those organisations can attest to benefits beyond what some may see as 'giving us what we want'. Consistent improvements to the processes that occur in any workplace can only aid efficiency and be ultimately commercially rewarding. Equally, the contracting authority has to overcome any preconceived notion that reports on errors and lapses is admission of failure, and treat such reporting as admission of facing the realty of dealing with a human organisation. We should be concerned with preserving our equipment, personnel, and facilities by application of the ASMS irrespective of who is conducting the activity. The commercial relationship is (generally speaking) the dominant force at present and is not until all concerned parties understand the benefits of the ASMS that we will be able to move forward. This will take some realignment of thought and accordingly is a significant challenge.

ESTABLISHING CUSTOMER–CONTRACTOR RELATIONSHIPS

14. The preceding text brings us to an obvious conclusion. Customer and contractor relationships should be established before the contract is signed. Getting reporting and investigating requirements into the contact is only half the answer. There has to be desire from the contractor's to be a part of the overall ASMS. Similarly, the contracting authority has to understand and expect error and lapses to be a part of the contractor's operations and not view these activities unfavourably. Of course that statement has to be put into context. Trying to introduce this activity after the contact is in force is not impossible but it is a good deal more challenging. Amending contracts tends to be expensive and a protracted activity, to some retrospectively adding safety to the contract would even be viewed as commercial opportunity as opposed to a chance to improve the overall service delivery.

15. In addition to any Part 145 maintenance certification or similar processes, for those contracts involving flying or aircraft maintenance, it is entirely reasonable to ask the contractor to furnish information about their ASMS and safety record. Remembering this is all about a common robust ASMS, not extant regulation compliance. This should not be an issue revolving about who is the customer and economics. We are all in it together. A fact of life is that some contracts are such that currently all we do is ask the contractor to meet a standard. There is no reward for exceeding contract requirements other than what the contractor sees as commercially rewarding. Expecting contractors to willingly participate in an ASMS with old-fashioned paradigms in place will not work. Irrespective, by not insisting that all parties are active participants in the ASMS, we are exposing our own personnel to risk and also risking capability. We should not let the contractor set our safety standards for us. We also should not have an arrangement with a contractor whose standards don't meet ours.

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SECTION 3

CHAPTER 4

COMMUNICATION

INTRODUCTION

1. The success of an ASMS is dependent on sound communication. A commander cannot manage a hazard or a risk if he/she is not aware of it – even if the rest of the organisation is aware. Likewise, personnel will be less likely to report hazards if they do not get feedback on previous reports. The value of seeing and talking directly to personnel should never be underestimated. It is not sufficient to simply have the safety management system structure in place; all personnel in the organisation must understand how the system works, their place in it and how to contribute ideas for improvement.

2. Communication tools include policy documentation (including the commander's published safety policy), aviation safety committees, AHRBs, surveys, audits, safety standdowns and open reporting mechanisms (Sentinel). Other tools, which can be used to improve communication, are activity briefing/debriefings, face-to-face discussions, visits, liaison and the knowledge that an individual can report events/recommend amendments without fear of punitive action.

PURPOSE

3. This chapter provides guidance to complement the requirements of Section 2. In particular it describes in more detail the following aspects of communication:

- **a.** **Aviation Safety Committee (ASC) Meetings.** A guide to the composition and conduct of an ASC meeting.
- **b.** **Safety Standdown.** Suggestions for the conduct of a successful safety standdown day.
- **c.** **Safety Awards.** Detail on the types of awards available to recognise personnel who make a significant contribution to aviation safety.
- **d.** **Cabin Safety.** The objectives, structure and management of a Cabin Safety Working Group.

AVIATION SAFETY COMMITTEES

4. One of the most valuable assets for a commander's ASMS is the combined knowledge and experience of personnel. Personnel who are working at the coalface are often better able to identify hazards and trends, suggest practical improvements, and provide solutions. The ASC is a management tool that brings those people together to assist commanders in the management of their ASMS. ASCs are an integral component of an ASMS and provide one means of actioning safety issues.

5. ASC meetings are the regular vehicle for ensuring all aviation safety issues confronting the organisation are discussed, and actions for mitigating hazards established and implemented. To ensure the best outcomes, adequate time should be allowed for the meeting to discuss all agenda items, and all necessary members should attend.

6. 'Top five' aviation safety issues and key actions/outcomes of the ASC should be communicated to all staff and the chain-of-command. Commanders should ensure closed-loop processes are in place to track actions/recommendations from the ASC to completion.

Purpose of an Aviation Safety Committee

7. The purpose of an ASC is to:

- **a.** inform the commander of aviation safety issues;
- **b.** bring together various viewpoints for discussion;
- **c.** promote interest and cooperation in aviation safety event prevention and safety promotion among key personnel;
- **d.** provide a forum for dissemination of the safety policies and objectives of the commander; and
- **e.** coordinate action to eliminate, or mitigate aviation safety hazards and solve aviation safety problems.

Membership of an Aviation Safety Committee

8. The committee should be comprised of representatives of all units/organisations who may be affected by issues dealt with by the ASC. The committee size will vary depending on the size and complexity of the organisations that the committee represents.

Wing Aviation Safety Committee (WASC)

9. The WASC should be constituted by the officer commanding the wing (OC WG). WASC meetings should be held no more than six months apart. The WASC may be held in conjunction with the relevant Aviation Hazard Review Board (AHRB). Copies of the minutes of the meetings are to be sent to parent command headquarters and DFSB. As a guide, the following items should be included in the agenda for WASC meetings:

a. Review open action items from previous meetings.

b. Review adequacy of the wing ASMS.

c. Review and update key aviation safety issues confronting the wing and subordinate units.

d. Progress of, and requirement for, subordinate unit aviation safety surveys and audits.

e. Review of any issues associated with subordinate unit Unit Emergency Plans (UEPs).

f. Review and trend analysis of OPHAZ and ASRs submitted by subordinate units during the period under consideration.

g. Review the adequacy of resources (human and materiel) of wing and subordinate units required in managing the ASMS, addressing hazards and risks, and conducting operations.

10. A WASC should include the following members:

a. OC WG (Chairman).

b. Wing Aviation Safety Officer(Secretary).

c. Subordinate unit commanders (or their delegates).

d. Wing Senior Engineering Officer (or similar appointment).

e. Subordinate Senior Maintenance Managers (SMM) (or their delegates).

f. Subordinate unit ASOs and Maintenance Aviation Safety Officers (MASOs).

g. Supporting Systems Program Office representative.

NOTE

- Navy and Army meet the intent of this level of ASC with the (Navy) Aviation Systems Safety Committee meeting and the Army Aviation Safety Program Conference.

Unit Aviation Safety Committee

11. The UASC should be constituted by the unit commander. UASC meetings should be held no more than six months apart. Conduct of the UASC several weeks prior to the relevant WASC will enable actions and recommendations from the UASC that require command chain input to be raised at the following WASC. It will also enable the WASC to consider the key aviation safety issues from all subordinate units.

12. To facilitate the best meeting outcomes, the UASC secretary should distribute the meeting agenda two weeks before the meeting.

13. As a guide, the following items should be included in the agenda for UASC meetings:

a. Review open action items from previous meetings.

b. Review adequacy of the unit ASMS.

c. Review and update the key aviation safety issues confronting the unit.

d. Progress of, and requirement for, unit aviation safety surveys and audits.

e. Formulation, review and exercise of the procedures associated with the UEP and conformity with the associated base Airfield Emergency Plan (AEP).

f. Review and trend analysis of unit OPHAZs and ASRs in the period under consideration.

g. Review of any human factor issues arising from ASRs and other reporting mechanisms.

h. Review the adequacy of resources (human and materiel) required in managing the ASMS, addressing hazards and risks, and conducting operations.

14. Copies of the minutes of the meetings are to be sent to parent command headquarters (wing and FEG) and DFSB.

15. A UASC should include the following members:

a. Unit commander (Chairman);

b. UASO (Secretary);

c. Unit flight commanders/executive officers/sub-unit commanders;

d. Unit MASO (or maintenance contractor representative);

e. Aviation medicine-qualified medical officer (where available);

f. Airman aircrew representative (if applicable to aircraft type); and

g. Unit Safety Adviser.

Base/Station Aviation Safety Committee

16. A Base/Station Aviation Safety Committee (BASC/SASC) should be formed at any ADF base/station that hosts flying operations. The BASC/SASC is responsible for:

a. identification and reporting of hazards related to base/station aviation facilities or local operating procedures;

b. coordination of risk assessment of identified hazards;

c. recommending and tracking hazard elimination or reduction measures related to base/station aviation assets or activities;

d. identifying and proposing safety enhancements relating to base/station facilities or operating procedures;

e. dissemination of aviation safety related information between the base/station and operating and/or deployed units; and

f. organising, coordinating and refereeing an annual base-wide accident response plan exercise (see Section 3 Chapter 10).

17. The Base/Station Aviation Safety Committee (BASC/SASC) should be constituted by the base commander. BASC/SASC meetings should be held no more than six months apart. Copies of the minutes of the meetings are to be sent to parent command headquarters, all aviation units on the base/station and DFSB. The following items are a guide for what should be included in the agenda for BASC/SASC meetings:

a. Review open action items from previous meetings.

b. Review adequacy of the base/station ASMS.

c. Review and update key aviation safety issues confronting the base/station.

d. Formulation, review and exercise of the procedures associated with the base/station Airfield Emergency Plan (AEP).

e. Review and trend analysis of OPHAZs and ASRs submitted in the period under consideration.

f. Review the adequacy of resources (human and materiel) required in managing the ASMS, addressing hazards and risks, and conducting operations.

18. A BASC/SASC should include the following members:

a. Base/station commander (Chairman).

b. Base/station Aviation Safety Officer (Secretary).

c. Operating unit commanders (or delegate) and/or Unit Aviation Safety Officers (UASO).

d. Flight Commander 44 WG SQN FLIGHT (or delegate) and/or UASO.

e. CO 41 WG unit (where established)(or delegate) and/or UASO.

f. Senior base maintenance/engineering officer.

g. Base/station medical section (if established – local medical emergency response agency otherwise).

h. Base/station fire section (if established – local fire emergency response agency otherwise).

i. Base/station police section (if established – local police emergency response agency otherwise).

j. The local OIC Airfield Operations Support Flight (or equivalent).

k. The local Estate and Infrastructure Group manager.

AVIATION SAFETY STANDDOWNS

19. Aviation safety standdowns are an important tool for commanders to update all personnel on topical and important safety issues. There is no set program, format or structure for a safety standdown. Commanders should tailor the standdown to their unique organisational structure, requirements and most important safety issues.

20. Some suggestions for safety standdown activities include the following:

a. Review unit ASRs for the previous period including trends and any safety issues raised.

b. Presentations from the unit ASO or MASO/SLO/Ground Safety Adviser on relevant aviation safety topics.

c. Review of CRM principles by unit CRM facilitators.

d. Review of AVRM principles and status of AVRM integration in the unit.

e. Review of and/or practice using unit-specific emergency aircrew life support equipment and other equipment.

f. Review of and/or practice using unit emergency response equipment and personal protective equipment (PPE).

g. Presentations from invited experts on aviation safety issues. Invited guests could include:

(1) DFSB staff (accident summaries, safety management systems, fatigue management, human factors, supervision, CRM, AVRM, safety surveys, Sentinel, etc);

(2) ATSB staff (accident reports, safety papers);

(3) human factors experts (contacts are available from DFSB);

(4) senior commanders (their thoughts on command and ASMS);

(5) ASOs/COs from other Defence aviation units (comparing safety issues, event reviews, safety information sharing);

(6) managers/safety representatives from civilian aviation organisations (safety issues confronting their organisation/industry, how they manage aviation safety);

(7) veterans from previous conflicts talking about safety/operations/loss rates (e.g. currently serving/retired aviators from Vietnam conflict comparing safety then and now); and

(8) motivational speakers (e.g. how they dealt with adversity/challenges).

NOTE

- Personnel organising safety standdowns should consider contacting other units/FEGs to source ideas/suggested presenters for formulating an effective safety standdown. When utilising the services of presenters outside the organisation, organisers should endeavour to get a clear understanding of what will be presented to ensure the presentation is relevant to the standdown.

OTHER COMMUNICATION MECHANISMS

Safety Webpage

21. Most organisations maintain an aviation safety page on their web homepage on DRN as one of the commander's safety communication mechanisms. To be effective, information needs to be easily locatable (ie

webpage structure is intuitive), relevant, accurate (including links that work to documents and other webpages), current, informative and, where possible, interesting (ie to attain and maintain the interest of the intended audience). Consideration should be given to consulting with other units (particularly those within the same FEG) to determine best practices, what additional information may be worthy of posting, and potentially standardising page layout if deemed appropriate.

22. The types of safety information that might be included in a webpage are:

a. safety policy (unit ASMS documentation, commander's policy statement, links to the DASM, DASRs, and other safety-related policy documents and manuals);

b. FEG safety appointment contact details;

c. links to other safety websites (eg DFSB);

d. minutes of safety meetings (unit and wing);

e. aviation safety reports (ASRs) of interest;

f. safety articles of interest (including outside of Defence);

g. safety awards and presentations to individuals of the FEG;

h. safety calendar (eg next safety standdown, next safety meeting);

i. Risk Management documentation; and

j. safety resources.

GOOD SHOW AWARD

23. The Good Show Award[1] is the award aviation commanders are to use as a means to formally commend an individual for a specific act which prevented, or in other circumstances could conceivably have prevented, a significant safety event involving an aircraft. This award is to be used when the act does not meet the requirements of a Service decoration or Commendation. The management of a Good Show Award is a command responsibility – DFSB involvement is in the publication of the award.

Nomination Criteria

24. The basic criteria governing nomination and approval is that the specific act must reflect a level of performance and/or vigilance significantly in excess of that which could reasonably be expected of a person of the rank and/or experience level of the nominee. Examples of such acts are as follows:

a. Exhibited timely reaction to an emergency, which contributed significantly to the prevention of an aviation safety event.

b. Credited with identifying, reporting or correcting an aviation safety hazard, which could directly impact the aircraft, crew or mission.

c. Credited with suggesting an idea for improving aviation safety, thereby preventing crew injury during a mission.

d. Any other circumstances in which the commander feels that such an award is justified.

Eligibility

25. All members of Defence including Defence civilian employees and Defence contractors are eligible for the Good Show Award.

Managing Good Show Awards

26. Chain of Command Processing. Nominations for the Good Show Award should be raised in minute or E-mail format by the member's unit. The nomination is to be forwarded to the unit's parent superior Commander[2] . Prompt approval should be given by the Commander (if considered warranted) and then returned to the unit for presentation. A suitable colour photograph of the member (either alone or within their work environment) and a copy

[1] Navy equivalent is the Defence Aviation Safety Bravo Zulu (BZ) Award.

[2] Air Commander Australia, Commander Fleet Air Arm, Commander 16 Brigade (Aviation) or Commandant Army Aviation Training Centre, as appropriate, through the chain of command.

of the citation wording is to be forwarded by the unit to DFSB for DFSB action. An example Good Show Award is provided in Annex A.

27. The management of the award program must be simple and should enable awards to be presented in a timely manner (within 30 days).The member should be presented the award by the unit commander, preferably in front of his/her peers.

28. For aircrew, a copy of the award is to be appended to the member's ADF Aircrew Flying Record (AC751).

29. DFSB Action. On notification of presentation of an award, DFSB will publish the circumstance of the award in either Aviation Safety Feedback or Spotlight publications.

ROYAL AERONAUTICAL SOCIETY AVIATION SAFETY AWARD

30. Negotiations between DFSB (on behalf of Defence) and the Royal Aeronautical Society (RAeS), Australian Division in 2001 resulted in the creation of an annual award to recognise an individual or collective effort enhancing aviation safety in Defence.

31. The award is known as the RAeS Aviation Safety Award, which includes a $500 prize with a framed certificate. Additionally, the award recipient may be nominated by DFSB for an appropriate award under the Defence Commendation Scheme.

32. Members of the ADF (including foreign exchange and loan personnel), Defence civilians, Defence contractors and Australian Air Force cadets are eligible for consideration for the award.

33. The award embraces each calendar year. In judging the award, DFSB and the RAeS consider the following:

- **a.** Commitment demonstrated to improving aviation safety.
- **b.** Resilience in overcoming barriers in addressing aviation safety issues.
- **c.** Impact/outcomes resulting from the aviation safety initiative.
- **d.** Engagement with staff and stakeholders in making the contribution.

34. Commanders and supervising staff within ADF squadrons, ground support units and other agencies that support flying operations, however remotely, are invited to submit nominations for the RAeS award. Nomination forms are available from the RAeS webpage on the DFSB intranet website[3] and may include personnel being considered for other awards (or already rewarded for aviation safety initiatives). Nominations must be submitted to DFSB by 30 September each year.

SERVICE SPECIFIC AVIATION SAFETY AWARD

Navy

35. Two aviation safety/efficiency trophies are available for award to the RAN squadron or flight displaying the best overall performance in these areas each calendar year.

- **a. Collins Trophy.** Awarded annually in January to that ship's flight, which has carried out its designated task with the highest degree of safety, efficiency and distinction.
- **b. McNicholl Trophy.** Awarded annually in January to that squadron which has carried out its designated task with the highest degree of safety, efficiency and distinction.

36. The McNicholl Trophy is held by HMAS ALBATROSS. A miniature of the trophy is held by the winning squadron for a 12-month period immediately following its award.

37. Commander Australian Fleet (COMAUSFLT) will decide the winner of the trophies on the advice of Commander Fleet Air Arm (COMFAA) who will, with the assistance of Fleet Aviation Officer and Fleet Aviation Safety Officer (FASO), make a subjective assessment of the performance of the flight or squadron. This will be based on how well the unit completes its tasks in the year and the degree to which it has contributed in a positive manner to an aviation safety management system.

Army

38. Reserved.

[3] http://intranet.defence.gov.au/raafweb/sites/CL/comweb.asp?page=1316815&Title=RAeS%20Award

Air Force

39. Reserved.

CABIN SAFETY WORKING GROUP

40. Historically, Defence has operated passenger-carrying aircraft without overarching guidance such as that provided for civil operators in the form of Civil Aviation Orders and Civil Aviation Safety Regulations. This has led to a situation where information is not shared across Defence aviation flying units, causing a fragmented and dissimilar approach to regulation and problem solving. Some of the common problems experienced include:

a. Experience and knowledge is often not shared between units flying dissimilar aircraft and rarely between the three Services.

b. Defence standards for the carriage of civilian passengers have not necessarily met the same standards as civil operators and world's best practice.

c. The lack of a consolidated approach to the carriage of passengers in Defence aircraft.

d. Personnel are not trained specifically to investigate cabin safety events.

e. There is no centralised Defence area of expertise in relation to cabin safety.

41. To address these issues each FEG which operates cabin-type aircraft[4] may form a Cabin Safety Working Group (CSWG) to promote the exchange of information and enhance cabin safety. The success of the CSWG will only be possible through the willing participation of aircrew interested in aviation safety and the support of their organisations. All Defence Aviation units that operate cabin-type aircraft are encouraged to support their personnel and actively seek ways to achieve the aims of their CSWG.

Grouping

42. The suggested grouping and chairman for each CSWG are:

a. Air Mobility Group – GP/WG Standards WOFF

b. Air Force Training Group – Consideration should be given to AFTG representation at AMG CSWG meetings (vice establishing its own CSWG) noting that AFTG operates only a small fleet of cabin-type aircraft of a similar type to that operated by AMG.

c. Surveillance and Response Group – GP/WG Standards WOFF

d. Fleet Air Arm / 16 Avn Bde – Chief Aircrewman Examiner / FORCOMD Standards WO

Objectives

43. The objectives of the CSWG are to:

a. improve the crashworthiness and survivability of all FEG aircraft,

b. promote a proactive approach to cabin safety and a generative safety culture,

c. formulate workable solutions through recommendations aimed at capability managers,

d. share and distribute knowledge in the field of cabin safety,

e. share resources for the investigation of cabin safety events,

f. ensure all FEG aviation units have access to the resources required to write appropriate orders and instructions for the safe transport of passengers to a mutually agreed standard,

g. share experiences and events that are not being reported through the ASR system, and

h. provide a pool of experience (Cabin Safety SME) available for aviation safety event investigation.

[4] A cabin-type aircraft for the purposes of this section is one that carries passengers or cargo or has crew stations in a cabin environment (for example P3, E-7).

Structure

44. Each FEG CSWG structure should include:

a. Chairman. The working group will normally be chaired by the senior airman aircrew/aircrewman of the FEG HQ.

b. Secretary. The chairman is to nominate an experienced aircrew member to carry out the duties of secretary. The secretary is responsible for recording and distributing the minutes of each meeting.

c. Delegates. Delegates and representatives are drawn from all FEG aviation units that operate cabin-type aircraft. It is expected that the delegate will usually be a senior airman aircrew/aircrewman, and ideally one who fulfils a Standards/Aviation Safety role. The delegate should carry the agenda items on behalf of the unit, having resolved the unit position prior to the meeting through standardisation forums or the like.

d. Outside Agencies. Attendance by DFSB, CASA and ATSB personnel will be on an invitational basis with a view to providing assistance to the CSWG where possible. Attendance by other personnel from formation headquarters is also encouraged. Where agenda or action items would benefit from, or require the input of specialists from FEG Units, the appropriate representatives are encouraged to attend to deal with that issue.

Schedule

45. The CSWG should meet annually with the scope for an additional meeting if deemed necessary. Normally meetings will be a one day event, however should the need arise, meetings may be extended or shortened as required.

Reporting

46. Minutes. Each CSWG will report to the relevant FEG Commander. A copy of the minutes will be provided to all unit commanders involved, all delegates, other CSWGs and DFSB. The secretary is responsible for keeping the minutes and for publishing and distributing them in consultation with the chairman.

47. Format. As the CSWG is intended to be outcome orientated, it should address problems and make recommendations that may be implemented at the lowest possible level. This will give unit commanders the opportunity to address an area of concern or make a decision to elevate it themselves. FEG HQ is responsible for follow-up action to ensure that recommendations are addressed and then to provide guidance on who should action the item if it is beyond the scope of the unit. At times it may be necessary for the CSWG to action an item by conducting further research and reporting at a later date. In any case, all recommendations are to be specifically addressed and not generalised.

Outcomes

48. The eventual outcome of the CSWG will be to improve the crashworthiness and survivability of all Defence cabin-type aircraft by providing a forum where knowledge, experience and resources can be shared. The immediate outcomes will be a sharing of cabin safety problems and a combined and organised approach to solving these problems. This will be achieved by formulating solutions within the CSWG and making realistic recommendations, at the appropriate level, that are aimed at the capability manager.

Terms of Reference

49. The terms of reference are designed to allow the maximum amount of scope possible so that the CSWG may direct its own focus areas. In general the CSWG is free to discuss and pursue any issue that may affect the safety of passengers, crew or third parties in Defence aircraft. It is important to emphasise that the main issue is cabin safety and not crew safety and concerns. Although important, crew safety issues should not overtake the whole-of-cabin approach.

Associations

50. Due to similarities in the field of cabin safety and for economy of effort, each CSWG should consider forming a close association with the civil equivalent – the Asia Pacific Cabin Safety Working Group (APCSWG) – which draws its members from all areas of the civil aviation community.

51. FEG Commanders may find it advantageous for a representative from their CSWG to attend relevant national and international conferences and working groups, including the APCSWG.

CONCLUSION

52. An effective ASMS relies on good communication throughout the command chain and within units from the highest to the lowest levels. The structure of the safety organisation will affect the lines of communication.

53. Communication tools including aviation safety committees, safety standdowns and cabin safety committees/working groups have been described in order to provide additional guidance for their application. Rewarding those who make a significant contribution to aviation safety standards demonstrates the importance and commitment to aviation safety.

Annex:

A. Good Show Award Examples

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EXAMPLE GOOD SHOW AWARDS

Aircrew Example

GOOD SHOW AWARD

FLTLT B. GOOD 8123456

NUMBER XX SQUADRON

On xx Month Year you demonstrated an exceptional application of technical knowledge during an aircrew external pre-flight of an [aircraft type] aircraft when you detected a mis-rigged cable affecting the aileron trim and main landing gear emergency release systems. Your diligence and attention to detail revealed a maintenance fault which could have resulted in the main landing gear failing to extend in flight had the emergency system been required. This fault had gone unnoticed for some time and required an unusually close inspection to detect. The heightened awareness among the [aircraft type] fleet as a result of your actions has resulted in a similar fault being detected on another aircraft and has averted a potentially serious aircraft emergency.

Your exceptional professionalism and diligence in the discharge of your duties as an [aircraft type] pilot has made a significant contribution to aviation safety and is a credit to XX Wing and Number XX Squadron, for which I commend you.

Maintenance Example

GOOD SHOW AWARD

CPL A.B. TECH 8123457

NUMBER XX SQUADRON

On xx Month Year you identified an inconspicuous crack in a joint weld on the lower portion of a PT6 exhaust casing on [unit] [aircraft type] aircraft Axx-xxx. This defect was discovered while conducting a routine servicing and is an indication of your technical professionalism and dedication to duty. The defect had the potential to cause an engine failure during normal operation and required an engine change to rectify the defect. Had the crack gone unnoticed, it could have potentially led to a loss of aircraft and or life. The vigilance you displayed during what was a routine task is commended and a credit to the maintenance standards of both [unit] and XX Wing and you can be justifiably proud of your contribution to aviation safety in the Royal Australian Air Force.

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SECTION 3

CHAPTER 5

DOCUMENTED SAFETY POLICY

INTRODUCTION

1. Aviation Safety Management System (ASMS) documentation supports awareness of what is required to achieve the organisation's ASMS objectives and enables evaluation of the system and ASMS performance.

2. ASMS documents should be comprehensive and current as these documents communicate standards and regulate action.

PURPOSE

3. This chapter provides guidance to complement the requirements of section 2.

SAFETY POLICY DOCUMENTS

4. Defence Aviation commanders must communicate their organisation's ASMS requirements and intent through robust, current and documented policy in order for the ASMS to be effective. The commander's aviation safety policy statement should confer his or her intent, whereas an order or instruction should convey how the organisation implements the ASMS or its elements. An example of a commander's aviation safety policy statement is provided in annex A.

NOTE

- In meeting the intent of this manual, it is acceptable for a commander to have one safety policy statement that addresses aviation safety and other safety management systems (e.g. WHS safety management systems).

CONCLUSION

5. Defence Aviation commanders at all levels must ensure that relevant documentation is available to all personnel, and adequately managed.

Annex:

A. Example Commander's Aviation Safety Policy Statement

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EXAMPLE COMMANDER'S AVIATION SAFETY POLICY STATEMENT

As XXSQN Commander, I have a Duty of Care and a moral obligation to manage and protect the safety of my most valuable asset – my people. This stems from legislation (the Work Health and Safety Act 2011) and from our unit's values. I am strongly committed to discharging the Duty of Care and this moral commitment, and require the same commitment from all unit personnel. That being said, all unit personnel must manage their own safety as well as those for whom they have responsibility.

Our unit's operations, exercises and training by their nature must involve some level of risk to achieve success, but our planning and execution must be thorough to ensure that risks are eliminated or otherwise minimised so far as is reasonably practicable to achieve each mission. As such, risk management is to be an essential part of our culture and business processes. The loss of any of our people or an aircraft to accidents, in peace or in conflict, is not acceptable. In higher risk military operations, we must control the risks and ensure we maintain our cultural perception of 'can do safely'.

Our safety target is to actively seek to eliminate injury and safety events in the workplace that degrade XXSQN's preparedness and capability. Therefore we must:

Establish and maintain a Generative Safety Culture and an effective Aviation Safety Management System.

Openly and honestly identify, report and manage hazards, near misses and events.

Respond to reported events in a fair and just manner. No member of XXSQN will be punished for openly reporting an honest error; in fact I will fully support any member who openly reports errors. I will not condone the deliberate violation of rules and instructions: if a rule or instruction is in error or inadequate, let your supervisors know and we will fix the problem.

Utilise Aviation Risk Management principles to identify, assess and control hazards associated with all unit activities.

Ensure personnel in unit safety appointments are fully trained, and ensure annual safety awareness training is provided for all personnel.

Ensure that the unit aviation safety committees and communication mechanisms are established at all levels within the unit and are operating effectively.

Comply with Defence Aviation safety event reporting and investigation requirements by impartially investigating all events, learning from them, and actively preventing their recurrence.

Include measurable safety goals and objectives into the unit business plan, thereby maintaining visibility of unit safety performance.

Ensure providers of goods and services to the unit conform to legislative and Defence safety requirements.

Operate, maintain and modify equipment in accordance with authorised policy.

The importance to me of the health, safety and welfare of all XXSQN personnel must not be underestimated. I require a genuine commitment by all unit personnel to sound safety management practices, as part of everyday management, combined with the establishment and maintenance of a structured and effective unit safety management system. This will ensure that we are collectively best placed to achieve our mission.

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SECTION 3

CHAPTER 6

TRAINING AND EDUCATION

INTRODUCTION

1. The effective application of the Defence ASMS is dependent upon the knowledge and skill of its participants. Effective training and education enables the ASMS objectives to be met by ensuring that all personnel who conduct or directly support aviation operations are appropriately trained to perform their safety-related duties.

PURPOSE

2. This chapter provides additional detail and guidance to complement the requirements of Section 2.

TRAINING REQUIREMENTS

3. Training and education requirements, including training record management considerations, are to be captured within the appropriate level ASMS documentation. Aviation safety training and education is relevant to the following personnel:

a. command and management;

b. Air Force Officer Aviation personnel;

c. Navy, Army and other aircrew (including Pilots, Aviation Warfare Officers (AVWO), Loadmasters, Aircrewmen, Crew Attendants and Air Refuelling Operators (ARO));

d. Unmanned Aerial Systems (UAS) operators;

e. Engineering Officers and Aviation Technicians;

f. Aviation Support Category (AVN) personnel;

g. Rescue and Fire Fighting (RFF) personnel;

h. airside staff (ie other personnel who in the course of their normal duties operate in the vicinity of aircraft or on the airfield environs including aprons, hardstands, taxiways and runways);

i. Aviation Safety Officers (ASOs), including those positioned at command, base, FEG, wing and unit equivalent positions, Maintenance Aviation Safety Officers (MASO), Flight Senior Maintenance Sailors (FSMS), and Safety Liaison Officers (SLO);

j. Aviation Safety Investigators (ASI); and

k. APS and contractors directly involved with aviation operations.

DEFENCE ASMS TRAINING

4. ASMS training follows a building-block approach. All Defence aviation personnel have safety responsibilities and are to receive training that is commensurate with their involvement in the ASMS. ASMS training requirements are detailed in the following paragraphs.

Aviation Safety Officer/Investigator Training

5. Specific training is undertaken by nominated personnel who will act as Command, FEG, Wing/Regiment, Unit or Base ASOs and MASOs. Training is also undertaken by individuals supporting ASOs/MASOs in the conduct of unit-level safety investigations.

6. DFSB Aviation Incident Investigation Course (AIIC). The AIIC (215188/P116324) provides personnel with the knowledge and skills to support ASOs and MASOs in the conduct of unit-level safety investigations. The course is suitable for individuals involved in lower level safety event investigations who are not trained ASOs or MASOs. The AIIC is a useful introduction to aviation safety investigations, but is not to be used as a replacement for specialist ASO training. The AIIC may be delivered by (or under the supervision of) Base, Wing or Regiment, Group and Command level ASOs and MASOs. AIIC course material is available from DFSB on request. More information regarding the course is available on the DFSB website.

7. DFSB Aviation Safety Officer Initial (ASO (I)) Course. The ASO (I) Course (209130/P109630) is the qualifying course for all unit-level ASOs and MASOs. This course is coordinated and facilitated by DFSB Safety Education and Training (SET) staff in conjunction with specialist presenters and provides applicable personnel with the knowledge and skills to perform unit ASO and MASO tasks. The ASO (I) Course is the pre-requisite course for the ASO Advanced (ASO (A)) Course. The ASO (I) Course includes theory and practical exercises in the broad topics of the Defence ASMS, Human Factors (HF), lower level safety event investigation, risk management and emergency response at the unit level. More information regarding the course is available on the DFSB website or https://objective/id:AB31465601 .

8. DFSB Aviation Safety Officer Advanced (ASO (A)) Course. The ASO (A) Course (111632/P000906) is the qualifying course for Base, Wing or Regiment, Group and Command level ASOs and MASOs. This course is coordinated and facilitated by DFSB SET staff in conjunction with specialist presenters and provides applicable personnel with the knowledge and skills to perform safety management duties at a Base, Wing or higher command level. ASO (A) Course requires the pre-requisite completion of ASO (I) Course. ASO (A) Course includes theory and practical exercises in the broad topics of the Defence ASMS, safety change management, safety analysis, advanced HF, strategic risk management, safety event investigation, reporting, Base emergency response and overall integration of the ASMS. The course includes the observation of a practical detailed review or exercising of an Airfield Emergency Plan or equivalent exercise. More information regarding the course is available on the DFSB website or https://objective/id:AB24367044 .

NOTE

- Enhanced RM training modules have been incoprated into both the ASO (I) and ASO (A) courses. The increased emphasis on RM is designed to enhance related knowledge and skills as well as address a specific gap in the ASMS training framework.
- Specific training for Base ASOs is currently managed by the respective Service organisations to meet respective aerodrome operational requirements. DFSB will continue to ensure that generic ASO training supports the development of BASOs for their specific role.

Risk Management (RM) Training

9. DFSB Risk Management Basic Course. The DFSB Risk Management Basic Course (214959/P122517) provides foundation instruction on RM concepts, RM philosophy, RM levels (detailed, deliberate and immediate), Rule of Three, and the features of an effective risk culture. This course is considered the minimum level of training required to provide RM knowledge to all personnel involved in Defence Aviation and must be completed during IET, prior to a member's first operational posting. The DFSB Risk Management Basic Course is to be delivered by (or under the supervision of) ASOs or MASOs or Instructor-qualified personnel who hold the proficiency for the course they are delivering (P122517). More information regarding the course is available on the DFSB website or https://objective/id:fAB4659809

10. DFSB AVRM Course. The DFSB Aviation Risk Management (AVRM) Course (215040/P122585) focuses on the practical application of RM methods and tools used to assess and manage risk in a Defence Aviation environment. This course is considered the minimum level of training for aircrew, air traffic controllers, and engineers and must be completed during IET, prior to a member's first operational posting. It is also to be completed by maintenance personnel who are likely to make unit level engineering decisions. The DFSB AVRM Course is to be delivered by (or under the supervision of) ASOs or MASOs. Personnel delivering this course must hold the proficiency for the course they are delivering (P122585). Specific training is also available to support the use of the DFSB Accident Outcome Analysis (AOA) methodology and tool. More information regarding AVRM training is available on the DFSB website or https://objective/id fAB4659810 .

11. RM Continuation Training. RM continuation training (also known as refresher or re-currency training) is designed to reinforce skills and knowledge required to effectively implement aviation risk management. RM continuation training includes reviewing risk management processes as part of the ASMS and provides an open forum to discuss identified RM related issues. Suggested aspects to cover include:

a. a review of the RM principles, levels, controls, tools (ie Rule of Three, AVRM or Bowtie); and/or

b. a review of FEG/wing or unit hazard identification and risk assessments (ie Mission Risk Profile (MRP), Risk Management Plan (RMP); or Carried Forward Unserviceabilities (CFU) review and approval process).

12. RM continuation training is to be conducted by (or under the supervision of) an ASO or MASO. Such training is to be completed at intervals of not more than two years. RM continuation training may be recorded in PMKeyS using the manually assigned proficiency P117740 or as part of a batch load using course code 215190 (Army).

NOTE

- The Safety Facilitator Course (PMKeyS Course Code 213653) has been replaced by the Aviation Non-Technical Skills Trainer Course. Safety Facilitators and AVRM Facilitators trained prior to 2017 may continue to deliver RM training.

ASMS Initial Training

13. DFSB training and promotional materials are available to assist commanders in introducing personnel to ASMS concepts. The Defence ASMS Guide and supporting PowerPoint presentation on the elements of the ASMS provide a simplified format that is easy to understand. This support material is available on the DFSB website or https://objective/id:AB23826391 . Where possible, ASMS initial training content should be incorporated into IET for all personnel involved in Defence Aviation.

NOTE

- Noting that initial aviation and aviation-related training courses are already required to incorporate dedicated aviation safety training, the development of ASMS Initial Training materials by DFSB seeks to assist commanders in meeting this requirement and promote standardisation in training content. The DFSB ASMS Foundation Course will be introduced in November 2018. The course will be designed to meet minimum ASMS training requirements, including risk management, for all Defence Aviation personnel. At this time (November 2018), the DFSB Risk Management Basic Course will be discontinued.

ASMS Internal Training

14. Commanders are responsible for developing and conducting internal ASMS familiarisation training including unit-specific induction and dedicated safety training days.

15. ASMS Induction. In addition to specific WHS induction training requirements, personnel shall be inducted into their organisation's ASMS. The relevant ASO or MASO (or equivalent) will normally manage this training. Suggested aspects to cover include:

a. commanders' aviation safety policy;

b. structure and management of the organisation's ASMS;

c. roles and responsibilities of staff in relation to aviation safety;

d. lines of communication for aviation safety matters;

e. aviation safety reporting and investigation;

f. aviation safety awards;

g. specific aviation hazard awareness (eg aircraft and associated equipment and operative environment); and

h. Unit and Airfield Emergency Plan (UEP/AEP) duties and responsibilities.

16. Aviation Safety Standdowns. Aviation safety standdowns are an important tool for commanders to update all personnel on topical and important safety issues. There is no set program, format or structure for a safety standdown. Existing ASMS processes (eg audits, aviation safety reporting, safety investigations, surveys and risk management) should be used to identify issues of importance to the particular workplace or work role. In simple terms, a mature ASMS can provide valuable input into shaping safety standdowns to meet operational needs and improve performance. While there is no requirement to record individual attendance at safety standdowns, their conduct is to be specified in the appropriate level ASMS documentation and recorded as a part of the unit's annual safety training plan. At least two aviation safety standdowns are to be conducted each year. Some suggestions for ASOs/MASOs tasked with planning safety standdown activities include the following:

a. presentations from the unit ASO or MASO/SLO/Ground Safety Adviser on local safety objectives and relevant aviation safety topics;

b. presentations on aviation medicine topics and safety relevant principles delivered in consultation with single service aviation medical advisors;

c. review of NTS principles and case studies delivered by unit NTS trainers;

d. review of AVRM by unit ASOs/MASOs;

e. review of unit aviation safety targets and objectives;

f. review of unit ASRs for the previous period including trends and any safety issues raised;

g. review of and/or practice using unit-specific emergency aircrew life support equipment and other equipment;

h. review of and/or practice using unit emergency response equipment and personal protective equipment (PPE); and

i. presentations from invited experts including:

(1) DFSB staff (accident summaries, safety management systems, fatigue management, human factors, NTS, AVRM, safety surveys, event reporting, etc);

(2) senior commanders (their thoughts on command and ASMS);

(3) ASOs/COs from other Defence Aviation units (comparing safety issues, event reviews, safety information sharing);

(4) external experts (contacts are available from DFSB); and

(5) representatives from civilian organisations (incident and accident case studies, safety issues confronting their organisation/industry, how they manage safety, etc).

NOTE

- Personnel organising safety standdowns should consider contacting other units and FEGs to source ideas and suggested presenters for formulating an effective safety standdown. When utilising guest presenters from outside the organisation, organisers should endeavour to get a clear understanding of what will be presented to ensure the presentation is relevant to the standdown and consistent with the Defence ASMS.

HUMAN FACTORS AND AVIATION NON TECHNICAL SKILLS (NTS) TRAINING

17. Human performance plays a critical role in maintaining and enhancing safety. Human error is cited as a contributory factor in a vast number of accidents and serious incidents across the world. The integration of human factors (HF) considerations into aviation operations and systems is a key objective of the ASMS. This includes providing personnel with targeted training to raise awareness of the importance of human factors principles and to provide the necessary underpinning knowledge and practice for skills development.

18. The term 'non-technical skills training' is used to denote targeted HF training designed to promote reliable and effective task performance by personnel in safety critical positions. The NTS training requirements detailed in the following paragraphs provide a framework to enable the development, implementation, assessment and evaluation of customised non-technical skills training programs.

19. Initial Training – DFSB Aviation NTS Foundation Course. The DFSB Aviation NTS Foundation Course (110038/P000666) provides Defence Aviation personnel with the theoretical background of aviation non-technical skills and supports the development of practical knowledge relevant to skilled performance. Commanders of organisations providing initial aviation and aviation related courses must ensure that the Aviation NTS Foundation Course is incorporated into the curriculums for which they are responsible. Training establishments are encouraged to contextualise packages to meet specific needs of their trade and should seek advice from the DFSB Applied Human Factors Section. The DFSB Aviation NTS Foundation Course is to be delivered by personnel who hold the DFSB Aviation NTS Trainer or Safety Facilitator qualification (PMKeyS Course Code 213653, Proficiency Code P115809).

More information regarding the course is available on the DFSB website http://drnet.defence.gov.au/raaf/AirForce/SafetyEducationTraining/AvailableCourses/Pages/Aviation%20NTS%20Courses.aspx

NOTE

- The Aviation NTS Foundation Course replaces the CRM Foundation Course and Maintenance Human Factors Course. The course provides all aviation personnel with a common frame of reference and language. The change in title to Aviation NTS seeks to be more inclusive and therefore provides scope for common course content to be tailored for specific aviation occupations. Personnel who have previously completed DFSB facilitator training (CRM Facilitator – 200802, or SFAC – 213653/P115809) may continue to deliver NTS initial, conversion, refresher, and continuation training.

20. Conversion and Refresher Training. Commanders of organisations providing conversion or refresher training must include training that contextualises NTS and human factors skills for the platform and type of operation. Such training should incorporate case studies and examples from the FEG to contextualise the theory taught in the Aviation NTS Foundation course and support the transition of knowledge to skill-based performance. DFSB can provide guidance and support to structure such training when requested.

21. Aviation NTS Continuation Training. A single exposure to an NTS training course will not have a lasting effect. It is widely acknowledged that without continuation training and reinforcement, attitudes and practices decay. Therefore commanders must continue to reinforce NTS concepts. Dedicated Aviation NTS continuation training (also known as refresher or re-currency training) is to be conducted at least every two years for all aircrew, air traffic controllers, UAS pilots and operators, engineers and maintenance personnel. Training is to cover, at a minimum, situation awareness, decision-making, communication, teamwork, leadership, stress management, coping with fatigue and culture. Continuation training packages developed by DFSB are available on the DFSB website. Aviation NTS continuation training must be delivered by an Aviation NTS Trainer. Completion of continuation training may be recorded in PMKeyS using the manually assigned proficiency P110284.

22. DFSB Aviation NTS Trainer Course. The DFSB Aviation NTS Trainer Course (213653/P115809) provides 'Train the Trainer' instruction to those personnel identified as NTS trainers in Defence Aviation. It is coordinated and facilitated by DFSB and provides applicable personnel with the knowledge and skills to deliver the Aviation NTS Foundation Course and Aviation NTS continuation training. The course also introduces students to scenario-based training and assessment techniques to support the integration of NTS.

23. Individuals should be selected by role and/or suitability and their applications approved by their commander. All applicants for the DFSB Aviation NTS Trainer course must have completed either the DFSB Aviation NTS Foundation Course, Crew Resource Management Foundation Course or Maintenance Human Factors Foundation Course or an equivalent. More information regarding the course is available on the DFSB website or https://objective/id:AB31184630 .

NOTE

- Personnel who have previously completed DFSB facilitator training (CRM Facilitator – 200802, or SFAC - 213653) may continue to deliver Aviation NTS initial, conversion, refresher, and continuation training.

24. To be recognised as a 'current' Aviation NTS trainer, personnel must have facilitated an NTS training module within the last three years. Personnel may regain currency by facilitating under supervision and be assessed as proficient by a current aviation instructor or NTS trainer who has been approved by their FEG to conduct NTS trainer assessments. Aviation NTS trainer currency may be recorded in PMKeyS using the manually assigned proficiency P119789.

25. Skills–Based NTS Training and Assessment. There is a related but separate requirement for all aircrew and air traffic control personnel to move beyond classroom-based NTS training to the conduct of skills-based training incorporating active practice and individual feedback on NTS performance. Integrating NTS training and assessment into the broad training system offers many benefits including the improved transfer of knowledge and skills to operational performance. One aim of a mature non-technical skills training program, particularly where training is required to reach the 'skilled' level, is to integrate non-technical skills into existing simulator and/or line proficiency checks. Specific evidence based techniques should be used to support the assessment of NTS in real or simulated environments. DFSB recommends the use of the Method for Assessing Personnel Performance (MAPP).

26. Rather than treating technical and non-technical skills separately, the MAPP provides an integrated approach to assessment. Detailed guidance material to support the implementation of the MAPP is available on the DFSB webpage or https://objective/id:AB30834140 . The MAPP is suitable for use by a broad range of Defence Aviation occupations including aircrew, UAS operators and air traffic control officers.

AVIATION MEDICINE TRAINING (AVMED)

27. Various AVMED courses are provided by the Institute of Aviation Medicine (IAM) to trainee and qualified aircrew, instructors, health specialist officers, technicians and those involved in Night Vision Device (NVD) operations. The courses graduate personnel with an understanding of the medical and physiological problems associated with the aviation environment including techniques to overcome these problems. They also promote a positive attitude toward the medical aspects of aviation safety. Specialist overseas and in-house aviation medicine training courses are provided for IAM staff and single service aviation medical advisors.

OTHER SAFETY TRAINING REQUIREMENTS

28. There are further training requirements which are considered to be part of the scope of aviation safety training and education. These are listed below.

29. Command and Management Training. It is essential that commanders and managers and supervisors understand the principles on which the ASMS is based. Training should ensure that commanders and managers are familiar with safety management principles, risk management processes, their responsibilities and accountabilities for safety, and their legal liabilities.

30. Defence Training Courses. Aviation safety training and education is embedded into many existing initial and advanced aviation and aviation-related training courses. Training modules cover the structure and functioning of the ASMS, RM and NTS as applicable.

31. Conversion Training. Conversion courses should reinforce and provide additional aviation safety training specific to the aviation system, equipment and environments to be operated in – both operational and organisational. Sufficient ASMS training must be included in conversion courses for lateral recruits to demonstrate proficiency.

32. Flying Supervisor Training. The Flying Supervision Course (111189/P002729) provides personnel with the knowledge and attitudes necessary to perform the role of a flying supervisor. FSC is conducted by Central Flying School (CFS).

33. Emergency Response Training. All personnel with responsibilities detailed in UEPs and AEPs require training in particular duties and responsibilities. This will include introductory training, formal workplace training, specific training for incident commanders and annual continuation training. Continuation training may be conducted as part of a tabletop exercise to review the UEP and AEP. The conduct of a UEP and/or AEP activation exercise is not a training activity. An AEP/UEP activation exercise is a test of readiness to respond to an emergency scenario. Details of the requirements for the content, conduct and assessment of emergency response readiness are covered in Chapter 10 – Emergency Response.

NOTE

- Combat Support Group (CSG) provides the management and delivery of the Aviation Incident Site Commander course (PMKeyS course code 214663); the Aerodrome Operations Manager course (PMKeyS course code 214664); and the BASO Introduction Base Search and Rescue Officer course.

34. Airside Access Training. All personnel who work in close proximity to aircraft or in the airfield environs require training in associated hazards, practices and procedures. Air Command SI(OPS) 05–45 provides information on all aspects of airside access training. Navy and Army have agreed to either adopt, or direct compliance with, this instruction in order to provide airside access standardisation throughout Defence.

35. Passengers. Passengers in Defence aircraft should receive suitable safety and emergency briefings as required according to aircraft type and operations prior to each flight, regardless of previous experience. Regular passengers may be provided with more in-depth training on the aircraft and its emergency equipment. With suitable training and experience, these personnel are more able to assist in, rather than hinder, an effective response to an emergency situation.

36. Contractors. Contractors involved in Defence aviation operations should be familiar with the general concepts and elements that underpin the Defence ASMS. Contractors should be invited to participate in the Unit ASMS and have their chosen representative trained in supporting roles.

37. Dangerous Cargo. Training in classification, preparation, transportation, handling, receipt and dispatch procedures must be provided to all personnel involved in the aerial transport of dangerous goods.

38. CDF Commission of Inquiry (COI) or Board of Inquiry (BOI) Members. Personnel selected to perform duties as a member of a CDFCOI or BOI should be well acquainted with the legal powers of a CDFCOI/BOI, Defence (Inquiry) Regulations, Defence Instructions, Inquiry conduct and procedures, evidence handling, and

information analysis. They should also have a sound understanding of the Defence ASMS, the principles and purpose of an aviation safety investigation, as well as implications of HF and risk management evaluation as contributing factors in aviation accidents.

EXTERNAL TRAINING

39. Specialist training is essential for incumbents of DFSB Aviation Safety Investigator (ASI) designated positions to enable DFSB to meet its mandate to investigate all Defence Aviation Class A events. Training requirements can currently only be met by a number of international, dedicated aviation safety training organisations. Defence participation and completion of such courses also provides access to world's best practice safety training which can then be used to enhance Defence aviation safety training. International engagement and associated sharing of ideas and current practices is also beneficial.

DFSB Safety Investigator Training

40. All DFSB safety investigators filling an ASI role will complete one of the following courses. Some positions will require additional specialist training (eg engine mishap investigation).

41. ATSB Human Factors for Transport Safety Investigators Course. The Australian Transport Safety Bureau offers an introductory course in Human Factors for Transport Safety Investigators. This one-week course provides a general overview of human factors in safety-critical systems and provides participants with opportunities to improve their awareness of how human factors issues can be considered during a transport safety investigation.

42. Cranfield Aircraft Accident Investigation Course. This course is conducted at Cranfield University (Cranfield, UK) and provides a detailed knowledge of all requirements, procedures and techniques associated with aircraft accident investigation and prevention.

43. United States Navy (USN) Aviation Safety Officer Course. This course is conducted at Naval Air Station (NAS) Pensacola, Florida, USA, and combines Aircraft Accident Investigation (AAI) and Flying Safety Program Management (FSPM) training. Courses are run continually.

44. United States Air Force (USAF) International Flying Safety Officers' Course. This course is conducted at the USAF Safety Centre, Kirtland Air Force Base, Albuquerque, New Mexico, USA, by the Southern California Safety Institute (SCSI) under contract. It combines AAI and FSPM, using a world standard crash laboratory.

45. USAF Jet Engine Mishap Investigation Course. This course is conducted at Sheppard Air Force Base, Wichita Falls, Texas, USA, and is run continually.

46. Cranfield Accident Investigation for Aviation Management Course. This course is conducted at Cranfield University and provides a basic knowledge of accident investigation techniques and international procedures.

47. University of Southern California, Los Angeles. The university conducts a series of courses in AAI, ASMS, HF and other relevant subjects.

48. Command and FEG level ASOs may also benefit from undertaking additional training to support ASMS functions, and to provide a higher level of investigation competency for Class B event investigations not conducted by DFSB. DFSB can provide guidance on available training opportunities.

CONFERENCES, SEMINARS AND PRESENTATIONS

DFSB Presentations

49. DFSB staff are available to deliver specific safety based presentations. Presentations may encompass aviation safety case studies, ASMS, contemporary human factors, RM and NTS methodologies and can be scheduled during courses, training days, visits, and safety surveys, or on an invitational basis, such as safety standdowns. Units requiring DFSB presentations are to send support requests to the DFSB email address at ddaafs@defence.gov.au. Standard DFSB presentations are also available for use and can be accessed via the DFSB website.

Civil Conferences and Seminars

50. Australian and international conferences and seminars provide valuable safety education forums for the dissemination of aviation safety information and related matters. The following institutions hold regular forums:

a. International Society of Air Safety Investigators (ISASI) – (http://www.isasi.org/);

b. Australia and New Zealand Societies of Air Safety Investigators (ANZSASI) – (http://www.asasi.org / index html);

c. Pacific CRM Developer's and Facilitator's Forum (PACDEFF)(http://www.pacdeff.com/index.shtml);

d. Australian Aviation Psychology Association (AAvPA) – (http://www.aavpa.org/);

e. Flight Safety Foundation - (http://flightsafety.org/); and

f. Safeskies - (http://www.safeskiesaustralia.org/).

TRAINING MANAGEMENT AND RECOGNITION OF PRIOR LEARNING (RPL)

51. DFSB training courses are managed in accordance with the Manual of Air Force Education and Training. DFSB Learning Management Packages can be access via the DFSB webpage. RPL is available for courses delivered by DFSB, including the ASO(I), ASO(A) and Aviation NTS courses. Further information regarding the RPL process is available on the DFSB SET webpage.

ADDITIONAL RESOURCES

52. The following organisations' websites provide detail on aviation safety and related education and training of the respective organisations:

a. DFSB;

b. Airservices Australia;

c. Civil Aviation Safety Authority (CASA);

d. Australian Transport Safety Bureau (ATSB);

e. Australian Airports Association (AAA);

f. USN Naval Safety Center;

g. United States Navy (USN) and United States Marine Corps (USMC) School of Aviation Safety;

h. Skybrary; and

i. Federal Aviation Administration (FAA).

SECTION 3

CHAPTER 7

RISK MANAGEMENT

INTRODUCTION

1. The effective management of risk is an integral part of all Defence activities. The aim of Risk Management (RM) is to support the successful achievement of the Defence mission in a manner that enhances air power and readiness whilst mitigating the risk of harm to personnel, preventing the loss of or damage to equipment, and damage to the reputation of the organisation. This chapter has been written with a primary focus on the management of risks to health and safety, in response to the requirements of the *Work Health and Safety Act 2011* (WHS Act) and the *Work Health and Safety Regulations 2011* (WHS Regs). The management of risk across multiple risk dimensions is described at the end of this chapter.

2. Defence has a moral and legal obligation to ensure the health and safety of all members involved in military aviation activities. The WHS Act and WHS Regs provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces. Defence is bound by these requirements.

3. The WHS Act enshrines the principle that workers and other persons should be given the highest level of protection against harm to their health and safety from hazards and risks arising from work. This includes the requirement to eliminate risks to health and safety so far as is reasonably practicable (SFARP). If it is not reasonably practicable to eliminate those risks, they must then be minimised SFARP. To meet these requirements, DFSB has adopted the RM process contained within this chapter.

4. To ensure workplace risk is appropriately considered in decision making, risk management is to be integrated into planning, approval, review and implementation processes at all levels within Defence Aviation. Risk management plans must be appropriately documented and the decision to proceed made at a level of authority commensurate with the level of risk remaining after minimisation (residual risk).

PURPOSE

5. The purpose of this chapter is to detail the RM process applicable to Defence Aviation. The RM process uses the specific procedures within the WHS Act and WHS Regs, incorporating Codes of Practice (CoP) and Defence prescribed requirements and constitutes Defence Aviation's primary means of compliance with Legislation.

MEANS OF COMPLIANCE

6. The WHS Act imposes a legal obligation on all Defence personnel to ensure health and safety by:

a. eliminating risks to health and safety, SFARP[1]; and

b. if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks SFARP[2].

7. Where it is not reasonably practicable to eliminate risks to health and safety, the Hierarchy of Controls (HoC) must be applied in order to minimise risks SFARP[3].

8. Reasonably Practicable. Reasonably practicable, in relation to the duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters including[4]:

a. the likelihood of the risk or hazard concerned occurring; and

b. the degree of harm that might result from the hazard or risk; and

c. what the person concerned knows, or ought reasonably to know, about:

(1) the hazard or the risk; and

(2) ways of eliminating or minimising the risk; and

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[1] WHS Act (2011) Section 17a and WHS Regulations (2011) Part 3.1 Regulation 35a

[2] WHS Act (2011) Section 17b and WHS Regulations (2011) Part 3.1 Regulation 35b

[3] WHS Regulations (2011) Part 3.1 Regulation 36

[4] WHS Act (2011) Section 18

d. the availability and suitability of ways to eliminate or minimise the risk; and

e. after assessing the extent of the risk and available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

KEY RISK MANAGEMENT PRINCIPLES

9. In order to maximise the effectiveness of risk management in Defence activities, personnel should be mindful of the following broad risk management principles at all times:

a. Accept No Unnecessary Risk. Personnel must not be exposed to unnecessary risk. Unnecessary risk comes without a commensurate return in terms of real benefits or available opportunities. Furthermore, where risk is retained, unnecessary risk comes from failing to do all that is reasonably practicable to minimise the level of risk, thereby exposing personnel to a higher level of risk than is necessary to accomplish the task.

b. Make Risk Decisions at the Appropriate Level. Making risk decisions at the appropriate level ensures appropriate oversight, availability of resources and accountability.

c. Integrate Risk Management into Operations, Activities and Planning at All Levels. Integrating RM into planning at all levels provides the greatest opportunity to make well informed risk decisions and implement effective risk controls. Commanders, supervisors and personnel must dedicate appropriate time and resources to integrate RM into planning, operational processes and day-to-day activities.

d. Apply the Process Cyclically and Continuously. Effective RM is not a set-and-forget process. RM is a continuous process applied across the full spectrum of activities. It is a cyclic process that is used to continuously identify and assess hazards and risks, develop and implement controls, and evaluate outcomes. The aim is to improve mission effectiveness, save lives and preserve combat resources.

POLICY REQUIREMENTS

10. Regardless of rank or status, all Defence personnel are classified as workers under the WHS Act. This imposes a legislated duty on all personnel to take reasonable care with respect to health and safety.

11. Defence personnel may have different obligations related to their responsibilities and duties within the organisation. For instance, members at the lower levels of Defence may, in practice, make fewer risk management decisions and mainly work in an environment where established policy and procedures must be complied with. In contrast, members at higher levels of Defence must also comply with established policy and procedures, but will likely take a more active role in participating in, and making risk management decisions.

12. Where Defence personnel are required to make safety risk decisions in the workplace the RM process contained within this chapter must be applied.

LEVELS OF RISK MANAGEMENT

13. To support risk based decisions in the workplace, two levels of risk management ('Immediate' and 'Deliberate') are identified and must be applied as appropriate to the circumstances. The seven step RM process detailed in this chapter is common to both; the differences primarily relate to the proximity of the assessment to the task/activity being undertaken, the depth of analysis, and requirements for the documentation of risk decisions.

Immediate Risk Management

14. Immediate risk management must be undertaken immediately prior to conducting a task/activity. It may be completed as a mental, verbal or informally documented review. It acknowledges that hazards and risks in the workplace are generally well known and the established controls documented in policy and procedures and/or Orders Instructions and Publications (OIP).

15. The intent is not to redo deliberate assessments within existing policy, procedures or OIP, but to identify and consider any local environmental and/or organisational factors existing at the time of the task that could compromise the effectiveness of the documented control measures and established work practices directly associated with the conduct of the task/activity. Immediate risk management leverages the knowledge, skills and competencies of the members qualified and authorised to undertake the task/activity and is used to ultimately inform a decision that:

a. is used to determine if additional controls need to be implemented based on environmental and/or organisational factors; and

b. confirms the task/activity will be conducted in accordance with the established controls documented in Policy, Procedures and OIP.

16. Immediate risk management does not require or involve documentation of an SFARP argument, but the outcome could trigger a requirement for deliberate risk management where, for example, a changing context makes the established control measures ineffective.

Deliberate Risk Management

17. Deliberate risk management must be conducted in advance of task/activity execution, such as during the planning phase. It involves a thorough analysis of the circumstances surrounding the task/activity and includes formally documenting the results and outcomes, including documentation of an SFARP argument. The level of detail not only considers the hazards, risks and controls directly associated with the conduct of the task/activity, but also considers a broader array of effects that could impact health and safety. Ultimately, deliberate risk management should be conducted to a level of detail commensurate with the complexity of the task/activity, the associated risks that are being considered, and be supported by appropriate data to justify the decisions made.

18. Situations in Defence Aviation where deliberate risk management may be required include (but are not limited to):

a. in response to identification of a new workplace hazard or risk which is not covered by existing OIP;

b. where OIP do not provide sufficient information on workplace hazards and controls for the particular circumstance;

c. whenever changes are made to the workplace, system or method of work, plant or equipment used and/or materials used;

d. to support development of OIP that are required for a new task/activity, or a related task/activity that exceeds the scope of existing OIP;

e. when new plant, substances or structure are introduced or procured;

f. in response to workplace incidents (even if they have not caused injury);

g. where new information concerning a workplace hazard or risk becomes available;

h. in the planning stages of a major activity/task; or

i. prior to starting a new project or acquisition.

RISK MANAGEMENT PROCESS

19. The RM process consists of the seven steps listed below:

Step 1. Establish hazard and risk context.

Step 2. Be reasonably informed of the risk/s and all possible controls.

Step 3. Eliminate risk SFARP.

Step 4. Minimise risk SFARP.

Step 5. Characterise risk.

Step 6. Decision-to-proceed.

Step 7. Continuous risk monitoring and review.

20. These steps are displayed in Figure 1–1 below and further detailed within this chapter.

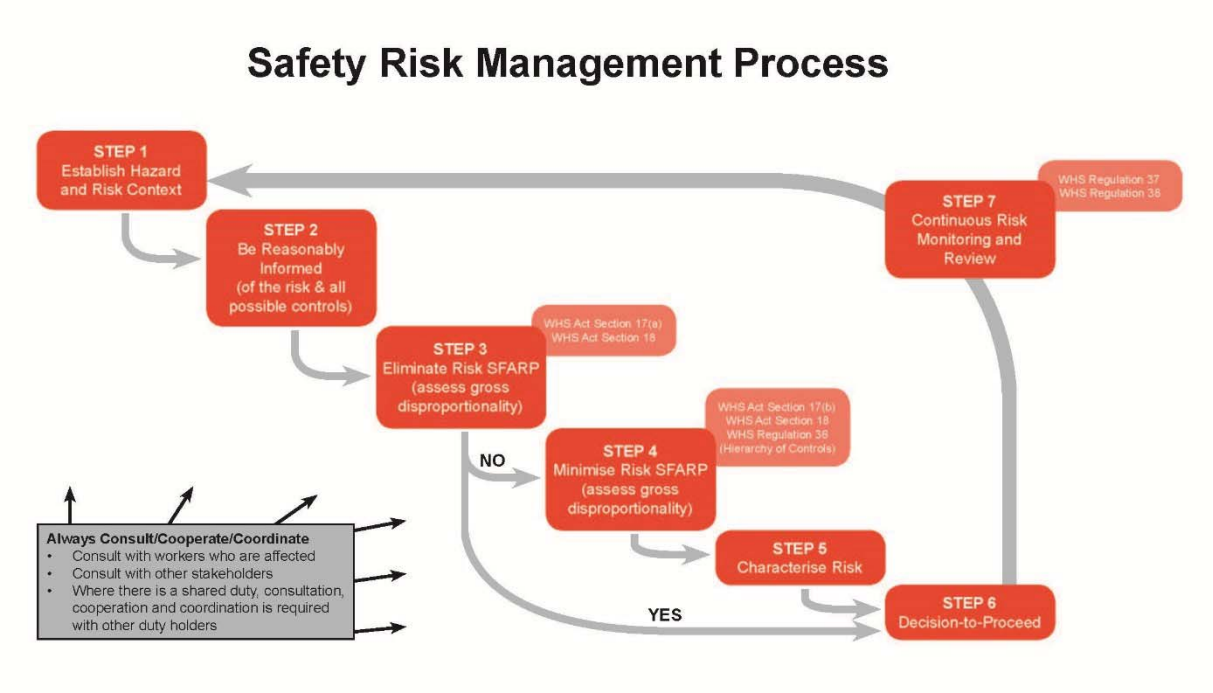

Figure 7–1 Risk Management Process

STEP 1 – ESTABLISH HAZARD AND RISK CONTEXT

21. The first step in the RM process is to clearly describe and understand the hazard and risk context. The context is a detailed description of the operating environment in which the task/activity will be conducted and includes consideration of the following:

a. Activity Objectives. These are clear, concise statements regarding the desired outcome(s) of the task/activity being considered, including:

(1) its purpose;

(2) identifying whether it is a new or existing task/activity;

(3) determining whether the task/activity is discretionary/non-discretionary based on organisational priorities; and

(4) determining the urgency and scope of the task/activity, and its importance and benefit to the delivery of organisational capability.

b. Activity Significance. What is the strategic, operational and tactical significance of the task/activity? The significance of a task/activity will have a direct bearing on the reasonably practicable judgement, including consideration of:

(1) the depth of safety risk assessment required, commensurate with the complexity of the task/activity and the associated hazard/s and risk/s;

(2) the primary purpose of the organisation; this could vary between a raise train sustain (RTS) scenario or conducting work up tasks/activities to support a mission or force assignment to operations; and

(3) the applicable phase within the Defence Capability Life Cycle (CLC) i.e. Needs, Requirements, Acquisition, Sustainment and Disposal and the associated business units involved in these tasks/activities for safety risk assessments involving major systems.

c. Identify Stakeholders. Stakeholders are individuals, units or entities that may have an interest in, effect on, or be affected by, the task/activity being considered. Stakeholders that may be appropriate to engage with in the RM process may include:

(1) members with specific safety appointments;

(2) operators of the same or similar plant, substances or structures, including other elements of Defence Aviation and foreign allies;

(3) designers of plant, substances or structures such as CASG, E&IG and/or Defence Industry;

(4) manufacturers of plant, substances or structures, including, who would be contacted through CASG or other appropriate Defence business units;

(5) importers and or suppliers of plant, substances or structures, such as E&IG, CIOG and CASG;

(6) contractors; and

(7) the general public.

d. Reference Material. All relevant reference information is identified, including:

(1) OIP, Technical Manuals, Flight Manuals, Standing Instructions (SI), Bench Level Instructions (BLI) and Electrical Mechanical Engineering Instructions (EMEI);

(2) local directives including Commanding Officer (CO)/Senior Maintenance Manager (SMM)/Chief Engineer (CENGR) Directives, and Flying Orders; and

(3) other safety risk assessments which relate to the task/activity.

e. Nominal Conditions/Assumptions/Limitations. Consideration must be given to other factors, including:

(1) Mission. Detail the scope of the task/activity being conducted.

(2) Equipment. Equipment being used such as consumables, support equipment, materials and Personal Protective Equipment (PPE), including configuration and serviceability state.

(3) Personnel. Attributes of the members involved in the task/activity, including qualifications, competency and currency, training and experience, team or crew composition.

(4) Environment. The physical environment in which the task/activity is being conducted, including location, lighting, temperature, noise, work areas, distractions.

(5) Other. Other conditions, assumptions or limitations relevant to the task/activity.

STEP 2 – BE REASONABLY INFORMED OF THE RISK/S AND ALL POSSIBLE CONTROLS

Risks

22. The RM process requires members to be reasonably informed of all risks associated with the task/activity being considered. They must have knowledge about the hazards or risks and any ways of eliminating or minimising the risks. This will be what is known, and what a reasonable person in the circumstances (e.g. a person in the same industry) ought reasonably to know. This is also referred to as reasonable knowledge.

a. Knowledge About the Hazard or Risk. The RM process requires members to:

(1) Proactively take steps to identify hazards associated with the task/activity under consideration. This must be done before the task/activity is undertaken or the circumstances occur that result in realisation of the risk.

(2) Understand the nature and degree of any harm that the identified hazard(s) may cause, how the harm could occur, and the likelihood of the harm occurring.

b. Knowledge About Other Factors. The RM process requires members to consider and understand how other factors may cause or increase hazards and risks, including:

(1) human error or misuse, spontaneity, panic, fatigue or stress;

(2) potential failure of plant, equipment, systems of work or safety measures;

(3) provision of goods and services by third party organisations e.g. designs, leased equipment, contracted labor, substances and parts; and

(4) interaction between multiple hazards that may, together, cause different risks.

c. Gaining Reasonable Knowledge. There are various ways of gaining reasonable knowledge, including:

(1) consulting those workers who are responsible for undertaking the task/activity;

(2) consulting others in the industry;

(3) analysing previous safety events;

(4) considering relevant Regulations and CoPs and other sources of information such as:

(a) guidance material issued by the regulator, such as Comcare guidance material;

(b) credible technical standards, such as those published by Standards Australia and International Standards;

(c) industry publications;

(d) published scientific and technical literature; and

(5) undertaking safety risk assessments.

d. Knowledge About Ways of Eliminating or Minimising the Risk. Knowledge must be gained about ways of eliminating or minimising risks SFARP. There may be many different ways of eliminating or minimising risks. The RM process requires personnel to gain reasonable knowledge of all relevant controls in order to effectively identify those which are available and suitable. Regulations and CoPs may identify ways to eliminate or minimise risks SFARP. Note that Defence has prescribed risk management processes for Hazardous Chemicals[5], Asbestos[6] and Lead[7] that must be adhered to.

e. Codes of Practice (CoP). An approved CoP provides practical guidance on how to achieve the standards of work health and safety required under the WHS Legislation and effective ways to identify hazards and manage risks. Following an approved CoP will assist in achieving compliance with duties in relation to the subject matter of the CoP. Like regulations, CoP deal with particular issues and may not cover all relevant hazards or risks. The health and safety duties require members using the RM process to consider all risks associated with work, not only those for which regulations and CoP exist. CoPs are admissible in court proceedings under the WHS Legislation and Courts may regard a CoP as evidence of what is known about a hazard, risk, risk assessment or risk control and may rely on the code in determining what is reasonably practicable in the circumstances to which the CoP relates.

f. Bow Tie. The Bow Tie is a useful tool that can be used to visualise risks and risk controls. It is also referred to as a Threat Block Diagram, which consolidates a 'fault tree' and an 'event tree' either side of a loss of control (LOC) point, or 'Top Event'. The Bow Tie analysis is useful for communicating what types of controls should be considered for managing certain types of hazards and to avoid a critical situation, which could lead to harmful consequences.

Controls

23. Identify All Possible Controls. It is important not to prematurely presume the outcome of the Step 3—*Eliminate Risk SFARP* and/or Step 4—*Minimise Risk SFARP* assessments by inadvertently dismissing or filtering out potential control measures when gaining reasonable knowledge about the hazards, risks and controls.

24. To prevent prematurely discarding controls, there is a requirement to document the full list of the possible risk controls identified while completing Step 2—*Be Reasonably Informed of the Risk/s and All Possible Controls.* This list of possible controls can then be used as inputs to Steps 3 and 4; with every control on the list being worked through the SFARP standard in order to make determinations if they're reasonably practicable to implement or not.

STEP 3 – ELIMINATE RISK SFARP

25. There is a legislated requirement to eliminate risks to health and safety SFARP, in the first instance. Elimination of risks does not necessarily mean ceasing a task/activity as this is not automatically the reasonably practicable outcome. For example, consider a situation involving an unserviceable seat restraint in a passenger aircraft. Elimination of the risks associated with the unserviceable passenger seat restraint does not necessarily mean cancelling all tasking for that aircraft until the restraint is fixed. Elimination of the risks may be achieved by removing the seat (if it is reasonably practicable to do this without introducing additional risks), thereby removing any risks associated with a passenger occupying a seat with a faulty restraint.

26. In assessing whether a hazard or risk can be eliminated SFARP, the RM process requires members to demonstrate for each hazard or risk that they have:

a. determined the likelihood of the hazard or risk occurring;

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[5] SAFETYMAN Hazardous Chemicals Management Procedure 06 –Hazardous Chemical Risk Management and SAFETYMAN Hazardous Chemicals Management Procedure 07 – Hazardous Chemicals Risk Assessment

[6] SAFETYMAN Asbestos Management Procedure 02 – Risk Management of Asbestos in Workplaces

[7] SAFETYMAN Lead Exposure Management Policy and Guidance

b. determined the degree of harm that might result from the hazard or risk;

c. identified ways to eliminate the hazard or risk;

d. determined the availability and suitability of the ways to eliminate the hazard or risk that were identified in Step 2 (refer below for additional guidance on Availability and Suitability);

e. determined the cost of implementing available and suitable elimination options from Step 2; and

f. assessed that the cost of elimination in Step 2 was/was not grossly disproportionate to the extent of the risk (refer below for additional guidance on Grossly Disproportionate Assessments).

27. Elimination of Hazards and Risks IS NOT Reasonably Practicable. If it IS NOT reasonably practicable to eliminate the hazards and risks associated with the task/activity, the reasons for that assessment must be documented for deliberate risk management, specifically addressing each of the factors in the previous paragraph before proceeding to Step 4 Minimise Risk SFARP.

28. Elimination of Hazards and Risks IS Reasonably Practicable. If it IS reasonably practicable to eliminate the hazards and risks associated with the task/activity, the next step is to ensure all of the controls that were assessed as being reasonably practicable to eliminate the hazards and risks are immediately implementable before proceeding directly to Step 6—*Decision-to-Proceed*.

29. Additionally, it is important to document the supporting rationale for determining the reasonably practicable controls used to eliminate the risks so they can be considered in future monitoring and review (Step 7) of the hazards and risks.

STEP 4 – MINIMISE RISK SFARP

30. In circumstances where it is not reasonably practicable to eliminate the risk/s, there is a legislated requirement to minimise the risk/s SFARP. Minimising risk SFARP must be conducted through application of the HoC.

The Hierarchy of Controls

31. The HoC is only utilised where it is not reasonably practicable to eliminate risks to health and safety. The HoC depicted in Figure 7–2, provides a consistent process for identifying controls with the highest benefit to risk minimisation first.

32. In minimising risks SFARP, members must consider the risk control measures in accordance with the HoC and ensure those available and suitable controls (that are assessed as being reasonably practicable) are applied in the sequence set out within Figure 7–2. This ensures application of the most effective controls (substitution, isolation, engineering) is considered first, before working through the less effective alternatives (administrative and PPE).

NOTE

- In practice, a combination of controls may be required to minimise the risk SFARP.

33. Substitution, Isolation and Engineering Controls. Members must minimise risks SFARP by implementing one or more of the following:

a. Substitution. Substitute (wholly or partially) the hazard giving rise to the risk with something that gives rise to a lesser risk – eg replacing solvent-based paints with water-based paints.

b. Isolation. Isolate the hazard from any person exposed to it – this involves physically separating the source of harm from people via distance or utilising barriers such as installing guard rails around exposed edges and holes in floors; using remote control systems to operate machinery and storing chemicals in a fume cabinet.

c. Engineering Controls. An engineering control is a control measure that is physical in nature, including a mechanical device, software update or improved process such as trolleys or hoists to move heavy loads; placing guards around moving parts of machinery; installing residual current devices (electrical safety switches).

34. Administrative Controls. If a risk then remains, it must be minimised SFARP by implementing administrative controls. Administrative controls include work methods or procedures designed to minimise exposure to a hazard.

35. PPE. If a risk still remains, it must be minimised SFARP by ensuring the provision and use of suitable PPE.

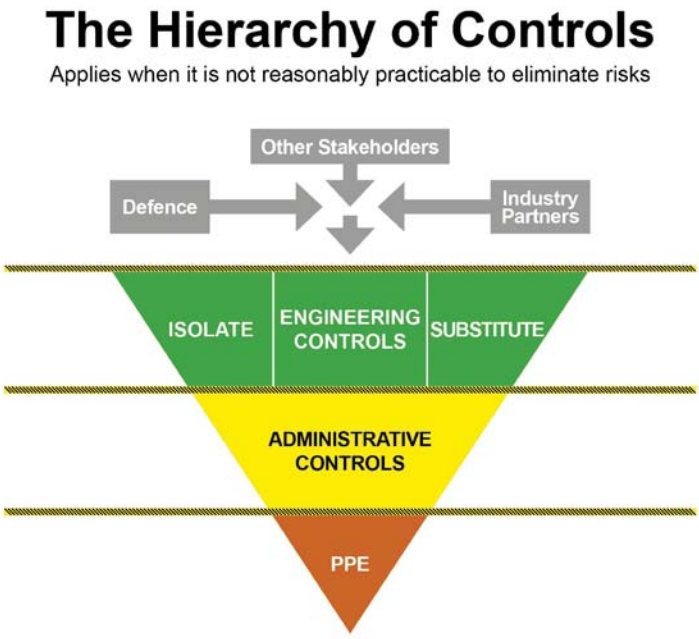

Figure 7–2 Hierarchy of Controls

36. Immediately Implementable. If it is reasonably practicable to minimise the risks associated with the task/activity using one or more immediately implementable HoC measure, the RM process requires members to:

a. verify that the selected control measure(s) will be effective in reducing the likelihood and degree of harm of the risk occurring; and

b. consider the cost associated with implementing each available and suitable control measure and determine if the cost of minimisation is or is not grossly disproportionate to the extent of the risk (refer later in this chapter for additional guidance on Grossly Disproportionate Assessments).

37. Not Immediately Implementable. Where one or more HoC measures cannot be immediately implemented (for example due to procurement or developmental timeframes) or where the control strategy is complex in nature with multiple interdependencies on other stakeholders/duty holders, the RM process requires members to:

a. Confirm that the SFARP judgment is still valid and the task/activity can proceed without the more effective control(s), ie consider the risks associated with undertaking the task/activity with the less effective control(s) and determine if it is/is not grossly disproportionate to wait until the more effective control(s) can be implemented.

b. If the decision is to proceed with the task/activity, determine if it is appropriate to impose special conditions and/or limitations (for example, operating restrictions or additional controls such as inspections) to be enforced in the intervening period.

c. Develop a Risk Control Plan (RCP) to document the strategy for monitoring future implementation of the more suitable control(s) within the defined timeframe (additional information on RCP is included in Annex A).

38. It is important to document the supporting rationale for those HoC measures that have been dismissed and for those assessed as being reasonably practicable to minimise the risks so they can be considered in future monitoring and review (Step 7) of the hazards and risks.

39. Additional Considerations. Once all available and suitable control measures have been identified, consideration must be given to:

a. Hazards and Risks Arising from Control Measures. Occasionally controls implemented to minimise one risk may introduce new hazards and/or risks. Consideration must be given to all such hazards and risks; they must be addressed by using the RM process described in this chapter.

b. **Supporting Measures.** The control measures selected will usually require changes to the way work is carried out. In these situations, it is necessary to support the control measure with mechanisms such as:

(1) **Work Procedures.** A safe work procedure is developed that describes the task/activity, identifies the hazards and documents how the task/activity is to be performed to minimise the risks.

(2) **Training.** Provide workers with training in the work procedure to ensure that they are able to perform the task/activity safely. Training must cover the nature of the work, the associated risks and the control measures to be implemented. Training should require workers to demonstrate that they are competent in performing the task/activity according to the procedure and must be provided in a form that can be understood by all workers. It is insufficient to simply give a worker the procedure and ask them to acknowledge that they understand and are able to perform it.

(3) **Information and Instruction.** Information and instruction may also need to be provided to others who enter the workplace, such as customers or visitors and must be provided in a form that can be understood by all parties.

(4) **Supervision.** The level of supervision required will depend on the level of risk and the experience of the workers involved. High levels of supervision are necessary where inexperienced workers are expected to follow new procedures or carry out difficult and critical tasks/activities.

40. Monitoring Risk Control Effectiveness. The requirement for monitoring risk control effectiveness involves the maintenance, review and as necessary, the revision of the risk control measures. Monitoring is to be continuous and it is prudent at this stage of the process to identify how continuous monitoring and detection of risk control failures may be achieved in preparation for Step 7.

STEP 5 – CHARACTERISE RISK

41. Unless all hazards and risks associated with the task/activity have been eliminated, there will, by definition, be some level of risk remaining after all reasonably practicable control measures have been applied; this is the residual risk.

42. The level of residual risk associated with the task/activity is to be characterised utilising the Defence Harmonised Risk Matrix displayed in Figure 7–3. This risk matrix constitutes the acceptable means of compliance unless an approved alternative means of compliance is required for the task.

43. The matrix requires an assessment of the likelihood of occurrence and consequence (degree of harm) considering all implemented risk controls. Likelihood is usually determined qualitatively using a series of risk descriptors equating to each level of probability or chance of occurrence. Similarly, consequence is determined qualitatively using a series of risk descriptors equating to each degree of harm. These two elements are normally independent of each other, ie one assessment is made for the likelihood of exposure to the hazard and one is made for the degree of harm associated with the risk being realised. The Defence Harmonised Risk Matrix is depicted below, and also included in Annex B.

Likelihood \ Consequence		Minor (A) Minor injury or illness that is treatable in the workplace (first aid) or by a registered health practitioner, with no follow up treatment required.	Moderate (B) Injury or illness causing no permanent disability, which requires non-emergency medical attention by a registered health practitioner OR 10 or more injuries or illnesses catergorised as 'minor'.	Major (C) Serious inury or illness requiring immediate admission to hospital as an inpatient and/or permanent partial disablity OR 10 or more injuries/ illnesses categorised as 'moderate'.	Critical (D) Single fatality and/or permanent total disability OR 10 or more injuries or illnesses categorised as 'major'.	Catastrophic (E) Multiple fatalities OR 10 or more injuries/illnesses categorised as 'critical'.
Almost certain (5)	**System:** Expected to occur several times a year or often during the system life-cycle. Is known to occur frequently in similar systems being used in the same role and operating environment. **Activity:** Expected to occur during the planned activity. Is known to occur frequently in similar activities.	(A5) LOW	(B5) MEDIUM	(C5) HIGH	(D5) VERY HIGH	(E5) VERY HIGH
Probable (4)	**System:** Expected to occur one or more times per year or several times in the system life cycle. Is known to occur previously but is not certain to occur. **Activity:** Expected to occur in most circumstances, but is not certain. Is known to have occurred previously in similar activities.	(A4) LOW	(B4) MEDIUM	(C4) HIGH	(D4) HIGH	(E4) VERY HIGH
Occasional (3)	**System:** Expected to occur less than once per year or infrequently during system life cycle. **Activity:** Not expected to occur during the planned activity. Sporadic but not uncommon.	(A3) VERY LOW	(B3) LOW	(C3) MEDIUM	(D3) HIGH	(E3) HIGH
Improbable (2)	**System:** Not expected to occur, but possible to experience one or more events during the system life cycle. **Activity:** Not expected to occur during the planned activity. Occurrence conceivable but considered uncommon.	(A2) VERY LOW	(B2) VERY LOW	(C2) LOW	(D2) MEDIUM	(E2) MEDIUM
Rare (1)	**System:** Only expected to occur in rare or exceptional circumstances or no more than once during the system life cycle. **Activity:** Not expected to occur during the planned activity. Occurrence conceivable but not expected to occur.	(A1) VERY LOW	(B1) VERY LOW	(C1) VERY LOW	(D1) LOW	(E1) LOW
Eliminated (0)	THE HAZARD/RISK HAS BEEN ELIMINATED					

Figure 7–3 Defence Harmonised Risk Matrix

STEP 6 – DECISION-TO-PROCEED

44. The decision-to-proceed (or not to proceed) with a task/activity after Risk Characterisation must be made at a level of authority commensurate with the level of the residual risk. This is not to be construed as a varying level of risk 'tolerance' based upon rank; rather, it reflects that whilst all reasonably practicable control measures have been implemented, a level of oversight is required to validate the correctness of the safety risk assessment, including the gross disproportionality assessment. It also acknowledges that in certain circumstances it may be justifiable to retain a higher level of risk if the benefits outweigh the potential adverse outcomes; and these decisions need to be made by the appropriate authority.

45. Risk Retention Thresholds. An example of a risk based escalation framework is displayed in Table 7–1. The framework is used to determine the appropriate Risk Management Authority (RMA) responsible for approving the level of risk that will be retained following deliberate risk management. The levels depicted in Table 7–1 are for reference only. The specific levels required to retain a particular level of residual risk level shall be promulgated by the appropriate Environmental Commander.

46. Immediate Risk Management. Where members performing immediate risk management believe they are faced with conditions or circumstances that may compromise safety immediately prior to or during the conduct of a task/activity, they must stop and reassess the situation to prevent negative outcomes. In the event the unsatisfactory conditions or circumstances cannot be resolved, the issues must be raised to the chain of command (CoC) which can then be addressed through the risk based escalation framework in Table 7–1.

47. Deliberate Risk Management. Where the residual risk is within the risk retention threshold, the decision-to-proceed with the task/activity (subject to resource approval) must be made at that level or escalated. Where the residual risk is greater than the risk retention threshold, the risk decision must be escalated to an RMA with suitable authority.

Table 7–1 Risk Based Escalation Framework (example for reference only)

Risk Level	RMA and Notification Requirement		
	RAAF	ARA	RAN
Very High	Service Chief or Group Head, Notify CDF		
High	ACAUST (for AC agencies) or DCAF (for AFHQ agencies)	COMD FORCOMD	COMAUSFLT
	Notify Service Chief or Group Head		
Medium	FEGCDR	BDE COMD	COMFAA
	Notify ACAUST (DCAF for AFHQ agencies) / COMD FORCOMD / COMAUSFLT		
Low	Unit CO / Wing OC	Unit CO / SQN OC / BC	Unit CO
Very Low	As promulgated by Unit CO		

48. Safety First. The risk based escalation framework does not dilute a worker's duty to take reasonable care with respect to health and safety. Notwithstanding the guidance below, nothing in Table 7–1 requires or permits a worker to take any action, or to refrain from taking action, that would be or could be reasonably expected to be prejudicial to the health and safety of workers and/or other persons. For example, it would be contrary to the intent of the WHS Act where immediate action was required to save life, but those involved considered inaction was needed in order to comply with Table 7–1.

49. Making a Decision. The decision to proceed with the task or activity taking into account and weighing up all relevant matters includes:

a. confirmation that the decision maker has the authority to make both a decision-to-proceed and a decision to implement the risk control measures required (including resources);

b. verification of the hazard and risk context including the correctness of the assessment relating to task/activity objectives, significance and nominal considerations, assumptions and limitations;

c. verification of the reasonable knowledge that underpins the safety risk assessment including confirmation of worker and stakeholder engagement and utilisation of appropriate information sources such as CoPs, Bow Ties or credible standards;

d. verification of the correctness of the safety risk assessment, including whether reasonably practicable judgements and grossly disproportionate assessments are sound and appropriately articulated;

e. confirmation that risk cannot be eliminated SFARP (noting the gross disproportionate assessment and rejecting where necessary);

f. confirmation that the risk is minimised SFARP, (noting the gross disproportionate assessment and rejecting where necessary); and

g. where appropriate, imposition of special limitations/conditions on proceeding with the task/activity, which might include limitations on time, location or specific circumstances.

50. If, after taking into account and weighing up all relevant matters that were able to be done in relation to ensuring health and safety from Steps 1 through 5, the RMA still considers that the level of residual risk outweighs the significance of the task/activity, then the task/activity should not proceed.

51. Reverse Engineering. Reverse engineering of a risk management plan in order to arrive at a pre-determined solution is not to occur under any circumstances. Circumventing the RM process by reverse engineering a solution undermines Defence's risk management objectives and has the potential to expose Defence personnel to unnecessary risk of death or injury, as well as opening up the potential for criminal prosecution.

STEP 7 – CONTINUOUS RISK MONITORING AND REVIEW

52. Risk management is an ongoing process that requires the continuous monitoring and review of the workplace, its hazards, risks and their associated control measures.

53. Review of Control Measures. Any control measure that is implemented to eliminate or minimise risks to health and safety must be regularly reviewed in order to ensure that the control measure is and remains:

a. fit for purpose;

b. suitable for the nature and duration of the task/activity; and

c. installed, set-up and used correctly.

54. Change in Context. If the established context of a safety risk assessment has been changed, there are potential impacts for the entire assessment. A significant change in the context would likely require a full review of the safety risk.

55. Continuous Monitoring of the Workplace for Hazards and Risks. The control measures put in place must be continuously monitored to make sure they work as planned. It is preferable to review a control measure before something has gone wrong. As a minimum, control measures must be reviewed:

a. when the control measure is not effective in controlling the risk;

b. before a change at the workplace that is likely to give rise to a new or different health and safety risk that the control measure may not effectively control;

c. if a new hazard or risk is identified;

d. if the results of consultation indicate that a review is necessary;

e. following a safety event; or

f. if personnel filling safety positions and/or the business unit's Safety Committee identify the need for a review.

56. Rule of Three (RoT) and People, Environment, Actions, Resources (PEAR). The combined RoT and PEAR process is the method that must be used during the conduct of all tasks/activities to continuously monitor and review risk control measure(s). This process enables Defence personnel to maintain risk awareness and assists supervisors to ensure full compliance with all of the identified and present risk control measures (including those in OIP) during tasks/activities. Additional information on the RoT and PEAR process is included in Annex C.

NOTE

- The RoT and PEAR process is used to supplement the greater Step 7 processes and must not be used as the only means of continuous risk monitoring and review.

57. Noteworthy Risks. A noteworthy risk is one that:

a. is determined to require particular scrutiny/monitoring (for example fuel exposures);

b. has Defence wide or cross Group/Service implications (for example Defence Fuel Installations); or

c. has a residual risk level of 'Medium' or higher.

58. Periodic Review. All deliberate risk management must be reviewed periodically according to the nature of the risk. For noteworthy risks, this period must not exceed 12 months and for other risks, the period must not exceed 24 months.

59. Post Accident/Significant Safety Event. If an accident or other significant safety event has occurred, then either one (or more) of the established control measures were potentially ineffective or there was an absence of appropriate control measures. Part of an investigation into the significant safety event is to establish what control measures had been identified and were in place (if any) and, if they were in place, determine which measures were successful and how/why other measures failed. It is essential to link safety event investigation outcomes to risk monitoring and review in order to maintain safe workplaces and learn to prevent recurrence.

ADDITIONAL GUIDANCE – THE MEANING OF 'AVAILABILITY' AND 'SUITABILITY'

Availability of Control Measures

60. Availability of controls can be interpreted as follows:

a. It can be purchased, made to suit or be put in place.

b. It is provided on the open market or is possible to manufacture.

c. It is feasible to implement.

Suitability of Control Measures

61. A way of eliminating or minimising a risk is regarded as suitable if it:

a. is effective in eliminating or minimising the likelihood or degree of harm from a hazard or risk; and

b. does not introduce a new and higher risk in the circumstances; and

c. is practical to implement in the circumstances in which the hazard or risk exists.

Justification

62. Ultimately, any decision regarding availability or suitability is required to be justified.

ADDITIONAL GUIDANCE – GROSSLY DISPROPORTIONATE ASSESSMENT

63. Legislation requires that an assessment of gross disproportionality is to be made. This reflects a clear presumption in favour of the safety of workers and other persons and the objectives of the WHS legislation.

64. Grossly disproportionate assessments are qualitative and need to be informed by common sense and professional judgement. This requires consideration of the extent of the risk (its likelihood and degree of harm) weighed up against the cost of implementing the suitable and available risk control measure. Grossly disproportionate assessments are not formulaic in nature; examples for illustrative purposes may include:

a. To spend $1M to prevent five staff per year from suffering minor bruised knees may be considered to be grossly disproportionate.

b. To spend $1M to prevent a major explosion with an assessed likelihood of Probable and with the potential to kill hundreds of people would not likely be considered grossly disproportionate.

65. Judgements must be made on a case by case basis rather than comparing with precedents set by other operators with similar circumstances. When making a determination whether the cost of implementing a control is reasonable in the circumstances or is grossly disproportionate, the following must be considered:

a. **Benefit Gained.** The benefits gained from implementing controls are realised in the reduction of the risk (likelihood and/or degree of harm) plus any savings attributed to fewer incidents, injuries and illnesses and productivity/capability improvements.

b. **The Costs of Implementation.** The costs of implementing a particular control may include costs of purchase, installation, maintenance and operation of the control measure, and any impact on productivity/capability as a result of the introduction of the control measure.

Cost

66. Cost may be considered in a more broader sense than purely financial; it may include labour, resources, time, mission objectives and other relevant matters such as:

a. **Initial Costs.** Initial costs include people, time and money required for the design, manufacture and installation of the control measure.

b. **Ongoing Costs.** Ongoing costs include people, time and money required for the maintenance, monitoring, decommissioning and disposal of the control measure.

c. **Costs of Missed Opportunities/Failed Objectives.** Costs of missed opportunities/failed objectives include all repercussions for the delay and non-completion of organisational objectives and missions. This includes other tasks/activities that may be affected through resource constraints or that are dependent on the completion of the task/activity that is currently being assessed.

d. **Potential Savings.** Potential Savings include potential reductions in incidents, injuries, illnesses, staff turnover and damaged reputation as well as long-term production benefits that may result from the implementation of the control measure.

Not a Cost v Benefit Analysis

67. Cost must not be considered as something that is relative to the current resources available to the organisation. Additionally, an assessment of whether the cost of implementing a control measure is grossly disproportionate to risk must never be viewed or treated as a cost versus benefit assessment. The WHS Act is clearly in favour of safety over cost. Two common misinterpretations that must be avoided are:

a. Assuming that available control measures are to be implemented only when the cost of the outcome (risk is realised) is grossly disproportionate to the cost of the control measure.

(1) The grossly disproportionate assessment is instead advocating that all available and suitable control measures must be implemented unless their cost is assessed to be grossly disproportionate to the risk.

b. Assuming the control measure need not be implemented where the cost of implementation is assessed as grossly disproportionate to the risk and the ability of Defence to afford the cost.

(1) There should always be the assumption that the organisation has ample resources to pay for the implementation of the control measure.

(2) Where the required resources are not available, the RM process requires members to consult the CoC to request additional funding.

(3) Where additional funding is not available:

(a) the outcome must be documented as a part of a grossly disproportionate assessment; or

(b) the task/activity should not proceed.

Not Based on a Formula

68. Grossly disproportionate assessments must not include a consideration of the average monetary cost of realising the risk, ie the average cost that injury or death has on a business or undertaking based on injury data across Australian workforces. It is inappropriate to use this average cost of injury data due to it not meeting with the requirement to consider assessments on a case-by-case basis. Similarly, any reliance on a formula or use of 'disproportionality factors' for determining the degree of disproportionality has a tendency to replace the exercise of professional judgment and common sense in respect of each unique set of circumstances.

Decisions in Writing with Supporting Rationale

69. Commensurate with the level of risk and expectations for deliberate risk management, any decisions to reject identified control measures based on availability, suitability and/or cost must be documented and include all supporting rationale. In circumstances where documented outcomes cannot reasonably be achieved immediately, all decisions and supporting rationale must be documented as soon as practicable after the fact.

RISK MANAGEMENT DOCUMENTATION

70. Documenting risk management outcomes is essential for creating an auditable decision making trail and for retaining corporate knowledge. Well documented risk management plans include:

a. identified hazards, assessed risks and chosen control measures (including any hazard checklists, worksheets and assessment tools used in working through the RM process);

b. details of how and when the control measures were implemented, monitored and reviewed;

c. possible elimination controls which were not implemented and the rationale for the reasonably practicable judgement—the rationale must address all relevant matters including those listed in the reasonably practicable framework;

d. possible minimization controls which were not implemented and the rationale for the reasonably practicable judgement—the rationale must address all relevant matters including those listed in the reasonably practicable framework;

e. relevant training records;

f. documented evidence of communication and consultation with SMEs in external agencies as well as SMEs internal to the unit or applicable FEG;

g. documented evidence of any specialist advice provided as an enclosure or reference to an Objective identification number; and

h. where possible, reference to any plans for changes which communicate a strategy for implementing additional or more effective controls in the future.

71. Risk Management documentation may be structured as follows based on the risk profile of the business unit and Command (FEG/Wing/Unit) requirements. The format for each of these risk artefacts may be essentially identical:

a. Core Risk Profile (CRP). The CRP represents the foundational deliberate risk assessment for operating a platform. All subsequent risk assessments refer to the CRP. It identifies all risks associated with the conduct and support of regular, non-role specific operations. For example, a CRP for an aircraft type would include activities such as general flying, instrument flying, formation flying (where applicable), VMC/IMC flight, flight-line and maintenance operations.

b. Mission Risk Profile (MRP). An MRP is a deliberate risk assessment that analyses the hazards and risks associated with the conduct of regular operations conducted by the organisation, typically with reference to a specific role or function—for example, air-to-air, parachute/air drop, weapon related tasks, night vision device (NVD) operations, weapon loading, etc. Any information contained within the CRP or any other MRP can be assumed as long as it is listed as a reference in the context section of the document.

c. Risk Management Plan (RMP). An RMP is a deliberate risk assessment that analyses the hazards and risks associated with a unique task/activity such as an exercise, flying display, complex maintenance activity or unique task/activity for which there is insufficient/absent policy, procedures or OIP.

d. Exception Report. An exception report, also referred to as a risk identifier exception report (RIDER), is an abridged version of a deliberate risk assessment that is raised when a single hazard and/or risk is identified during the conduct of operations that had not been considered or adequately addressed in existing safety risk documentation. The exception report then exists as a ‘short term repository’ (akin to a Flying Order) until it is eventually implemented into the appropriate CRP/MRP at the next review.

72. All safety risk assessments, risk documentation and records of decisions must be retained through the use of corporate recording tools such as Objective.

73. Risk Management may be documented utilising any means deemed suitable by respective commanders, so long as the risk management process, and decision making and recording requirements outlined in this chapter are complied with and effectively recorded.

74. A PDF SmartForm is currently under development and will be made available on the DFSB website.

DUTIES AND RESPONSIBILITIES

Workers

75. All Defence personnel are deemed workers under WHS legislation and have a duty to:

a. take reasonable care for their own health and safety;

b. take reasonable care that their acts or omissions do not adversely affect the health and safety of other persons;

c. comply, so far as is reasonably practicable, with any reasonable order and/or instruction issued by Defence to allow the person to take reasonable care for their own health and safety and the health and safety of other persons; and

d. co-operate with any reasonable policy, procedure or OIP that has been provided for and relates to health or safety at the workplace.

76. In addition to the WHS duties above, some personnel may have other responsibilities related to their position within Defence’s organisational structure. These include specific responsibilities relating to commanders, managers and supervisors that are proportionate to the control they are able to exercise over their subordinates, work tasks/activities and work environment.

Commanders

77. Commanders are responsible for:

a. gaining an understanding of operations and generally of the hazards and risks associated with those operations conducted within the business unit;

b. ensuring sufficient resources are available to undertake business unit tasks/activities including providing access to risk management training as required;

c. ensuring safety risk assessments are conducted as required and all necessary steps are taken to eliminate or minimise SFARP workplace hazards using the HoC and the RM processes within this chapter;

d. remaining vigilant for situations where risk controls are or may be inadequate and ensuring the RM process is used to assess the hazards and risks;

e. ensuring details of the business unit's key hazards and risks are included in formal induction programs and annual safety training and are provided to new members and visitors etc. as required;

f. ensuring feedback is provided to other duty holders regarding the condition and serviceability of materiel or adequacy of risk controls and safe systems of work; and

g. periodically reviewing the business unit's risk controls measures.

Managers

78. Managers are responsible for:

a. proactively identifying situations where risk controls are, or may be, inadequate and ensuring the RM process is used to assess the hazards and risks;

b. taking all reasonable steps to assess workplace hazards identified by members and ensure controls are identified and implemented SFARP;

c. allocating sufficient resources to undertake tasks/activities including maintenance and review of risk control measures; and

d. reporting deficiencies and/or feedback to the appropriate duty holders regarding the condition and serviceability of materiel or adequacy of risk controls and safe systems of work.

Supervisors

79. Supervisors are responsible for:

a. enforcing the correct use of all controls as documented in policy and procedures or OIP when supervising tasks/activities;

b. ensuring the subordinates they supervise:

(1) are aware of their duties WRT identifying and controlling workplace hazards SFARP;

(2) incorporate continuous risk monitoring and review processes into all tasks/activities; and

c. escalating WHS issues through the CoC as required.

RM PROCESS – KEY ROLES

80. It is essential that competent and experienced members are assigned the responsibility for documenting and approving the outcomes of deliberate risk assessments. The roles of Responsible Officer (RO) and RMA are key responsibilities that must be utilised for completing deliberate risk assessments.

Responsible Officer (RO)

81. The RO is the role assigned to the person who is responsible for coordination and completion of the safety risk assessment to determine what risk control measures are reasonably practicable to implement in the circumstances. The RO does not have a supervisory role (ie CPL or SGT) responsible for conduct of the tasks/activity being assessed. The RO may be an experienced manager, typically at the rank of FSGT or above, who has appropriate knowledge and skills, including:

a. a working knowledge of, and ability to apply the RM process and the HoC detailed within this chapter;

b. a working knowledge of the workplace hazards and risks associated with the task/activity being assessed;

c. previous knowledge preferably in a supervisory role associated with the task/activity being assessed with practical knowledge of ensuring members doing the task/activity are using the controls;

d. reasonable knowledge of, or the ability to gain reasonable knowledge of the suitable and available means of controlling the workplace hazards and risks associated with the task/activity being assessed;

e. the ability to establish a team of SMEs to assist with completing the RM processes including a supervisor, (minimum rank of Corporal) with at least one worker involved with conducting the task/activity under assessment; and

f. the ability to apply sufficient rigour to safety risk assessments for the defined context to ensure informed judgments are made to determine what risk control measures are reasonably practicable to implement in the circumstances or escalate the judgment to an appropriate RMA where there is uncertainty of achieving SFARP.

RMA

82. The RMA is the role assigned to the person who has the authority to make a decision-to-proceed with a task/activity that has been assessed, or to suspend/cancel the task/activity assessed or to support the escalation of the safety risk assessment to a higher authority. The RMA may be a commander who has appropriate knowledge and skills, including:

a. a thorough understanding of, and ability to apply the RM process and the HoC detailed within this chapter;

b. familiarity with the workplace hazards and risks associated with the task/activity being assessed;

c. a reasonable knowledge of, or the ability to gain reasonable knowledge of the suitable and available means of controlling the workplace hazards and risks associated with the task/activity being assessed;

d. the ability to verify that an appropriate level of rigour has been applied to the SFARP judgment and the residual risk (developed by the RO) that is commensurate with the complexity and risk associated with the task/activity;

e. the ability to seek independent advice regarding the appropriateness of the risk control strategy proposed by the RO where required;

f. the authority to approve the risk control strategy (implementation, maintenance and review) and ensure resources (including funding) are available to enable implementation of those controls before the task/activity is conducted; and

g. the authority to authorise the task/activity to proceed, or alternatively, cancel or suspend the task/activity until more suitable controls can be implemented.

Delegations

83. Whilst RO responsibilities cannot be delegated, RMAs may delegate their authority to a subordinate appointment within their command. However, if an RMA responsibility is delegated, the commander will still retain overall responsibility for the SFARP judgement, the retained risk and decision-to-proceed. When considering a delegation the RMA applies the following process:

a. A formal appraisal of the members' suitability to approve safety risk assessments is undertaken, and includes an assessment of the members' level of:

(1) understanding of the RM process including the HoC detailed within this chapter;

(2) understanding of the operating environment of the organisation;

(3) maturity and appreciation regarding the consequences of inappropriate use of delegated authority; and

(4) understanding of the limits of their competency and scope of their delegation.

b. All delegations are promulgated in writing detailing the scope of authority eg 'all workplace hazards and risks associated with maintenance and support of C-17 aircraft' or 'all workplace hazards and risks associated with Defence Fuel Installation operations and maintenance at RAAF Base Richmond'.

c. Annually review all delegations.

84. Examples of acceptable RMA delegations for safety risk assessments of VERY LOW may include, but are not limited to the following appointments:

a. squadron executives (typically O4/SQNLDR or equivalent);

b. senior maintenance managers;

c. flight authorisation officers;

d. deferred defect approval delegates; and

e. OICs for non-aviation tasks/activities.

MANAGEMENT OF RISKS ACROSS MULTIPLE DIMENSIONS

85. Previous editions of the DASM have made reference to Aviation Risk Management (AVRM). The AVRM process sought to facilitate a holistic understanding of the total risk involved in the conduct of a task by assessing risks across multiple risk dimensions. The AVRM process has been replaced by the seven-step risk management process described in this chapter, and will now be referred to more broadly as Risk Management.

86. A risk dimension is an area or category of consequence that may be affected if the risk is realised. Risk dimensions which may be considered in Risk Management are as follows:

a. **Personnel Safety.** The effect on the health and safety of personnel, both physical and psychological.

b. **Mission.** Effect on the task being undertaken with reference to the objectives.

c. **Capability.** Effect on the current and future ability to employ air power.

d. **Reputation.** Perception of professionalism from both within Defence and by the general public.

e. **Financial.** Monetary cost resulting from the realisation of the consequence.

f. **Environment.** Effect on the physical environment with respect to pollution, damage, effect on wildlife, etc.

87. The risk matrix included in Annex B includes an example of word pictures describing consequences across the above risk dimensions. The word pictures for other than the personnel risk dimension are not prescriptive.

NOTE

- The seven-step risk management process described in this chapter is primarily focused on the management of risks to health and safety.

88. The seven-step risk management process and supporting policy described in this chapter have been constructed in direct response to the requirements of the WHS Act and WHS Regs. This chapter is therefore primarily focused on the management of risks to the health and safety of workers. The process and aspects of the policy described in this chapter may be transferrable to the management of risks in the other risk dimensions; however, this must be applied with discretion. For example, whilst the principles of the ‘reasonably practicable’ framework might be transferrable to the other risk dimensions, the ‘grossly disproportionate’ threshold required by the WHS Act in the ‘Personnel Safety’ risk dimension may not be appropriate for use in other risk dimensions.

89. Users must be acutely aware that there may be other legislation (such as the Environment Protection and Biodiversity Conservation Act, in relation to the ‘Environment’ risk dimension), Defence policy, or other relevant materials that must be complied with in order to properly manage risks across other risk dimensions. Other risk management processes (such as described in the ISO 31000 – Risk Management Guidelines; or JMAP) may be more suited to the management of risks in other dimensions.

Annexes:

A. Risk Control Plan

B. Risk Management Levels and Definitions Matrix

C. RoT and PEAR

RISK CONTROL PLAN

Risk Control Plans

1. If an identified control measure is suitable but not available for implementation before the planned task/activity; or the control strategy is complex in nature with multiple dependencies on other duty holders (eg CASG, E&IG and Defence Industry), a Risk Control Plan (RCP) may be useful for articulating a strategy for future implementation of more suitable controls. For example, an engineering control has been identified but lead time is required for design, test, evaluation, manufacture, approval and implementation/modification program. In such cases, a strategic plan is required to clarify responsibilities, resources and schedules for implementation of the control measure when it becomes available.

2. Where appropriate, the RCP should be developed in consultation with external stakeholders/other duty holders (e.g. CASG, E&IG, CIOG and Defence Industry). The RCP should include headings and content to address the following (not exhaustive):

a. **Background.** The background should provide an overview of the current workplace hazard(s), risk(s) and control(s). Include a summary of the situation or trigger that has led to the requirement to plan for new/additional control options. Include a cross reference to any other RM artefact and any upstream duty-holder documentation. Where applicable, use a table for multiple risk(s), workplace hazard(s) and control(s) and their corresponding RM artefacts.

b. **Control Options.** Provide a detailed description of the control options including any inherent complexities relating to the controls and their implementation. Confirm whether or not new workplace hazards or risks may be introduced by the control options once implemented including consideration towards any adverse control measure interoperability and/or dependency effects. For example, will failure of a particular control have an adverse effect on the effectiveness of other control measures? Does one control depend on another for effectiveness? Where applicable, include a list of any reputable standards.

c. **Effectiveness of Controls.** Describe how the control options, once implemented, will be maintained and reviewed for ongoing effectiveness eg annual workplace inspections; monitoring and analysis of safety event trends across multiple operating units; or specific measurement of workplace hazards such as noise levels.

d. **Implementation Strategy.** Document the strategy to address how the control options will be implemented including any requirements for design, manufacture, test and evaluation, technical certification by an appropriate authority (e.g. CASG or E&IG). Where applicable, list specific tasks in an annex to indicate what control options are being pursued and by whom.

e. **Cost Assessment.** Detail estimated cost of implementing the new controls and proposed funding arrangements. This may require the RCP to be sent to a higher command (AFHQ, ACAUST) or upstream duty holder (CASG). Discuss why the controls are not considered grossly disproportionate.

f. **Roles and Responsibilities.** Identify the responsible person for each of the steps in the strategy including whether they are other duty holders external to the unit such as personnel from CASG, E&IG or Defence Industry. Individual position, names and contact details should be included where applicable, as well as the details of the RCP sponsor who is responsible for monitoring progress of the plan and reporting updates to the RCP approver (typically the RMA).

g. **Schedule.** Provide a schedule for each step in the implementation strategy as well as the target date for implementation of the control options. Provide insight to any risks associated with meeting the schedule eg access to aircraft or facilities to test and evaluate new controls.

h. **Interim Controls.** Whether or not the task/activity will/can continue in the meantime and if so, how risk(s) will be effectively managed using interim controls, which minimise risks to health and safety SFARP.

i. **Progress Reporting.** Describe how the RCP sponsor will report progress to the applicable RMA eg weekly email with a dot-point summary, updates to CO at unit safety committee meetings, project milestone report, etc.

3. The RCP should be developed (and signed) by the applicable RO or unit executive; and be authorised (and signed) by an appropriate RMA or unit executive. If there are critical dependencies on external stakeholders/other duty holders, then their endorsement of the plan should be provided or cross referenced in the RCP document.

4. Example RCP. An example RCP is provided on the Air Force Safety website[1].

[1] http://drnet.defence.gov.au/raaf/AirForce/AirForceSafety/RiskManagement/Pages/Risk%20Templates%20and%20Resources.aspx

RISK MANAGEMENT

LIKELIHOOD		CONSEQUENCES				
		MINOR (A)	MODERATE (B)	MAJOR (C)	CRITICAL (D)	CATASTROPHIC (E)
5	ALMOST CERTAIN	L (A5)	M (B5)	H (C5)	VH (D5)	VH (E5)
4	PROBABLE	L (A4)	M (B4)	H (C4)	H (D4)	VH (E4)
3	OCCASIONAL	VL (A3)	L (B3)	M (C3)	H (D3)	H (E3)
2	IMPROBABLE	VL (A2)	VL (B2)	L (C2)	M (D2)	M (E2)
1	RARE	VL (A1)	VL (B1)	VL (C1)	L (D1)	L (E1)
0	ELIMINATED	Eliminated (O)				

RISK LEVEL	0	Eliminated	VL	Very Low	L	Low	M	Medium	H	High	VH	Very High

LIKELIHOOD		DESCRIPTOR FOR SYSTEM CONTEXT:	DESCRIPTOR FOR ACTIVITY CONTEXT:
5	ALMOST CERTAIN	• Expected to occur several times a year or often during the system life cycle. • Is known to occur frequently in similar systems being used in the same role and operating environment.	• Expected to occur during the planned activity. • Is known to occur frequently in similar activities.
4	PROBABLE	• Expected to occur one or more times per year or several times in the system life cycle. • Is known to have occurred previously, but is not certain to occur.	• Expected to occur in most circumstances, but is not certain. • Is known to have occurred previously in similar activities.
3	OCCASIONAL	• Expected to occur less than once per year or infrequently during system life cycle.	• Not expected to occur during the planned activity. • Sporadic but not uncommon.
2	IMPROBABLE	• Not expected to occur, but possible to experience one or more events during the system life cycle.	• Not expected to occur during the planned activity. • Occurrence conceivable but considered uncommon.
1	RARE	• Only expected to occur in rare or exceptional circumstances or no more than once during the system life cycle.	• Not expected to occur during the planned activity. • Occurrence conceivable but not expected to occur.

CONSEQUENCE DEFINITION

MINOR (A)	MODERATE (B)	MAJOR (C)	CRITICAL (D)	CATASTROPHIC (E)
Personnel: Minor injury or illness that is treatable in the workplace (first aid) or by a registered health practitioner, with no follow up treatment required. **Mission:** Partial achievement of a mission with unit/tactical implications but does not affect an operational objective. **Capability:** Temporary degradation to Defence capability provided by an aviation or core system. Indicative repair time: less than two working days. **Reputation:** Local short-term media attention and negative public reaction. **Financial:** Associated costs less than AU$100 000. **Environment:** Any environmental damage repairable by natural action less than 1 year. No rectification action required.	**Personnel:** Injury or Illness causing no permanent disability, which requires non emergency medical attention by a registered health practitioner OR 10 or more injuries/illnesses categorised as 'Minor'. **Mission:** Failure to achieve an important operational objective with significant unit / tactical implications. **Capability:** Temporary substantial degradation to Defence capability provided by an aviation or core system. Indicative repair time: 2 - 14 working days. **Reputation:** Local prolonged media attention and negative public reaction. **Financial:** Associated costs in excess of AU$100 000 but less than AU$1 000 000. **Environment:** Environmental damage requiring remediation. Less than 3 months to remediate.	**Personnel:** Serious injury or illness requiring immediate admission to hospital as an inpatient and/or permanent partial disability OR 10 or more injuries/illnesses categorised as 'Moderate'. **Mission:** Failure to achieve an important operational objective with serious unit/tactical implications. **Capability:** Temporary loss or temporary severe degradation to Defence capability provided by a core aviation system. Indicative repair time: greater than 14 days but less than 12 months. **Reputation:** Negative reaction by public Defence interest groups and short term national media attention. **Financial:** Associated costs in excess of AU$1 000 000 but less than AU$10 000 000. **Environment:** Environmental damage requiring in excess of 3 months but less than 6 months to remediate.	**Personnel:** Single fatality and/or permanent total disability OR 10 or more injuries/ illnesses categorised as 'Major'. **Mission:** Failure to achieve an essential operational objective with significant strategic implications. **Capability:** Long term degradation to Defence capability provided by a core aviation system. Single aircraft loss. Indicative repair time: greater than one year. **Reputation:** Widespread public discontent with Defence or service, prolonged adverse national media attention or coronial inquest. **Financial:** Associated costs in excess of AU$10 000 000 but less than AU$100 000 000. **Environment:** Environmental damage requiring in excess of 6 months but less than 24 months to remediate.	**Personnel:** Multiple fatalities OR 10 or more injuries/illnesses categorised as 'Critical'. **Mission:** Failure to achieve a mission that is essential to a strategic objective. **Capability:** Indefinite loss of Defence capability provided by a core aviation system. Numerous aircraft loss or loss of single asset of significant strategic value (eg AEWC). System irrepairable. **Reputation:** Widespread public condemnation of Defence. Long term media condemnation or formal Government inquiry. **Financial:** Associated costs in excess of AU$100 000 000, **Environment:** Significant environmental damage. Irrepairable or in excess of 2 years to remediate

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MAINTAINING RISK AWARENESS

1. Two simple techniques designed to help people maintain risk awareness in dynamic operating environments are the Rule of Three and PEAR. Used in combination, these techniques enable the identification of emerging risks immediately before and during the execution phase of an activity. They complement deliberate risk management activities and directly support decisions relating to the adequacy of risk control measures. The use of the Rule of Three and PEAR ensures that the management of risk is not confined to the planning phase of a mission or activity. It enhances effective risk management in all activities and at all times.

2. The Rule of Three provides a simple way of applying a level of immediate risk management. The basic premise is the traffic-light system outlined in Figure 7–B–1 below. You must always stop if you have a RED, but too many AMBER lights may be just as risky. Safety events all too often happen because of a combination of relatively minor events and situations.

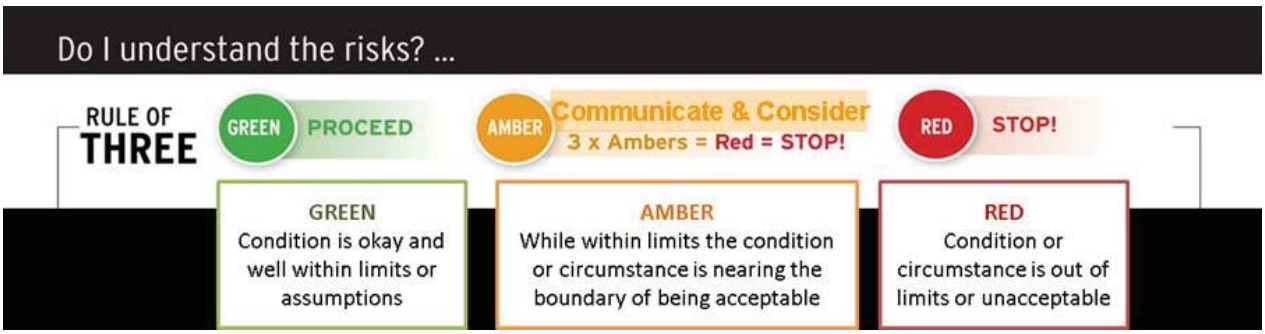

Figure 7–B–1 Rule of Three

PEAR

3. PEAR directly supports the application of the Rule of Three by helping to identify potential concerns, hazards and risks. There are four words to remember.

a. P stands for PEOPLE (the humans in the system) and relates to the suitability (physical, cognitive and social) of the selected personnel for a particular task. Suitability not only covers knowledge and skills, but also human factors considerations such as fatigue, stress and motivations.

b. E stands for the ENVIRONMENT in which the work is done, not just the physical environment (that is: lighting, temperature, noise levels and time of day) but also the organisation itself (quality of supervision, amount of supervision and pressures to complete task/activity).

c. A represents the ACTIONS people perform. Actions identify the requirements of the task to help to identify any specific areas that might increase the risk of error, such as ambiguous information, or complex tasks that require specialist knowledge and skills.

d. R is for the RESOURCES necessary to perform the work. They can be defined as anything that is required to complete the tasks successfully (examples include personnel, procedures, tools, available time and personal protective equipment).

4. **People—*who perform the task*.** Addresses an individual's physical, physiological, psychological and psychosocial factors. It focuses on individuals, their physical capabilities and the factors that affect them. It also considers the mental state, cognitive capacity and conditions that may affect an individual's interaction with others. Table 7–B–1 below outlines examples associated with People.

Table 7–B–1 People

	Doing	Thinking	Interacting
	Physical limitations	Knowledge	Team Structure
	Sensory limitations	Experience	Role definition
	Health	Attitude	Leadership
	Training	Motivation	Followership
	Competent	Confidence	Supervision skills/needs
	Authorised	Workload	Interpersonal conflicts
	Briefed	Fatigue	Communication
	Fatigue	Stress	Mentoring

5. Environment: Physical and Organisational—*in which they work*. Both the physical workplace (i.e. flight line, hangar or workshop) and the organisational environment that exists within the FEG/wing and or unit needs to be considered. The physical environment is clear; it includes the physical attributes of the environment such as temperature, humidity, lighting, noise, cleanliness and workplace design. Environment overlaps with the Resource component of PEAR when it comes to providing portable heaters, coolers, lighting, clothing, and workplace and task design. The second, less tangible aspect of environment is the organisational aspect which is typically related to cooperation, communication, shared values, mutual respect and the culture of the FEG/wing and/or unit. Table 7–B–2 below outlines examples associated with Environment.

Table 7–B–2 Environment

	Physical	Organisational
	Weather	Management style
	Location (inside/outside)	Leadership
	Facilities/Workspace	Staffing levels
	Lighting	Size/complexity
	Noise	Priorities
	Distractions	Pressures
	Housekeeping	Morale
	Hazards	Norms
	Shift (day/night/late)	FEG/wing/unit culture

6. Actions—*they perform*. Successful HF programs analyse the actions people must perform to complete a task safely and efficiently. It identifies the knowledge, skills, attributes, instructions, tools and additional resources required to conduct a task. Table 7–B–3 below outlines examples associated with Actions.

Table 7–B–3 Actions

Actions		
Information requirements	Application of knowledge	Supervision requirements
Preparation	Application of skill	Inspection requirements
Briefing/de-briefing	Communication requirements	Documentation requirements
Steps/sequence of task	Task management	Certification requirements

7. Resources—*necessary to complete the task.* It is sometimes difficult to separate resources from other PEAR elements. In general, the characteristics of People, Environment and Actions dictate Resources. Many resources are tangible, such as lifts, tools, test equipment, computers, PPE, and manuals. Other resources are less tangible, for example the number of personnel to complete a task, the qualifications required to complete a task, and the amount of time allocated. Table 7–B–4 below outlines examples associated with Resources.

Table 7–B–4 Resources

Resources		
Time	Tech Manual	Heating/Cooling
Other personnel	Procedures	Facilities
Training	Data	Fixtures
Consumables	Paperwork/signoffs	Signage
Spares	Tools	Quality Systems
PPE	Test Equipment	GSE
Computers/software	Lighting	Work stands

8. Using the Rule of Three and PEAR. Effective implementation requires personnel to adhere to the following guidelines:

a. Identify issues:

(1) Use PEAR to identify conditions or circumstances that may become a concern to you and others.

(2) Speak up if you identify any AMBER or RED conditions or circumstances.

(3) Take time to think about the issues and discuss them with your team/supervisor.

b. AMBER = Communicate and Consider:

(1) Occurs where the condition or circumstance, while within limits, is nearing the boundary of being acceptable.

(2) Ensure you understand the issues and, if required, seek additional information.

(3) Discuss the issue with others in your team, or your immediate supervisor.

(4) Consider what can be done to eliminate or otherwise minimise an AMBER into a GREEN.

(5) Continue if you are satisfied that nothing further can be done but maintain vigilance in this area.

(6) Ensure all solutions are appropriate and authorised for use.

(7) Add up all the remaining issues classified as AMBER to see if you can proceed with the task/activity.

(8) Remember three or more AMBERs equal a RED.

c. RED = Stop:

(1) Occurs where a condition or circumstance is out of limits or unacceptable.

(2) *Always* STOP if you have a RED.

(3) If task/activity is underway, current actions are to be immediately halted and/or the situation stabilised to a safe position in order to evaluate the concern.

(4) Discuss the issue with others in your team, or your immediate supervisor.

(5) Identify what you can and cannot do to eliminate or otherwise minimise the concern.

(6) Do not proceed until the RED is eliminated and returns to GREEN (or possibly minimised to AMBER).

(7) Ensure all solutions are appropriate and authorised for use.

(8) In the event the condition(s) or circumstance(s) cannot be changed, address issue(s) through command chain.

(9) Remember to address any remaining AMBERS.

d. A RED does not necessarily mean you cannot do the activity – it means stop and reassess the situation and evaluate your options.

e. Always apply the principles of risk management.

(1) Try to eliminate all risks.

(2) If the risk can't be eliminated, then minimise by applying all reasonable treatments/controls.

(3) Ensure all treatments/controls are appropriate and authorised for use.

(4) Ensure all risk-based decisions are made at the appropriate level.

Where and When to Apply

9. Using Rule of Three in combination with PEAR allows for a relatively simple methodology for identifying and responding to changes that can occur in the operating environment. The techniques are suitable for incorporation into daily activities, including:

a. **Preparation** for a task or activity,

b. **Brief** of the task or activity to team members,

c. **Execution** phase of the task or activity, and

d. **Debrief** of the task or activity with team members, supervisor and/or manager.

10. It is essential that the outcomes of the Rule of Three are reviewed following the completion of an activity. Conducting a review is essential to identify what worked, what did not work, and to capture/document any lessons learned. Where this process identifies potential limitations/weaknesses, these are to be fed back into the formal deliberate risk management process making it more robust for future operations.

Further Actions

11. Discussions amongst team members should include how risk awareness techniques like Rule of Three and PEAR can be used effectively. When working in a team environment, it is important for members to have a clear and common understanding of how the techniques will be used and, in particular, what will constitute an AMBER or RED. Terms like "counting your AMBERS", "managing into the GREEN" or "close to RED" should be used.

Knock-It-Off and Time-Out

12. Integral to the effective use of risk awareness techniques like Rule of Three and PEAR are the concepts of 'Knock-it-off' and 'Time-out'. These concepts are essential to ensuring everyone has a voice if they see an unsafe situation developing. Verbalising either of these terms sends a message to those involved in a specific action to stop, take a moment to reset and re-evaluate the current situation. Everyone (regardless of rank or position) is empowered to use these terms without any fear of repercussion. When either term is used, all current actions are to be halted immediately, the situation is to be stabilised to a safe position and the concern evaluated.

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SECTION 3

CHAPTER 8

HAZARD REPORTING AND TRACKING

INTRODUCTION

1. A key element of an effective aviation safety management system (ASMS) is the closed-loop process for the reporting, investigation, tracking, review and analysis of safety-related concerns. Full, open, timely and accurate reporting of information related to aviation safety events and issues allows the organisation to respond to information received and apply corrections to the system. Safety reporting is also essential in building a repository that facilitates sharing information and the identification of systemic vulnerabilities.

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2 along with interpretation and explanation of policy.

AVIATION SAFETY REPORTING FRAMEWORK

Definitions

3. The aviation safety reporting framework applies the following definitions:

a. **Aviation Safety Event.** An aviation safety event is defined as any event where an aviation system (including the human element) fails to perform in the expected manner and, adversely affects, or could adversely affect, the safety or airworthiness of an aviation system or third party.

b. **Aviation Safety Issue.** A safety issue is a characteristic of an organisation or a system that can reasonably be regarded as having the potential to adversely affect the safe operation of an aircraft, aviation-related equipment or products and services.

NOTE

- The term event refers to something that happened at a specific point in time, or something that did not happen at a time when it would have been appropriate or relevant to do so.
- The term hazard can be generically defined as a source of potential harm. Safety issues are a specific subset of hazard.

The Requirement for a Common Framework

4. The importance of a common aviation safety reporting framework for Defence cannot be overstated. Enhanced aviation safety and accident prevention will only be possible if information related to aviation safety events and issues is available in sufficient quantity and quality, from a broad range of aviation settings and in a protected and comparable format. The aviation safety reporting framework exists for the sole purpose of improving aviation safety through identifying system vulnerabilities.

5. Collectively, everyone involved in Defence Aviation operations represent a critical source of safety information from which safety lessons can be extracted. The scope of the aviation safety reporting framework has progressively been expanded over time to include all aircrew, maintainers, controllers, and other support elements such as air movements, aerodrome and ground-handling personnel, as well as anyone else whose work brings them into contact with Defence Aviation operations.

6. Aviation safety reporting is just as much an individual responsibility as a command/management function. The aviation safety reporting framework is reliant on personnel self-reporting aviation safety events and issues and participating openly and honestly in safety investigations. Consequently, one of the prerequisites for a successful reporting framework is that everyone feels that they can report safety events and issues, without fear of punitive action.

7. A just and fair culture lies at the heart of the aviation safety reporting framework. Section 3 Chapter 2 explains the key elements of a just and fair culture, including recommending the use of the Safety Behaviour Management Tool to determine acceptable and unacceptable behaviours and commensurate action.

Who Can Submit an Aviation Safety Report?

8. Anyone in Defence Aviation who is involved in, witnesses, or is notified of a safety event or issue may initiate an aviation safety report. Usually, the originator of an aviation safety report will be an aircraft captain, air traffic controller, air defence supervisor, maintenance shift supervisor or an involved individual.

What Should Be Reported?

9. The aviation safety reporting framework is based on a general requirement to report anything that adversely affects, or could adversely affect, the safety or airworthiness of an aviation system or the safety of third parties. The range of issues subject to a safety report is very broad and will rest largely on commanders and supervisors exercising their best judgement to apply the principles outlined in this manual. As a general guide, if there is doubt as to whether an aviation safety event is required, a report is to be raised.

10. Reporting of safety events is mostly a reactive measure to identify safety concerns. Traditionally, this was done through accident investigation; however, contemporary safety practices have reduced these significantly. Nonetheless, best practice recognises that for every significant safety event, there are likely to be numerous low consequence safety events that had the potential to be much worse. Systems can potentially learn as much from low consequence events as they can from high consequence events. Similarly, the reporting of safety issues is an additional proactive measure that seeks to identify and address potential hazards and problems with the system before an event is realised. While the reporting of safety events and issues are two distinct processes, once reported, the procedures for investigating, tracking and monitoring are similar.

Differentiating between aviation safety and WHS reporting requirements

11. Understanding whether a safety event or issue is pertinent to aviation depends on the potential consequences in addition to the realised consequences. Any safety event or issue that has or can have a direct impact on the operational safety of aircraft or aviation safety-related equipment, products and services is deemed pertinent to Defence Aviation. The WHS consequences of an aviation safety event or issue need to considered and reported separately in accordance with the relevant Single Service WHS requirements. WHS events and issues that do not impact on aviation safety are outside the scope of ASMSs used within Defence. Guidance on what constitutes WHS events that impact aviation safety is provided later in this chapter.

12. Aviation safety events will, on occasion, identify matters that are also notifiable or reportable under the WHS Act of 2011 or WHS procedures. Guidance relating to additional reporting requirements for specific aviation safety events is provided later in this chapter.

13. The following elements of the aviation safety reporting framework are covered in more detail in this chapter:

- **a.** Aviation safety events
- **b.** Notification requirements
- **c.** Additional guidance for specific aviation safety events
- **d.** Aviation safety issues
- **e.** Fatigue reporting
- **f.** Aviation safety reporting in Sentinel
- **g.** Hazard tracking responsibilities
- **h.** Confidential reporting
- **i.** Analysis of aviation safety data
- **j.** Management and protection of aviation safety data

AVIATION SAFETY EVENTS

14. Aviation safety events are categorised as either Flight Operations, Maintenance, or Other Support Systems. The categorisation of the event does not infer a level of precedence or importance. The most appropriate category is selected based upon the circumstances of the event and how the lessons are best articulated, as follows:

- **a. Flight Operations.** Flight operations events are those aviation safety events that have, or could have, a direct safety impact on an aircraft, that occur during activities associated with flight. When assessing whether activities are associated with flight, the following factors shall be considered:

(1) Events that impact on the aircraft system during the period from when aircrew or UAS operator are in control of the aircraft for the purposes of conducting a flight,

(2) Events involving air traffic controllers performing controlling duties,

(3) Events involving cargo that is loaded, or being loaded on an aircraft or UAS,

(4) Events involving external environment and meteorological factors such as wildlife strikes, lighting strikes and hail encounters.

b. Maintenance. Maintenance events are those aviation safety events that occur during the conduct of maintenance activities, but did not manifest during the conduct of 'flight operations'.

NOTE

- An event that manifests as a technical malfunction during the conduct of 'flight operations' is to be reported as a Flight Operations event. Where appropriate, the investigation will consider the contribution of associated maintenance activities.

c. Other Support Systems. Other Support Systems events are those aviation safety events involving services or personnel that support the conduct of safe flying operations, but did not occur during the conduct of flight operations or maintenance activities.

NOTE

- Other Support Systems are viewed from a functional nature, both technically and operationally, rather than being directly linked to the organisational structure to which the service or system belongs. The above reporting requirements also apply to Unmanned Aviation Systems (UAS) Operations under Certified category. This chapter provides separate guidance for the reporting of other UAS aviation safety events.

Classification of Aviation Safety Events

15. An aviation safety event is classified according to the potential consequences in addition to the realised consequences of the event. The event classification is an alphabetical designation (from Class A to Class D) based on assessment of the personnel injury level, aircraft damage level and the perceived risk level.

NOTE

- This chapter provides an overview of the event classification process. The *Classification of Aviation Safety Events* Fact Sheet on the DDAFS website https://objective/id:AB34286014 contains much more detailed information and must be used in order to classify an event correctly.

16. Personnel Injury Level (PIL). The following PIL descriptors are used to identify the most severe injury sustained by an individual as a direct consequence of an aviation safety event (where multiple injuries occur, the most serious is used as the identifier):

a. Fatal. The highest level of injury was fatal. Fatal is defined as death from an injury received in the event which occurs within 30 days of the event.

b. Serious. The highest level of injury sustained was a serious injury or illness. A serious injury or illness is defined as per the Defence Safety Manual (SafetyMan) and the Work Health and Safety Act 2011.

c. Minor. The highest level of injury sustained was minor. An injury was sustained as a direct result of the aviation safety event, but does not meet the serious injury definition.

d. None. No injuries occurred.

NOTE

- Injuries considered should be limited to only those that were sustained as a result of being in:

(1) An involved aircraft; or

(2) Direct contact with any part of an involved aircraft (including parts which have become detached from the aircraft); or

(3) Direct exposure to jet blast or radiation from an involved aircraft.

- If an injury was sustained (via the above mechanisms) but there were no direct implications to aviation safety, the event is not considered to be an aviation safety event. As such, reporting of these events should be done in accordance with the relevant Single Service WHS requirements.
- The reporting of aviation safety events is to only provide PIL information. No other medical information or personal details are to be captured.
- Parallel reporting in Sentinel for WHS is required for any aviation safety event resulting in a personnel injury outcome.

17. Aircraft Damage Level (ADL). If multiple aircraft are assigned to a single event, ADL identifies the highest level of damage to an aircraft directly involved in the aviation safety event. The following descriptors are used to assess ADL:

a. Destroyed. The aircraft was destroyed, missing, unrecoverable or sustained damage to such an extent that it is unrepairable or uneconomical to repair.

b. Substantial. The aircraft sustained substantial damage. The aircraft sustained substantial damage or structural failure that requires extensive inspection but is economically repairable.

c. Moderate. The aircraft sustained moderate damage. The aircraft can be rendered airworthy by repairs or replacement and an extensive inspection is not necessary, including engine change.

d. No Damage/Minor Damage. The aircraft sustained either:

(1) no damage; or

(2) minor damage that is repairable within two days.

e. Unknown. The extent of the damage that the aircraft sustained in the event is not known.

NOTE

- DFSB may exercise discretion to update the classification of events in situations in which the aircraft damage sustained significantly compromised or destroyed critical systems.

18. Perceived Risk Level (PRL). All safety events are rated based on their potential consequences. The PRL is an assessment of whether an event posed a Very Low, Low, Medium, High, or Very High risk to the safety of people and/or damage to the aircraft and property. The PRL methodology for assessing safety events is closely related to AVRM; however, because AVRM is a forward-looking risk assessment process (i.e. assesses the risk of something possibly occurring in the future) there are some conceptual difficulties associated with using the tool to assess the risk associated with an event that has already occurred. To address this issue, the PRL for aviation safety is determined by considering the following two factors:

a. If this event had escalated, what would have been the most credible negative outcome? That is, by reporting the event, what negative aviation safety outcome will be avoided?

b. What was the effectiveness of the remaining risk controls between this event and the most credible negative outcome?

19. For more information on the PRL see the DFSB Classification of Aviation Safety Events Factsheet.

20. Event Classification. Event classifications range from Class A to D as per the descriptors below and are based on whichever is the highest of the three values – PIL, ADL and PRL. Importantly, the event classification may be revised throughout the course of an investigation due to changes made to the PIL, ADL and PRL.

Table 8–1 Event Classification

Event Classification	Description
Class A	PIL of Fatal ADL of Destroyed
Class B	PIL of Serious ADL of Substantial PRL of High or Very High
Class C	PIL of Minor ADL of Moderate PRL of Medium
Class D	PIL of No Injury ADL of No damage/ minor damage PRL of Low or Very Low

NOTE

- The above reporting requirements apply to UAS Operations under Certified category only. Additional guidance for the classification of other UAS aviation safety events is provided below.

Aviation Safety Event Reporting for Unmanned Aviation System (UAS)

21. UAS, like any other Defence aircraft, are subject to aviation safety reporting. UAS reporting takes into consideration design, function, complexity and level of skill required for their operation and maintenance. Damage to a UAS component that is designed as consumable will not normally be reported using Sentinel. AAP 8000.011 Defence Aviation Safety Regulation (DASR) contains occurrence reporting guidelines under section DASR.UAS, including:

a. Operations Under Certified Category. The standard aviation safety event reporting guidance for manned aircraft is to be applied.

b. Operations Under UAS Operating Permit (Specific Type A). Specific Type A category operations can cover a wide scope of UAS sizes, designs and operations. Consequently, it is not practical to prescribe a single occurrence reporting requirement. The Defence Aviation Safety Authority will specify occurrence reporting requirements in the individual UAS Operating Permit.

c. Operations Under Standard Scenario (Specific Type B). Specific Type B UAS operation occurs under Standard Scenarios, and occurrence reporting is required where the scenario conditions and limitations, or safety controls, have provided an insufficient barrier to risk. DASR.UAS.60 describes requirements for occurrence reporting.

d. Operations Under Open Category. Open category UAS operation occurs under Standard Operating Conditions and occurrence reporting is required where these have provided an insufficient barrier to risk. DASR.UAS.60 describes requirements for occurrence reporting.

22. Where event reporting is required (and only if reporting is required), discretion should be applied with event classification (and subsequent depth of investigation) reflective of the risk posed to aviation safety.

NOTE

- Event classification determination requires consideration of all systems involved. The level of classification should primarily be based upon the level of safety compromise posed to the higher category of aircraft. For example, a near mid-air collision between a UAS and a manned aircraft should primarily consider the level of risk posed to the manned aircraft.

NOTIFICATION REQUIREMENTS

DFSB Immediate Notification Requirements

23. Aviation safety events that have the potential to be classified Class A or Class B are to be reported immediately to the DFSB Duty Officer (telephone 02 6144 9199). The DFSB Immediate Safety Report format is available on the DFSB website (see para 68). Where there is any doubt as to whether an event may be classified as Class A or Class B, then it should be reported to the DFSB Duty Officer – the classification may be later downgraded if appropriate.

24. The aviation safety event should also be reported to the commander of the operating unit and subsequent chain of command.

NOTE

- The originating unit of the report is responsible for actioning all other relevant notifications such as those required by their command chain, and other mandatory notification requirements as described below.

Routine Reporting Timeframes

25. For all aviation safety events, an Aviation Safety Report (ASR) must be submitted within Sentinel and progressed to the completion of First Review within seven calendar days of the occurrence of a safety event. The intent of this timeframe is to enable the timely communication of basic information of the safety event to be disseminated to the aviation community and preservation of perishable safety data.

26. The ASR should be Signed Off by the Unit CO (or delegate) within 30 calendar days the occurrence of a safety event. The intent of Signing Off an ASR within 30 calendar days is to ensure that timely actions and recommendations are assigned, and any safety messages are made available to the aviation community. The quality and completeness of the ASR is not to be compromised through striving to achieve this timeframe. While time taken to Sign Off an ASR should not be used as a Key Performance Indicator it should be monitored.

27. In both cases, the reporting time starts from when the event took place or from the time when the reporter becomes aware that an aviation safety event has occurred.

28. Defence Sentinel software application is the mandated method for reporting and tracking of aviation safety reports (refer to the aviation safety reporting in Sentinel section of this chapter for more information).

ATSB Immediate Notification Requirements

29. The Australian Transport Safety Bureau (ATSB) is established under the Transport Safety Investigation (TSI) Act 2003, and is responsible for the independent investigation of accidents and incidents involving civil aircraft in Australia.

NOTE

- DFSB will action immediate and routine reporting to the ATSB upon receipt of a telephone report to the DFSB Duty Officer, or through the receipt of routine Sentinel reports.

ADDITIONAL GUIDANCE FOR SPECIFIC AVIATION SAFETY EVENTS

Civil Air Traffic Services and Non-Australian Defence Force Agency Events

30. When a report from the Airservices Corporate Integrated Reporting and Risk Information System (CIRRIS) is received from a civilian ATC agency, a corresponding aviation safety event report may need to be raised. The associated Defence unit CO/OC, DETCDR or ASO, in consultation with DFSB, should determine the requirement for and classification of an aviation safety event.

31. When an aviation safety event report submitted by a Defence member involves civil ATC, some liaison and investigation activity with civilian authorities may be required to complete the ASR. DFSB has close links with Airservices and the ATSB, and can provide units with assistance in completing aviation safety reports involving civil agencies. To facilitate this, the following recommendations are made:

a. any required investigation liaison with civil authorities is to be undertaken by DFSB on the basis of the information contained in the event report

b. information obtained by DFSB from the civil authorities will be provided as soon as practicable to the relevant Defence agencies.

32. This general procedure should also apply when aviation safety reports are submitted by a Defence aircraft captain/ATC officer that involves aircraft or agencies of other ADF Services or a Foreign Service.

Aeromedical Events

33. A Senior Aviation Medical Officer (SAVMO) will always be appointed to the investigation team for a Class A event. If aeromedical factors are involved in a Class B to C event an AVMO should examine relevant personnel and provide medical input for the ASR to the initiating unit. The responsibilities of AVMOs for aviation safety event investigation and reporting are detailed in Section 4 of this manual.

34. All events with physiological aspects should be investigated using the Checklist for Investigation of a Physiological Event on the DFSB website (see para 68).

WHS Reporting

35. Sentinel is the Defence mandated method of reporting all WHS events. Sentinel captures WHS incidents directly from those involved; casualties, supervisors and third parties.

Comcare Notification

36. Comcare must be immediately notified after becoming aware that a notifiable WHS event has occurred (ie. an event resulting in fatality, serious injuries or illness, or dangerous incident). Notification is required for events that occur overseas as well as within Australia. Refer to relevant Single Service specific WHS policy and the *Defence WHS Manual* for more information.

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Reporting

37. Aviation safety events involving actual or possible exposure to radiation (including radar and class 3B and 4 lasers) to any person (military or civil) must be reported to ARPANSA. Initial notification is required within 24 hours of the incident. A written notification must be provided to ARPANSA within 14 days of the incident. WHS Sentinel reports generated on the DPN will automatically transmit this notification provided that the appropriate ARPANSA notification option has been selected. Refer to relevant Service specific WHS policy and the *Defence Radiation Safety Manual, Chapter 3 – Radiation Safety Planning and Implementation* for more information.

Defence Aircrew Flying under the ADF Currency Flying Scheme

38. Aviation safety events involving ADF Currency Flying Scheme (ACFS) participants are to be reported to the ATSB in accordance with ATSB's reporting requirements. In addition, a corresponding aviation safety report is to be raised using the Aviation Safety Report (Web Form AE774 which can be found on the DFSB website – see para 68) and forwarded to DFSB (asr.helpdesk@defence.gov.au). The DFSB Duty Officer is also to be notified immediately in the event of a Class A or Class B aviation safety event. In accordance with DI (G) OPS 28-1 *Use of Light Aircraft by DefencePersonnel on Duty*, aviation safety events must be reported in Sentinel.

AVIATION SAFETY ISSUES

39. The reporting of aviation safety issues, known as operational hazards (OPHAZ), provides an additional proactive mechanism for capturing safety information not necessarily associated with an aviation safety event. Safety issues will usually refer to problems with an organisation's risk controls, or a variety of internal and external organisational influences that impact on the effectiveness of its risk controls. They can also relate to a specific part of the safety system or a series of aviation safety events that suggest an area of vulnerability.

NOTE

- Aviation safety issues are reported using the Other Aviation Safety Reports – Operational Hazard Report (OPHAZ) report in ASR in Sentinel.

Classification of Aviation Safety Issues

40. The classification of aviation safety issues is identical to the AVRM process. Specifically, the 'personnel' and 'capability' dimensions are to be used to estimate the residual risk level (i.e. Very Low, Low, Medium, High, or Very High) using the AVRM risk matrix.

FATIGUE REPORTING

41. Fatigue is considered a significant workplace hazard in Defence Aviation. However, the issues associated with fatigue are difficult to detect if people are unwilling or unable to report them. Consistent with maintaining an open, just, and fair reporting culture, personnel need to be able to discuss fatigue-related issues in an open and communicative environment, without experiencing fear of penalty. Reports about high fatigue levels or fatigue-related performance issues provide vital information about fatigue hazards in the day-to-day running of Defence aviation operations. A series of reports citing fatigue during the conduct of a particular activity may indicate the presence of a safety issue and indicate further action is needed to control the hazard.

42. A fatigue issue within aviation is reported using the Other Aviation Safety Reports – Fatigue Form. A fatigue report may be raised by an individual or on behalf of a group involved in the conduct or support of flight operations where a potentially unsafe level of fatigue has been experienced during the conduct of that duty. For all aircrew, air traffic controllers, air battle management, UAS pilots and operators, engineers and maintenance personnel the following specific fatigue-related hazards are to be reported:

a. fatigue contributes to a duty period not being started or completed

b. a member completes a duty period in which they believe their own fatigue or that of others reduced the safety margin or required unplanned mitigation

c. a member identifies something in their operating environment that could significantly increase their fatigue, or that of others.

43. Regular review of fatigue reports may highlight areas where the functioning of associated risk controls could be improved.

NOTE

- A fatigue report may or may not be associated with the occurrence of a safety event.
- Guidance on fatigue management is available on the DFSB website.

AVIATION SAFETY REPORTING IN SENTINEL

44. The Defence Sentinel software application is the mandated method of reporting all aviation safety events and issues. Sentinel provides a single mechanism to support the reporting, management and analysis of all aviation safety reporting activities. Sentinel is available to all Defence Aviation personnel with access to the Defence Protected Network (DPN).The following aviation safety reports are available in Sentinel:

a. **Flight Operations Event Report.** For the reporting of aviation safety events in Flight Operations as per this chapter.

b. **Maintenance Event Report.** For the reporting of aviation safety events in Maintenance as per this chapter.

c. **Other Support Systems Event Report.** For the reporting of aviation safety events in Other Support Systems as per this chapter.

d. **Operational Hazard Report (OPHAZ).** For the reporting of aviation safety issues as per this chapter.

e. **Fatigue Report.** For reporting the impact of fatigue on aviation operations as per this chapter. This report is also to be completed if fatigue is identified as a contributing factor in an aviation safety event.

f. **Duty Variation Report.** For the tracking of variations to normal duty periods.

NOTE

- The OPHAZ report, Fatigue form and Duty Variation form are accessed by selecting the Other Aviation Safety Reports option in ASR in Sentinel.

45. The majority of personnel will not need special training to report or complete tasks in Sentinel; however, comprehensive Sentinel user support resources are available on the DFSB website (see para 68). Sentinel does not specify the process for how an investigation is carried out. Detailed guidance on the investigation process, including classification of aviation safety events and issues, is contained in Section 3 Chapter 9 of this manual and in the Aviation Safety Reporting: Investigator Quick Reference Guide available on the DFSB website (see para 68).

46. System Security Classification. Aviation safety information transmitted via Sentinel must be UNCLASSIFIED. In general, aviation safety information (ie information that could be used to identify remedial actions to improve safety) will need no security restrictions. Where appropriate, information that is PROTECTED or requires a Dissemination Limiting Marker may be stored in Objective, and the link to the object attached to the Sentinel report enabling the applied security caveats to be retained.

47. Manual Reporting. If access to the DPN is unavailable, manual reporting can be achieved using the Aviation Safety Report (Web Form AE774) available on the DFSB website (see para 68).

HAZARD TRACKING RESPONSIBILITIES

48. All aviation hazards are tracked from identification of the hazard, to completion of all activities required to treat the hazard. To assist with the proactive management of hazards and to ensure a closed-loop system of review, the Military Air Operator (MAO) will appoint a Hazard Tracking Authority (HTA)[1] for each Aviation System type. The MAO will also establish an Aviation Hazard Review Board (AHRB), or single service equivalent, for each Aviation System type to support the HTAs in their duties.

Hazard Tracking Authority

49. The HTA is responsible for the following:

a. Reviewing all hazard and aviation safety reports with respect to:

(1) the circumstances surrounding the identification of the hazard(s);

(2) the investigation undertaken and appropriateness of reported factors;

(3) the suitability of the safety action/reduction measures taken within the reporting unit; and

(4) the suitability of safety recommendation/reduction measures external to the originating unit.

b. Coordinating requests for clarification, if required, of any element of a safety report.

c. Collation of reporting chain endorsements where appropriate.

d. Forwarding hazard elimination/reduction measures identified in the safety report that are best addressed by agencies external to the FEG or, where appropriate, subsequent reporting chain endorsements to the appropriate action authority. This tasking should include a date by which either acceptance of the action completion or progress must be notified.

e. Monitoring hazard elimination/reduction measures.

f. Providing feedback on safety reports, their content and subsequent actions to originating commands.

g. Convening the group/wing AHRB to review and allocate priorities to ongoing aviation hazard reduction measures.

h. Periodic reporting of the status of hazard reduction measures as required by higher command (and, if applicable, the Service Aviation Safety Board).

50. The HTA should be the primary action addressee for all relevant FEG safety event actions and recommendations. This does not negate the need to include other action addressees, as appropriate.

51. Action Agencies. Action agencies should report the progress or completion of actions and their outcomes to the HTA by the date set at task allocation. Progress reports should be provided periodically, as agreed by the HTA and action agency until completion of the action. The HTA should be notified as soon as practicable and provided with supporting documentation where remedial action(s) include the following:

[1] The FEG HTA is typically the wing/regiment commander (OC WG/Regt CO).

a. Involve protracted research, design and/or implementation periods.

b. Involve significant financial outlay.

c. Compete with other high priority actions/projects for limited resources.

d. Are considered impractical for technical or operational reasons.

e. Are beyond the capability or resources of the agency.

Aviation Hazard Review Board (AHRB)

52. MAOs are to form an AHRB or AHRBs (or single service equivalent). Depending on FEG structure, size and FEGCDR (MAO) requirements, AHRBs may be appointed at FEG or wing level, or be based on aircraft types. AHRBs review and oversee the progress and priority of safety-related procedures, corrective actions and modifications thereof. AHRBs are normally chaired by the relevant HTA and should consult as required with other Service and civilian authorities.

53. AHRB membership should include all areas of aviation support within the group/wing (as appropriate) and other support. The suggested minimum AHRB membership is as follows:

a. The HTA (typically the OC WG/Regt CO) – chair.

b. WASO/RASO – secretary.

c. Subordinate unit COs/XOs.

d. Subordinate unit ASOs/MASOs (and if applicable SLOs).

e. Senior Maintenance Manager or Responsible Manager (where applicable).

f. Systems Program Office representatives (where applicable).

g. DFSB representation (when available).

h. Applicable subject matter experts (as required).

54. AHRBs are to meet at least twice per year, but may be convened more often at the discretion of the FEGCDR (MAO). Special meetings may be convened, at the discretion of group/wing commander, to deliberate critical or priority safety actions. Other personnel and/or commands may be invited to observe, or present to the AHRB when considered appropriate.

55. Class D aviation safety events may be closed out of session at the discretion of the HTA.

NOTE

- DFSB representation at AHRBs or single service equivalent is to occur at regular intervals.

CONFIDENTIAL SAFETY REPORT (CONFIR)

56. The CONFIR may be used when individuals want to report an aviation-related safety issue but are unwilling to use the normal aviation safety reporting system for fear that they may be disciplined, ridiculed or otherwise disadvantaged if they do so. The protection of the originator's identity is a primary part of this reporting method. The system is intended to complement Sentinel reporting to ensure that all safety events and issues are reported.

57. Only the Director of Defence Flight Safety Bureau (DFSB) will read the CONFIR. DFSB will ensure that investigation of a CONFIR is conducted while maintaining originator confidentiality, and that the originator will be informed of investigation outcomes. A CONFIR may be submitted anonymously although this is not the preferred method, as this will prevent clarification of information and feedback to the originator. Identification details of the originator are erased from any pertinent documentation within two days of the investigation completion. A CONFIR template is available from the DFSB website (see para 68).

58. The CONFIR is to be marked **'TO BE OPENED BY DIRECTOR DFSB ONLY'**, and submitted directly to:

Director of Defence Flight Safety Bureau

F4–1–114

PO Box 7933

CANBERRA BC ACT 2610

ANALYSIS OF AVIATION SAFETY DATA

59. Effective safety management is further enhanced through the effective analysis of safety data. Sentinel and Salus, Defence Aviation's safety reporting and analysis systems are essential data tools for commanders and aviation safety personnel responsible for monitoring system safety issues.

Safety Data Analysis

60. The information used to assure safety is collated from multiple sources. One important source of information is data collected through the aviation safety reporting framework. Completion of aviation safety reports generates a significant amount of quantifiable aviation safety data. Analysis of this data provides a mechanism to verify the safety performance of the organisation and to validate the effectiveness of safety risk controls.

61. Safety data is not necessarily always useful in its raw form, and requires appropriate analysis in order to be used effectively as an indicator of performance, highlight areas of emerging risk, or be used to inform organisational decision-making processes. Among other purposes, the informed analysis of safety data may be used to:

a. assist in deciding what additional facts are needed

b. ascertain latent factors underlying safety deficiencies

c. assist in reaching valid conclusions

d. monitor and measure safety trends or performance.

62. The dashboard function in Sentinel provides users tailored access to transactional data to monitor the progression of aviation safety reports through each stage of the report lifecycle as well as basic analysis functions. Salus provides Defence Aviation with a platform for the analysis of current and legacy (eg DAHRTS) aviation safety reporting data. A number of reporting options are available in Salus and have been developed by DFSB to meet the needs of aviation users. Salus will continue to expand with the availability of more data sources.

Data Quality

63. Collection of high quality and complete data is essential, as analysis and trends derived from inaccurate or incomplete data will lead to erroneous results, and may misdirect efforts to remediate safety hazards and issues. In addition, inaccurate data may lead to a loss of confidence in the information produced by the aviation safety reporting framework. In order to ensure the quality and completeness of aviation safety reports, they must contain specific information, which may vary depending on the type of report.

64. To facilitate the quality of data entered into Sentinel, aviation safety reports should be reviewed to ensure that the data entered is accurate; and if an investigation was completed, that the investigation adequately identifies the contributing safety factors and the safety actions/recommendations to prevent recurrence. These criteria are detailed in the Data Quality Framework and Checklist available on the DFSB website (see para 68). The checklist is to be applied during the review phase of the safety investigation and AHRBs to assess the quality of aviation safety reports.

MANAGEMENT AND PROTECTION OF AVIATION SAFETY DATA

65. Sound management of Defence Aviation safety data is fundamental to ensuring effective and reliable safety analysis of consolidated sources of data. DFSB is responsible for oversight of aviation safety reporting in Sentinel, Salus analysis activities, and access to the Defence aviation safety database as well as the facilitation of effective interpretation of aviation safety data and related safety performance metrics.

66. Given the potential for misuse of safety data that has been compiled strictly for the purpose of improving aviation safety, database management must include the protection of that data. The objective is to prevent the inappropriate use of information collected solely for the purpose of improving aviation safety to ensure its continued availability.

67. Non-standard access to aviation safety information contained in the aviation safety database is subject to DFSB approval. The criteria for approving the disclosure of safety information includes, but is not necessarily limited to, the following:

a. disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations

b. disclosure of the safety information does not inhibit its future availability in order to improve safety

c. disclosure of relevant personal information included in the safety information complies with applicable privacy laws

d. disclosure of the safety information is made in a de-identified, summarized or aggregate form.

SUPPORT RESOURCES

68. The following resources are available on the DFSB website http://drnet.defence.gov.au/raaf/AirForce/DDAAFS/Pages/Analysis-Help.aspx to support the implementation of the Defence aviation safety reporting framework:

a. Immediate Safety Report

b. Checklist for Investigation of a Physiological Event

c. Aviation Safety Report (Web Form AE774)

d. Aviation Safety Reporting in Sentinel: User Guide

e. Aviation Safety Reporting: Investigator Quick Reference Guide

f. CONFIR template

g. Data Quality Framework and Checklist

h. Classification of Aviation Safety Events Factsheet

SECTION 3

CHAPTER 9

INVESTIGATION

INTRODUCTION

1. When aviation safety events occur, processes must be in place to investigate the event to ensure all contributing factors are identified. This will allow the organisation to determine the reasons behind the event and to develop appropriate safety measures that are tracked and actioned to minimise recurrence.

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2 along with interpretation and explanation of policy.

AVIATION SAFETY INVESTIGATIONS

3. The aviation safety investigation process requires an investigation to be conducted and a report with investigation information, findings and rationale, actions and recommendations to be submitted for consideration and action by an appropriate Appointing Authority. An aviation safety investigation is the basis for initiating the actions necessary to improve aviation safety; therefore the investigation must not only establish what happened but how and why it happened. The identified findings should lead to safety actions and recommendations so that appropriate corrective action can be taken. An aviation safety investigation is not to include the names of affected persons (e.g. personnel associated with the event). Any reference to individuals must be such that their identity is protected and not readily apparent to the reader.

4. While safety investigations are generally conducted into a specific aviation safety event, the same principles may also be applied to the investigation of safety issues. Such investigations are referred to as ‘systemic investigations’.

5. Principles of Aviation Safety Investigation. The principles that underpin Defence Aviation safety investigation have been developed over many years of aviation accident investigation. In order to achieve the best safety outcomes and ensure consistency of approach, standardisation of reports and facilitation of trend and statistical analysis, the following principles apply:

a. The intent of a safety investigation is to establish the contributing factors that increase safety risk, and to ascertain actions that can be taken to prevent recurrence (in the case of an event) or to prevent a risk or hazard from being realised (in the case of a safety issue).

b. The investigation should commence as soon as practicable to ensure all perishable information is collected and protected.

c. The size and scope of the investigation, and the resources expended, should be commensurate with the classification and scale of the event and the anticipated safety outcomes.

d. The investigation should follow a structured process to gather information, determine an event sequence, determine what active failures occurred, analyse how and why those active failures occurred and compile findings.

e. Investigations should determine the systemic factors that contributed to the event to enable formulation of appropriate and effective action that can be taken to improve the safety system.

f. Contributing safety factors should be categorised in accordance with the DFSB Safety Analysis Model.

g. Safety actions and recommendations should be focused on implementing or improving controls that will eliminate or minimise the safety hazard or risk and thus prevent a recurrence of the event. Safety actions and recommendations must not recommend punitive action.

h. Safety actions and recommendations should be recorded in Sentinel, and their implementation and effectiveness monitored.

i. The investigation report should be communicated organisation-wide and distributed to other parties that are likely to benefit from the findings. Appropriate de-identification measures are to be applied.

NOTE

- If safety action is deemed necessary before the investigation and/or report is complete, then the relevant authorities should be informed of what immediate action is required so that they can decide whether such action is appropriate and implement accordingly.

6. Appointing Authorities. The Appointing Authority is the designated member authorised to convene and close an aviation safety investigation. The circumstances and classification of the event will determine the Appointing Authority as indicated in Table 9–1.

Table 9–1 Appointing Authority

Event Type	Investigation Type	Appointing authority
Class A	External to unit	The Appointing Authority would normally be the applicable Service Chief. If the event involves more than one service the Appointing Authority may be the CDF.
Class B	External to unit	The Appointing Authority to be determined in consultation with DFSB. When DFSB elects not to investigate an event, the relevant environmental commanders may delegate the responsibility of Appointing Authority to a FEGCDR under their command. Where a CLASS B event involves more than one service the Appointing Authority would normally be the Defence AA.
Class C	Internal to unit	Unit Commander or higher in the unit's Chain of Command dependent upon the circumstances
Class D	Internal to unit	Unit Commander

7. Powers of Investigating Officers. An investigating officer acts under the authority of the Appointing Authority. By virtue of that authority, an investigator is empowered to compel any Service member, within the chain-of-command of the Appointing Authority, to answer questions and make available for inspection all documents, recordings, equipment, and anything else relevant to the determination of contributory factors. The information gathered is to be used solely for the purposes of the safety investigation, with the prime objective being to prevent recurrence. Accordingly, Service personnel providing such information should do so freely and without fear of adverse consequences.

8. Financial Considerations. The Appointing Authority is responsible for the payment of all costs associated with the investigation.

External Aviation Safety Investigations

9. DFSB is the independent Defence aviation investigation organisation, with the necessary powers, resources and expertise to oversee Defence aviation investigation processes and reporting systems. DFSB is functionally independent of the Defence Aviation Safety Authority directorates responsible for regulation and, in general, of any other party or entity that could conflict with, or influence, its objectivity. This enables DFSB to be strictly objective and totally impartial, and to also be perceived to be so.

10. DFSB investigations are conducted in accordance with the guidelines provided by Annex 13 (Aviation Accident and Incident Investigation) to the Convention on International Civil Aviation and the Australian Transport Safety Investigation Act 2003 (TSI ACT 2003). However, given the unique nature and demands of military flying, an aviation safety event investigation may depart from these provisions in such manner as is considered necessary or appropriate in the circumstances.

11. DFSB is responsible for investigating all Class A and Class B aviation safety events. DFSB may also elect (or may be requested by command) to investigate any safety issue (of any class) that poses a serious risk to aviation safety. However, in the case of Class B aviation safety events, depending on the nature and circumstances, DFSB may elect not to undertake the investigation. In these cases, the investigation is the responsibility of the command chain and is to be conducted external to those units directly involved. The requirement for the establishment of an Aviation Safety Investigation Team (ASIT) should be determined by the Appointing Authority in consultation with DFSB. Advice to Appointing Authorities on the composition and appointment of an ASIT along with its associated terms of reference is available from DFSB.

12. Civil Registered Aircraft. A Class A or Class B event that involves a civil registered aircraft may be subject to an investigation by the Australian Transport Safety Bureau (ATSB) in accordance with their priorities for investigation. Where the ATSB elects to investigate and the aircraft is operated by Defence and/or crewed by a Defence member in the course of his/her duties, then a joint ATSB/ DFSB investigation is to be held.

13. For Class A and Class B events involving Australian Air Force Cadets (AAFC) in the course of their duties, DFSB may be requested to assist in the investigation; however, all reporting will reside within the AAFC's Aviation Safety Report system.

NOTE

- Requirements related to the investigation of Class A and Class B aviation safety events, including the appointment and responsibilities of the investigation team, are detailed in the *Defence Aviation Safety Assurance Manual.*
- Safety issues assessed by DFSB as posing a serious risk to aviation safety and requiring independent investigation are to be managed in accordance with the requirements for Class B events.
- When DFSB elects not to conduct an investigation into a Class B event, the investigation must be conducted by a qualified and experienced Aviation Safety Officer (ASO) or qualified Aviation Safety Investigator (ASI) independent of the involved unit(s).

Internal Aviation Safety Investigations

14. While it is common for independent safety investigations to be limited to Class A and Class B events, a mature safety management environment provides for the investigation of lower-consequence events and issues as well. Such safety events and issues may be indicative of hazards and could lead to the identification of systemic problems; however, these lessons will only be understood if the event or issue is appropriately investigated to understand not only what happened, but also why it happened.

15. The depth of an internal aviation safety investigation may vary considerably depending upon the circumstances – from the conduct of a brief desktop review to full in-depth investigation. The extent of the investigation should depend on the actual and potential consequences of the event or issue. Reports that demonstrate a high potential for risk should be investigated in greater depth than those with low potential.

16. A just and fair safety culture must exist within an organisation that strives for or displays a generative safety culture. It is recognised that while the majority of individual or team actions should not incur remedial or punitive action, there will be some situations where such action is necessary. A blame-free approach is not the answer. Commanders should separately use the Safety Behaviour Management Tool to determine acceptable and unacceptable behaviour outcomes and commensurate action.

NOTE

- Aviation safety investigations are to focus on the performance of the aviation system. Accordingly, safety actions and recommendations are only to address safety factors and safety issues.
- The use of the Safety Behaviour Management Tool is recommended during the investigation to allow correct classification of errors or violations. Actions or recommendations emanating from the report must not recommend disciplinary or administrative action.
- No disciplinary or administrative action should be taken based on information obtained exclusively for the purpose of the aviation safety investigation. These are managed as separate organisational processes. If during an internal aviation safety investigation it becomes apparent that a DFDA or civilian offence is likely to have been committed, the investigation is to be immediately suspended and the chain-of-command advised.

17. Investigations should determine all factors that contributed to the event to enable formulation of appropriate and effective action that can be taken to prevent recurrence. Internal aviation safety investigations follow a structured process to gather information, determine the contributing factors, compile findings, and raise safety actions and/or recommendations. The *Aviation Safety Reporting: Investigator Quick Reference Guide* is available on the DFSB website http://drnet.defence.gov.au/raaf/AirForce/DDAAFS/Pages/Analysis-Help.aspx .

18. Commanders should ensure that investigators possess the necessary skills, experience and support to carry out their duties. Individuals conducting aviation safety investigations are to have completed ASO specialist training or remain under the supervision of the appointed ASO/MASO in the conduct of unit-level safety investigations.

19. Where multiple agencies are involved in an aviation safety event or issue the agencies must agree on a coordinating investigator. Generally, the report will be raised by the agency that played the major role in the event.

NOTE

- Unit management should ensure that there is a core of personnel experienced in supporting aviation safety event investigations. The Aviation Incident Investigation Course (AIIC) (215188/P116324) provides personnel with the knowledge and skills to support ASOs and MASOs in the conduct of unit-level safety investigations. The course is suitable for individuals involved in aviation safety investigation who are not trained ASOs or MASOs. The AIIC is a useful introduction to aviation safety investigations but is not to be used as a replacement for specialist ASO training.

Flight Recorders

20. Flight recorders provide aviation safety investigators with material vital to the conduct of an investigation. Annex A outlines the requirements for the use and protection of Defence flight recorder systems and the download, interpretation and analysis of the recorded data.

Standards of Proof in Aviation Safety Investigations

21. The sole purpose of a safety investigation is to improve the safety of the organisation, not to apportion blame or liability. As such, the legal standards of proof such as beyond reasonable doubt or on the balance of probabilities are neither necessary nor appropriate. An excessively high standard of proof may impose an unnecessary burden when establishing likely contributing factors or other circumstances relating to a safety event, and may impede organisational learning. Findings, actions and recommendations resulting from the investigation of an aviation safety event should be based upon the best judgement of the investigating team carrying out an impartial and objective analysis of the available evidence.

SUPPORT RESOURCES

22. The following resources are available on the DFSB website http://drnet.defence.gov.au/raaf/AirForce/DDAAFS/Pages/Analysis-Help.aspx to support the implementation of the Defence aviation safety reporting framework:

a. Aviation Safety Investigation Quick Reference Guide

b. Checklist for Investigation of a Physiological Event

c. Safety Analysis Model

d. Investigation on a Page

e. Interview Techniques

Annex:

A. Flight Recorders

FLIGHT RECORDERS

INTRODUCTION

1. As a result of fatal aircraft crashes in the early 1990s, the then Chief of Air Force directed that all aircraft were to be fitted with crash-protected flight recording systems. New aircraft were to be acquired with these systems and existing aircraft retrofitted with the capability. These systems assist aviation safety investigators in determining the factors contributing to safety events thereby helping to prevent similar events in the future. This directive formed the foundation of the regulation ORO.85 – Flight Recorder and Locating Equipment which states the requirement for Defence aircraft to be fitted with recording and locating equipment appropriate to their military configuration, role and environment (CRE).

2. AAP 7001.054—Electronic *Airworthiness Design Requirements Manual* provides the Authority (DASA) prescribed design requirements for crash-protected flight recorders and aircraft locating equipment and this manual provides direction on the use and protection of the data collected.

PURPOSE

3. The purpose of this annex is to set down the requirements for the use and protection of Defence flight recorder systems and the download, interpretation and analysis of the recorded data.

APPLICABILITY

4. These requirements apply to:

a. operational State aircraft, the operational unit and its chain-of-command;

b. aircraft in design and testing phases under a DASR airworthiness instrument and therefore the acquisition Project Office (PO) and or Systems Program Office (SPO); and

c. leased civilian aircraft, Unmanned Aircraft Systems (UAS) and the Defence agencies responsible for the management and use of those aircraft.

REQUIREMENTS

Provision of Capability

5. Joint Directive 24/2016—*Defence Aviation Safety Framework* directs the Defence Aviation Authority to establish an accident and incident investigation capability.

6. AAP 7001.054—Electronic *Airworthiness Design Requirements Manual* (eARDM) prescribes the Authority (DASA) approved airworthiness design requirements and the approach adopted to the application of these requirements to Defence aircraft designs. Section 3 of AAP 7001.054 presents the Authority (DASA) prescribed design requirements for flight recorder system composition.

7. To enable DFSB to maintain a specialised investigation capability POs/SPOs shall, prior to the issue of an airworthiness instrument, provide DFSB the capability to independently:

a. Download raw data from flight recorders. This capability needs to address all hardware, software and interface requirements to allow flight recorders to be downloaded on the bench and where practical on the aircraft.

b. Interpret the raw data, ie convert raw data to either engineering units or suitable audio files. This capability is to include the host software application (eg Sensor Test and Replay System (STARS), Flightscape, Read-Out Support Equipment (ROSE), Professional Ground Station (PGS)-Replay) and the required aircraft database (eg Aircraft Definition, Frame Format Descriptor (FFD) files, ROSE configuration databases, Logical Frame Layouts (LFL) etc) and copies of the source documentation that was used to generate the databases.

c. Analyse both flight and audio data (generally a function of the software application discussed above).

8. The SPO providing this capability to DFSB is responsible for the life of type maintenance support of all the associated hardware and software (including licences).

9. During the acquisition phase POs/SPOs should liaise with DFSB to gain a clear understanding of equipment and software currently held. This will ensure value for money, reduced duplication, compatibility with DFSB equipment and software where possible, and the capacity to identify any training requirements.

10. This capability allows DFSB Aviation Safety Investigators to remain independent throughout an investigation.

11. Parameters. For aircraft for which the application for a military airworthiness instrument was submitted prior to 01 Jan 16, the parameter requirements detailed in EUROCAE Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems ED-112 and EUROCAE Minimum Operational Performance Specification for Flight Data Recorder Systems ED-55 should be tailored to address aircraft performance, complexity, novel/unique design and Defence's CRE. For aircraft for which the application for a military airworthiness instrument was submitted after 01 Jan 16 the parameter requirements detailed in ED-112 should be tailored to address aircraft performance, complexity, novel/unique design and Defence's CRE.

12. Flight Recorder Reference Data. The applicable Military Air Operator (MAO) for each aircraft type and POs/SPOs responsible for installation or retrofit are to ensure:

a. A sample of the installation performance test data and reports (CVR & FDR) is provided to DFSB for cross-reference and analysis purposes.

b. The reports and data analysed during annual functional checks are made available to DFSB on an as required basis.

c. Maintenance organisations holding download and analysis equipment are only to download and review flight recorder data in accordance with maintenance policy detailed in the relevant Technical Maintenance Plan, aircraft modification documentation, or under the provisions of this manual.

13. Annual Functional Check. Every Defence Registered aircraft fitted with an FDR/CVDR or equivalent shall undergo an annual functional check of the aircraft sensors and associated recorder fidelity. Annual functional checks can only be performed by personnel of authorised agencies who are trained in determining if all the data has been downloaded, examining the data and determining the accuracy of the recording—not only the individual parameters but how the parameters inter-relate. For this reason merely downloading data does not constitute a functional check. Functional checks are to be performed by specialist personnel in accordance with Original Equipment Manufacturer (OEM) procedures or the guidance provided in Civil Aviation Safety Authority (CASA) AC 21-24. The results of the functional checks are to be processed in accordance with the relevant SPOs' procedures. The data and reports are to be made available to DFSB on an as required basis.

Purpose and Handling of Flight Recorder Data

14. There is now wide recognition that parametric flight data has significant engineering value beyond the boundaries of aviation safety investigations and it is used both for aviation safety event investigations and engineering/operational analysis. However, FDR data use and protection still needs to be appropriately managed. DFSB maintains authority for the download and analysis of audio data from Defence CVR systems, except where the handling of that data is in accordance with the provisions of engineering fault and system analysis in paragraph 22.

15. Security Classification. The classification of the flight recorders and the data recorded should be addressed in the weapon systems Security Classification and Categorisation Guide.

16. Quarantining of Flight Recorders. The protection of perishable and/or erasable data is critical to the success of any investigation. The MAO should maintain a system to ensure that flight recorder information is not erased when it is quarantined. Flight recorders actively record data when electrical power is applied to the aircraft, therefore following a safety event it is important that the flight recorders are quarantined (physical removal or as a minimum electrically isolated) to prevent the event data being overwritten. To ensure data preservation, flight recorders may need to be quarantined prior to conducting the turn around or after flight servicing.

17. Event. For events where an investigation is required, but an ASIT is not warranted, the MAO should consider quarantining the flight recorders to assist in the event investigation. The MAO may authorise the local download of the FDR event data in support of the safety investigation, however, analysis of the data is limited to DFSB or its authorised representative(s). Organisations or individuals will be authorised as DFSB representatives on a case by case basis for a single event.

18. Where the Commanding Officer (CO) believes that the operating unit will benefit from lessons made apparent by the FDR data, the CO may request access to the data from DFSB. If deemed appropriate DFSB will provide COs with the appropriate flight event data to meet the learning and/or training needs.

19. Class A and B Events. MAOs are responsible for ensuring that the FDR and CVR from an aircraft involved in a Class A or B event are removed and quarantined. Access to the equipment and associated flight event data (including the download and analysis) is limited to the ASIT, or the DFSB authorised representative(s).

20. During the investigation process DFSB may use the services of, or consult with, members from its Investigation Support Network. Where this occurs, DFSB in consultation with the Appointing Authority will arrange for such personnel to be attached to the ASIT as specialist members or authorise them as DFSB representatives. These personnel may be permitted access to flight recorder data as part of the investigation process.

21. In circumstances where an aircraft's continued availability is essential to operational requirements and the flight recorder system cannot be readily isolated and quarantined, the MAO may authorise the download of all aircraft flight recorder data—ensuring data integrity is maintained and access is restricted to relevant authorities (this action may be limited by the availability of CVR download equipment). Where no CVR download capability is available consideration may be given to continued operation with a disabled CVR.

22. Engineering Fault and System Analysis. The MAO, or his authorised representative (no lower than unit CO), in conjunction with the relevant Platform Design Acceptance Representative (DAR) or Acquisition Project Office DAR, may authorise the download and analysis of FDR parameter data and CVR audio[1] to aid in the investigation of engineering faults, system analysis, or for gathering data to support upgrade or modification action.

23. Flight Test. Flight test programs (as distinct from maintenance test flights) aim to collect data to support airworthiness decisions relating to the employment of new or modified aircraft weapons or systems in new or modified roles and/or environment. The collection of parametric aircraft data by a flight recorder can be useful to prove a capability or determine suitability of flight without the overhead of dedicated instrumentation. For flight test purposes, flight recorder data may be released and analysed with the authority of the MAO through an operational evaluation plan/flight test plan respectively. Either of these documents would typically identify the conditions to be met for access to flight recorders in support of flight test activities and address any flight operations requirements. The airworthiness requirements would typically be met via extant engineering methods ie the release of a Special Servicing or similar.

24. Military Flight Operations Quality Assurance (MFOQA). MFOQA programs provide the opportunity to enhance Defence Aviation safety. Through the routine collection, compilation and analysis of parametric flight data MFOQA programs provide insight into the flight operations environment. This allows the identification of trends and the efficient allocation of resources to reduce operational risks and improve capability. When used in MFOQA programs, FDR data must be controlled and managed so that there is no diminution of the primary purpose of the FDR (ie providing evidence for aviation safety event investigation).

Other Related Material

25. Flight with an Unserviceable Flight Recorder System. The Acceptable Means of Compliance (AMC) regarding flight with an unserviceable flight recorder system is located in ORO.85.A.

26. Intentional Disabling of the Flight Recorder System. AMC regarding intentional disabling of the flight recorder system is located in ORO.85.A.

27. Erasure of Flight Recorder Data. AMC regarding erasure of the flight recorder data is located in ORO.85.A.

[1] The use of the CVR audio shall be limited to specific maintenance fault finding, systems analysis activities. All unrelated CVR audio shall be erased prior to the conduct of these specific activities.

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SECTION 3

CHAPTER 10

EMERGENCY RESPONSE

INTRODUCTION

1. Defence aviation organisations at all levels must have appropriate emergency response plans in place with appropriately trained and equipped personnel to respond immediately and effectively to aviation emergencies, including significant safety events.

PURPOSE

2. This chapter provides guidance to assist airfield/unit emergency planning committees in the planning process, and for the preparation of the airfield/unit emergency plan (AEP/UEP).

REQUIREMENTS FOR A PLAN

3. All base/station commanders[1] of ADF airfields are required to produce and maintain an AEP.

4. All units with custodial responsibilities for aircraft are required to produce and maintain a UEP, taking cognisance of the relevant AEP. Structuring the UEP in a similar format to the AEP will result in all AEP/UEPs following the same format regardless of size or complexity of the airfield, and the size and aircraft type(s) operated by the unit.

AIRFIELD/UNIT EMERGENCY PLANS

5. Preparedness for an airfield/unit emergency is achieved by planning for and exercising the effectiveness to respond to an emergency. The most important aspect of airfield and unit emergency planning is the process itself – it is essential to involve all personnel who will have responsibilities when an emergency response is required. Participation in the process ensures commitment to the Plan and formulation of a workable document. Emergency planning committees generally comprise the relevant aviation safety committee (ASC) plus any additional agencies that may be involved in emergency response.

6. The planning process, if conducted effectively will lead the emergency planning committee to derive a sound agreement for emergency response. Planners should realise that the process is as important as the written document.

7. An AEP/UEP should cover roles and responsibilities for a number of possible scenarios – the ‘what is to be done’ in response, rather than the ‘how it is to be done’. Support plans and procedures, which must be produced by all responding agencies in the main plan, should cover the ‘how’. The AEP/UEP document has agreed arrangements, roles and responsibilities between the various agencies responding to emergencies at airfields and/or involving Defence aviation units. All relevant organisations will have their own detailed procedures consistent with the AEP/UEP. These procedures may be documented separately from the plan. Plans are to be reviewed at least every 12 month for currency and adequacy, and exercised annually (either partial, desk-top or full-scale – a full-scale exercise involving all parties must be conducted biennially).

8. Standard Terminology. The format, definitions and terminology included in AEP/UEP are standardised in accordance with ICAO and CASA emergency plan requirements and advice. When developing an AEP, base commanders may also find it useful to refer to the document Airport Emergency Planning in Australia, June 2001–Issue 4, National Airport Emergency Planning Committee.

NOTES

- Use of standard plan activation terminology (ICAO terms ‘Local Standby’ or ‘Full Emergency’) ensures that aircrew and ATC have a common understanding of the levels of emergency response required. Definitions of these terms will be included in Flight Information Publications, Aeronautical Information Publications and the Manual of Air Traffic Services.
- Other standard terminology, defined in the standard glossary, has been adopted to reduce the training load for airfield and unit personnel who transfer from airfield to

[1] In this chapter ‘base commander’ refers to the officer who commands, or has authority over, Defence agencies that would respond to an airfield emergency.

airfield or unit to unit at regular intervals. Care has also been taken to ensure consistency with emergency planning legislation of the various Australian States and Territories.

9. A model AEP/UEP framework is provided in annex A. Sample AEP and UEP are provided in annexes B and C respectively.

AIRFIELD/UNIT EMERGENCY PLAN FRAMEWORK

10. The essential elements of AEP/UEP are:

a. standard plan contents list and format (the framework); and

b. standard terminology related principally to plan activation and facility names.

11. Standard plan contents list and formats have been developed for a number of reasons, including:

a. to provide airfield/unit emergency planning committees with a comprehensive list of items to be considered in planning activity;

b. to facilitate ease of reference for personnel who may need to refer to many plans (e.g. including aircrew, ground personnel, air traffic control personnel);

c. to ensure that AEP/UEPs include reference to facilities which are included in the plans of civilian organisations; and

d. to ensure consistency with Civil Aviation Safety Authority advice (CAAP 89I-2(0)).

Defence Airfield Emergency Plan Framework

12. As an AEP may be Part 10 of a civilian aerodrome manual, it is important to retain a ‘Section’ in the contents list of AEPs so that confusion between numbering systems is avoided. For example:

Plan contents	
i	Contents
ii	Authority
iii	Glossary and abbreviations
iv	Amendment record
v	Distribution list

13. An AEP must clearly define the activation sequence including callout arrangements for Local Standby and Full Emergency. For instance, Local Standby may not require a response from off-airfield agencies whereas a Full Emergency may. The activation plan will detail the action required for each type of emergency.

14. Each airfield may wish to include reference to local state emergency legislation to add to the authority of the document. Both the base commander/airfield manager and the local state disaster/emergency controller could then sign the document.

15. Reference may also be made to international obligations. A list of the standards and recommendations as listed in ICAO Annex 14 is provided in annex D. It may be beneficial to include this section as an appendix to section 2.5 ‘Plan Review’. It should be noted that ‘Shall’ indicates a standard and ‘Should’ indicates a recommendation.

16. At some airfields and units, some items included in the standard contents list will not be relevant. When this applies, the AEP/UEP should contain the heading followed by a brief statement indicating that the matter has been considered by the airfield/unit emergency planning committee and the reasons why it has decided it is inappropriate.

17. Unit commanders are unlikely to have the resources to develop emergency plans as comprehensive as those produced by base commanders, so will need to identify the resources required from the base, other units or civilian agencies in the event of an emergency involving unit personnel. Unit commanders are also to identify the assistance that can be provided by the unit to the base AEP.

18. Commanders of units who have civilian personnel involved in aviation activities conducted by the unit will need to liaise with the service provider to ensure that the emergency response satisfies civilian requirements and expectations. For example, notification of the next of kin of a civilian contractor will need to be coordinated with that

of serving personnel to ensure that the company employing the contractor satisfies its own notification requirements and that the families of both serving and civilian personnel are treated without bias.

Process

19. Adherence to an AEP/UEP framework does not in any way negate the need to follow the planning process.

20. The planning process is an interactive sequence of steps, which should result in:

- **a.** an understanding and appreciation of roles and responsibilities of all involved in emergency response;
- **b.** strengthening of emergency arrangements and networks (different in nature and complexity to normal operations);
- **c.** emergency communications; and
- **d.** a written plan.

21. The emergency planning process involves the following steps:

- **a. Determine and Promulgate the Authority to Plan.** This gives the ASC outcomes credibility, recognition, and promotes their acceptance. For Defence airfields, the plan will be developed under the authority of the base commander. For Defence aviation units, the plan will be developed under the authority of the unit CO/OC.
- **b. Establish the Planning Committee.** This encourages involvement of all appropriate responders; the committee should start with representatives of all probable responders, and add others as necessary.
- **c. Determine the Emergency Plan Context.** Consideration must be given to other emergency plans at local and/or state/territory level.
- **d. Define Any Problems.** Through this process the need, scope and planning priorities are identified.
- **e. Set Planning Objectives.** These enable authorities and other responders to see required results and to measure the degree of achievement.
- **f. Design and Apply a Management Structure.** Effective emergency management needs a logical structure of control and coordination arrangements.
- **g. Determine Roles and Responsibilities.** Unless agreement on roles and responsibilities is reached, planning cannot continue effectively.
- **h. Analyse Resources.** This identifies resources needed, those available, and any shortfall or surplus.
- **i. Management.** Develop emergency management arrangements and systems specifically needed for the envisaged emergencies.
- **j. Document the Emergency Plan.** Documentation begins with the commencement of the planning process with final agreed documents distributed according to emergency operational needs. The AEP/UEP should be promulgated on DRN and advised to the Command-level Aviation Safety Officer (CASO for Air Force) and DFSB, and therefore available to local units for reference and external units for comparison with their own plans.
- **k. Grid Maps.** Each AEP and UEP must have a uniform grid map (or maps) of the airfield (home base for the unit) and its immediate vicinity, to include detailed location of primary and secondary access gates; this information should be made available to all responding agencies. If it is envisaged that an emergency response should also include off base areas (for example training areas) relevant grid maps must also be maintained.
- **l. Test the Plan.** This is done to measure the achievement of planning objectives and highlight deficiencies.
- **m. Review the Plan.** Planning is a continuous process, and a written plan is a living document which is constantly being tested, reviewed, and updated.

COMMAND AND CONTROL

22. DI(AF) OPS 6-9 defines the RAAF policy on the provision of Aircraft Rescue and Firefighting (ARFF) services for all RAAF aircraft operations, including RAAF-managed undergraduate flying training and civil lease, as well as civil and foreign military aircraft using RAAF airfields. The policy also defines the command and control of aviation accident sites on and off military airfields. Pending revision and review of DI(AF) OPS 6–9 as a Defence

Instruction (General), it is recommended Army and Navy airfields follow the policy detailed in DI(AF) OPS 6–9 for command and control of aviation sites.

23. Where the circumstances involve a foreign military aviation accident, ADF personnel should be aware that the priority is the health and safety of any person on or near the accident site. Therefore, the Fire Controller (FC), and subsequently the Incident Site Commander (ISC), is obliged under Australian legislation (Work Health and Safety Regulations) to refuse entry to any foreign personnel to an accident site if they do not have the appropriate personal protective equipment (PPE). Any issues with foreign personnel should be raised immediately to the base commander for resolution if it can not be resolved in a diplomatic manner in a timely fashion. However, if there is no risk to safety on the accident site, foreign personnel have the right to approach their aircraft.

Tower Supervisor

24. The tower supervisor controls vehicular movement on airfield movement areas, and the positioning of vehicles at holding points. For an on-base emergency the tower supervisor will most likely be the initiator of any response.

Fire Controller

25. The FC is the firefighter in charge of the ARFF crew and is to control firefighting and immediate rescue operations at the crash site. Interference by any other person in the conduct of ARFF operations could result in confusion and thereby jeopardise the safety of aircrew, aircraft passengers, and firefighters. The crash site responsibilities of a RAAF FC are fully defined in AAP 4230.001—*RAAF Fire Manual*.

Incident Site Commander

26. All Defence airfields/units should have a nominated ISC articulated in their AEP/UEP. The ISC should have successfully completed the DFSB Aviation Safety Officer (ASO) course, be trained in emergency control and be well briefed on the specific airfield's emergency response plan. The airfield ISC should usually be the Base Aviation Safety Officer (BASO) with the Group/Wing/Fleet Aviation Safety Officer (GASO/WASO/FASO) as a backup should the BASO be unavailable. Every ASO should be prepared to fill the role of ISC. In the absence of any safety trained personnel, the senior military member is to assume the role of the ISC. The ISC should have available appropriate materiel and human resources to allow a rapid and appropriate level of response to aviation accidents. The inherent risks associated with the particular flying operations conducted from the airfield will dictate the nature of the resources that should be readily available to the ISC. The duties and responsibilities of the ISC include, but are not limited to the following:

a. **On Base.** The function of the ISC at on base incidents is to provide/coordinate all possible assistance to ARFF crews, prevent interference in their operations, and to exercise control over personnel, excluding ARFF crews, at the crash site. Once the site is determined to be safe by the FC, the FC will hand-over the command and control of the accident site to the ISC.

b. **Off Base.** When an incident occurs outside Commonwealth property, the civil police will normally assume the duties of the ISC at the forward command post. Arrangements may vary between States and by special formal agreement. However, an appropriately qualified ADF member should always be available to assist the Police Forward Commander at the accident site. In the absence of the civil police, the ADF member is to assume the duties of the ISC until relieved by them. If arrangements permit the ADF member to assume the role of the ISC, the police service will normally make available resources as required.

c. **WHS.** The health, safety and protection of all personnel entering the aviation accident site regardless of the nationality of the aircraft and the personnel supporting it.

d. **Data Preservation.** Guarding the wreckage from further damage or disturbance, recording and protecting data and recording witness details as described in the joint DFSB /ATSB booklet Civil and Military Aircraft Accident Procedures for Police Officers and Emergency Services Personnel. Copies of this booklet are available from DFSB.

27. The ISC will maintain command and control of the accident site until DFSB or the ATSB arrive and take control of the accident site and investigation.

AVIATION ACCIDENT SITE SAFETY

28. The appointed ISC is responsible for the health, safety and protection of all personnel entering into the aviation accident site. AAP 6730.002—*Aviation Accident Work Health & Safety Manual* (AAWHSM) should be used by site commanders as guidance in the provision of a safe and healthy workplace at an aviation accident site involving

ADF or visiting foreign military aircraft. Further guidance is contained in the joint DFSB /ATSB booklet *Hazards at aircraft accident sites – Guidance for police and emergency personnel.*

29. AEP/UEPs need to include planning to ensure the safety of all personnel that are, or may be, required to respond to an accident site. This is to include all personnel associated with foreign-owned aircraft that may be involved in an accident on Australian territory.

Accident Site Hazards

30. Personnel attending aviation accident sites must be aware of the hazards and utilise the expertise and advice from base or unit WHS or other safety management personnel. It is the responsibility of the unit taking charge of the accident site, in conjunction with civil emergency agencies, to manage such hazards and provide protection for personnel. Upon the arrival of the Aviation Safety Investigation Team (ASIT), the ASIT officer-in-charge will normally take charge of the site and provide additional specialist advice and expertise.

31. The AAWHSM details the hazardous and dangerous materials associated with all ADF aircraft and provides guidance on the requirements of PPE. There are common dangers/hazards associated with the majority of ADF aviation accident sites. These hazards can be broadly defined as:

a. biological/chemical,

b. pyrotechnic/stored energy, and

c. toxic/dangerous material.

32. Biological and Chemical. Biological hazards in a post-aviation accident environment include blood-borne pathogens from human source and flora and fauna. Human immunodeficiency virus (HIV) is a blood-borne pathogen while hepatitis B (HBV) and hepatitis C (HBC) are blood- and saliva-borne pathogens. The risk of getting these diseases from blood, body fluids and tissue of infected persons is very low, but precautions are always necessary. Simple preventative measures, as detailed in the AAWHSM, are crucial to reduce the biological risks to all personnel dealing with the accident aftermath. This applies even after the removal of all biological material from the accident site. Many hazardous chemicals are present in ADF aircraft and aircraft equipment, while the burning of some materials creates toxic chemicals and vapours.

33. Pyrotechnic and Stored Energy. ADF and foreign military aircraft have a number of pneumatic and hydraulic pressure vessels, such as tyres, oxygen containers and hydraulic accumulators, which may have been exposed to excessive heat and impact during an aviation accident. These vessels may explode without warning and pose a serious threat to personnel in their immediate vicinity. Military aircraft may be equipped with, or carrying, explosive stores or devices. Bombs, rockets and ammunition may be fitted to the aircraft or carried as cargo. Explosive devices fitted to an aircraft may include ejection seats and associated explosive devices, flares, external stores jettison devices etc. Special technical assistance from appropriately trained and qualified personnel is required to make safe such devices. Aircraft fuels and lubricants usually present a hazard for a short time after the accident but the hazard may persist and the subsequent danger must be considered at the site. Aircraft, and some aircraft equipment, are fitted with batteries. These batteries may contain alkaline, lead acid, lithium, magnesium, mercury, nickel cadmium etc. Each battery type may pose a different hazard and specialist advice on hazards, handling and disposal should be sought. Oxygen, batteries, pressure vessels and pyrotechnics may form a part of life support systems in aircraft and aircrew personal equipment.

34. Toxic and Dangerous Material. Composite and bonded materials present on an aircraft pose a significant hazard. The types of materials may include carbon fibre, boron fibre, aramid fibre, glass fibre, chaff and asbestos. Materials such as these, which are burnt or broken in an accident, may become hazardous as the matrix is destroyed. When burnt, released fibres and resins may be toxic. The primary health risks due to these materials are through inhalation, skin contact and eye contact. A physical danger is also present in the form of rough broken edges and needle-like fibres. Beryllium is a major health hazard if dusts are inhaled, ingested or absorbed through the skin. Beryllium, chromium, cadmium, magnesium and titanium are commonly used in aircraft components and electronic equipment. These materials may present health hazards and specialist technical advice should be sought in relation to exposure, handling and disposal. Radioactive hazards are present in some aircraft in the form of depleted uranium (DU), thorium 232, tritium (H3) and radium. If these materials break or burn, small fragments of the metal or the oxide may be produced. Inhaling or ingesting these particles is hazardous – low level radiation is emitted inside the body, damaging tissue and organs. A heavy metal danger also exists in relation to these materials.

Personal Protective Equipment

35. Airfield and unit emergency response kits (‘crash kits’) should include PPE suitable for addressing the needs of the emergency response and aircraft recovery personnel. (Note: DFSB members of the appointed ASIT will provide

their own PPE.) Advice on appropriate PPE should be sought from an environmental health officer, WHS professional, DFSB staff, or relevant reference documents.

36. As a minimum, all personnel involved in aviation accident initial response, investigation and recovery/disposal should wear the following PPE on site and when handling wreckage components:

- **a.** Respirator, either:
  - **(1)** full-face respirator with combination particulate/organic vapour cartridges; or
  - **(2)** half-face respirator with combination particulate/organic vapour cartridges and safety goggles.
- **b.** Protective hooded coveralls (sealable front, elastic sleeves, legs and hood).
- **c.** Safety boots.
- **d.** Surgical gloves.
- **e.** Puncture-resistant leather gloves.

37. On leaving a contaminated aviation accident site, personnel must remove the PPE in the following order, and shower as soon as possible:

- **a.** Boots.
- **b.** coveralls, (inside out).
- **c.** Goggles (if used).
- **d.** Gloves (surgical—inside out).
- **e.** Respirator.

Crash Kits

38. Crash kits should be maintained at the base and unit level for purposes of emergency response, accident site preservation, aircraft recovery, and investigation of safety events. (Note: DFSB will investigate all Class A events, therefore the unit/base will only be required to provide the initial emergency response including survivor recovery, site preservation and security, and potentially collect perishable data/information on behalf of the ASIT prior to their arrival.) Where there is more than one flying unit on the base, consideration can be given to maintaining a common crash kit (with redundancy), however, any special requirements for each aircraft type must be accommodated, and the kit must be readily available to all personnel that may require to use it (i.e. it must be accessible if the primary holder is not available). Flying units that deploy to bases where it is unlikely a crash kit/suitable crash kit is maintained (e.g. Australian bare bases) or to overseas locations, should deploy with a crash kit so that they have access to required items, including suitable and reliable PPE, in the event of an aircraft emergency/accident.

39. Annex E provides a recommended list of equipment to be contained in an airfield/unit crash kit. These kits should be developed and maintained in consultation with an environmental health officer or a dedicated WHS professional. Further advice is also available from DFSB if required.

EXERCISE MANAGEMENT

40. All AEP/UEP must be tested at regular intervals to improve their effectiveness. To ensure the best use of resources AEP and UEP (for home base units) should be exercised together where possible. This can be best achieved through the conduct of exercises which can be used to:

- **a.** educate and create awareness,
- **b.** reveal emergency plan weaknesses,
- **c.** reveal resource gaps,
- **d.** improve coordination,
- **e.** clarify roles and responsibilities,
- **f.** improve individual performance, and
- **g.** gain public recognition of the emergency management program.

Exercise Types

41. There are generally three types of exercise practiced in airfield/unit emergency planning and are as follows:

a. **Full–Scale Emergency Exercise.** The full-scale emergency exercise is intended to evaluate the operational capability of the AEP/UEP in an interactive manner in real time. It involves the testing of usually all response organisations identified within the relevant AEP/UEP. This type of exercise includes the mobilisation of personnel and resources and the actual movement of emergency workers, equipment and resources required to demonstrate an effective coordination and response capability.

b. **Partial Field Exercise.** These exercises are similar to full-scale exercises but are undertaken by selected organisations to test individual segments of the AEP/UEP. Partial field exercises still require the mobilisation of personnel and resources to demonstrate a coordination and response capability.

c. **Table–Top Exercise.** Apart from being more cost effective, table-top exercises require minimal attendance of personnel from each functional organisation and there is no practical resource deployment, with the primary emphasis being on discussion of roles and responsibilities through a set scenario. This type of exercise usually deploys the command elements and is commonly known as a Tactical Exercise without Troops (TEWT) or Discussion Exercise (DISCEX). Table-top exercises may also take the form of Hypothetical Exercises in which representatives of functional organisations participate in a panel forum and are quizzed by a facilitator equipped with a detailed script of an airfield/aircraft emergency. This awareness type of exercise can be presented to a large audience of Defence, aviation industry and related organisations.

Exercise Frequency

42. Exercises should be conducted as follows:

a. Full-scale airfield/unit emergency exercise at least biennially, commensurate with the size and scale of operations at the airfield/size and capacity of unit aircraft, unless the emergency plan was activated in a real emergency within the preceding year period.

b. Partial emergency exercises or table-top exercises in the intervening year to ensure that deficiencies found during the full-scale aerodrome/unit emergency exercise have been corrected.

c. Table-top exercises should be conducted annually or whenever there is a change of major participants or procedures, provided such exercises do not conflict with the full scale or partial exercises.

Exercise Work Plan

43. For exercises to have an effective outcome there needs to be a work plan. This plan could range from a simple action list of when and where certain activities will occur, to more complex detailed activity schedules of flow charts, meeting agendas, etc. It is necessary to identify the type and scale of exercise required then develop the appropriate work plan. Details of the requirements for an exercise work plan are listed in annex F.

Exercise Documents

44. Exercise documents are necessary for the participating organisations to enable them to identify the guidelines under which they are to operate and what is to be achieved from the exercise. The scope and type of the proposed exercise will dictate the nature of the supporting documentation. Annex G contains details of exercise documents.

Exercise Records

45. Records of reviews and exercises including real emergencies must be kept by the Airfield/Unit Emergency Response Committee Secretary (usually the relevant ASO) and retained for at least three years. Records of significant changes to the AEP/UEP should be retained indefinitely.

Exercise Roles

46. Depending on complexity, exercises can use a large number of staff and players. Considering the level of control, coordination and resources required during airfield emergency exercises, there is usually a need for several field exercise control staff to cover the range of activities.

47. Roles to be considered are as follows:

a. Exercise director – has the overall authority for the exercise, commencing, stopping etc.

b. Umpires – make rulings for participants and control the pace on behalf of the controller.

c. Exercise controller – controls all exercise input, pace, rulings etc.

d. Evaluators – take no active part in the play, but record reactions, responses and critique the exercise. They are selected based on their knowledge and experience.

e. Observers – interested parties who have no direct involvement other than observing for their own benefit and knowledge.

f. Higher control – represent authorities higher than exercise participants (e.g. Ministers)

g. Lower control – represent authorities lower than exercise participants (e.g. field teams)

h. Role players (e.g. represent industry, victims, media, public, meeters/greeters).

48. Despite the number of roles outlined above, most can be filled by multi-tasked personnel. Role players may represent both higher and lower controls. Evaluators need to be aware of who is filling what roles before exercise play commences.

49. The exercise director and controller, umpires, evaluators and observers must be clearly identified (usually by the use of tabards or vests) to ensure that they do not get mistaken for exercise players.

Safety

50. The safety of all participants, including role players, operational response organisations and exercise control staff must be monitored during the exercise by nominated safety officers overseeing all activities.

51. A codeword needs to be identified for prioritising communications during the exercise. This may be required for the termination of all or part of the exercise due to a real life injury or emergency. A commonly used codeword understood by most organisations in Australia is ‘NO DUFF’, and its meaning should be made known to all participants.

Media

52. Media participation is important during all exercise activities and can be a valuable asset for advising or alerting the community. The local Defence Media Liaison/Public Relations Officer should be included in the planning and conduct of all emergency field exercises.

53. Areas for media participation are as follows:

a. **Pre–Exercise.** Media should be utilised to notify the community of the pending exercise to alleviate the possibility of concern due to a lack of understanding of what is being undertaken. The media may also publicise the reasons for the exercise and proposed outcomes.

b. **During Exercise.** It is important to subject operational management and response organisations to a realistic media interaction to test liaison and coordination capabilities during the exercise operation.

c. **Post–Exercise.** Public education is important and the media may report on the state of operational readiness and higher safety standards achieved as a result of the exercise and ongoing planning.

Evaluation

54. Evaluation is aimed at providing valid judgements about how well the exercise objectives were achieved. The objectives must be realistic and achievable. They should be clearly defined during planning.

55. The ultimate result of evaluation should be to list specific recommendations to be implemented in order to increase emergency response preparedness. Annex H describes the exercise evaluation process. An exercise evaluation form is in annex I.

Further Assistance

56. This chapter provides an abbreviated guide to emergency response exercise management. Further sources of information and assistance can be obtained from state and territory emergency management committees. In addition, the following assistance is available:

a. The Australian Emergency Management Institute (AEMI) at Mount Macedon Victoria conducts courses in Exercise Management. Bids for attendance should be made through the directors of each State/Territory Emergency Service.

b. The New South Wales State Emergency Management Committee Exercise Management Guide dated August 1996, provides further guidance on exercise management. Copies can be obtained from the Secretary, State Emergency Management Committee, PO Box K 1056 HAYMARKET NSW 2000 (telephone (02) 9289 1871).

c. AEMI (telephone (03) 5421 5100) hold a number of airfield exercise scenarios that can be adapted to meet specific requirements.

DEFENCE MAJOR AVIATION ACCIDENT PLAN

57. In the event of a major aviation accident in Australia, military or civil, a whole of Government approach will be required for the emergency response to the accident and the subsequent accident investigation. This is due to the small number of (both civil and military) aviation qualified aviation accident investigators, flight data analysis experts, and qualified aviation accident medical specialists, etc available in Australia. Additionally, the costs and resources for a major aviation accident investigation may be beyond one Department's resources and finances. As an example, the Swissair 111 accident in 1999 has cost the Canadian Transportation Safety Board (TSB) over US$60 million. Accident investigations into major aviation accidents by such agencies as the TSB can involve up to 300 participants.

58. The ADF does not have the resources to respond to a major aviation accident and conduct an accident investigation on this scale; neither does any single Australian Government agency. As a consequence, the level of response required by all available agencies would need to be coordinated on a case-by-case basis. To ensure the best emergency response, accident investigation and safety outcomes, detailed plans need to be completed and agreements formulated between the various responsible agencies to cover all foreseeable contingencies.

59. The ATSB is responsible for the investigation of all aviation accidents involving civil aircraft in Australia. In the event of a major civil accident, the ATSB would respond in accordance with the ATSB Major Aircraft Accident Investigation Plan (MAAIP) and would request Defence assistance through DFSB. DFSB would coordinate the Defence response and would ensure all available Defence assistance was provided to the ATSB.

60. Defence is responsible for all State aircraft operations including those of foreign military operators in Australia (see 'National and international aviation safety responsibilities' section 3 chapter 3). As outlined above, however, Defence through DFSB does not have the resources to respond to, and fully investigate, a major aviation accident involving a State aircraft. Therefore, for such an aviation accident, DFSB would request assistance from other agencies including the ATSB, EMA and foreign military accident investigation branches.

61. Defence and other Federal Government Departments and States need to be aware of the total Australian capabilities for aviation accident investigation and recovery. This will then permit any shortfalls in the Defence capability to be covered from Government or commercial means, whether domestic or international, in response to a major accident.

62. The Defence Major Aviation Accident Plan (DMAAP) is under development by DFSB and will be published separately under Chief of Air Force's signature. The DMAAP will include:

a. a summary of Defence aviation accident response and investigation capabilities;

b. arrangements in place for either requesting assistance from, or providing assistance to, other Australian government departments or agencies;

c. arrangements for response to requests for Defence Aid to the Civil Community assistance;

d. Defence capabilities for accessing, controlling and supporting difficult aviation accident sites (remote areas, desert, jungle terrain, extreme cold/hot weather);

e. Defence capabilities for controlling large numbers of accident investigators and specialist personnel at aviation accident sites and control areas;

f. availability of Defence medical aviation accident investigation capabilities and arrangements for requesting support from outside agencies;

g. arrangements for immediate access to Defence qualified aviation medical practitioners for 72 hour histories, personal survivability investigation, personal protective equipment investigation, and life support system and equipment investigation following major Defence aviation accidents;

h. availability of Defence qualified aviation human factors practitioners and arrangements for requesting support from outside agencies;

i. availability of Defence qualified aviation pathologists and arrangements for requesting support from outside agencies;

j. availability of hazardous material information for all Australian state aircraft and visiting foreign military aircraft and arrangements in place to ensure such information is available to emergency services personnel responding to a major state/foreign military aviation accident; and

k. Defence capabilities for wreckage removal after major aviation accidents and responsibilities for such removal.

OTHER GUIDANCE

63. References for additional information are as follows:

a. Emergency Management Australia http://www.ema.gov.au

b. Civil Aviation Safety Authority http://www.casa.gov.au

c. International Civil Aviation Organisation http://www.icao.int

CONCLUSION

64. This chapter provides guidance to assist airfield/unit emergency planning committees in the planning process, particularly in preparation of the AEP/UEP documents. In addition to explanatory notes, the guidance material includes some examples of text and format taken from actual AEPs/UEPs. An overview of the Defence Major Aviation Accident Plan is provided for information.

Annexes:

A. Model Airfield/Unit Emergency Plan framework
B. Sample Airfield Emergency Plan
C. Sample Unit Emergency Plan
D. ICAO Standards and Recommendations – Annex 14
E. Crash Kit Recommended List of Equipment
F. Exercise Work Plan
G. Exercise Documents
H. Exercise Evaluation
I. Exercise Evaluation Form

MODEL AIRFIELD/UNIT EMERGENCY PLAN FRAMEWORK

MODEL AIRFIELD/UNIT EMERGENCY PLAN STRUCTURE

4.13 Investigations

4.14 Crowd Control

Section 5 – Recovery

5.1 Management

5.1.1 Committee Membership

5.1.2 Contingency Planning

5.1.3 Damage Assessment

5.2 Return to Operational Status

5.2.1 Airfield Inspections

5.3 Critical Incident Stress Programme

5.4 Post Trauma Management

5.5 Security

Section 6 – Supporting Plans

6.1 Disabled Aircraft Removal

6.2 *Care of the Uninjured*

6.3 Care of the Relatives/NOK

6.4 Recovery of Facilities

6.5 Media

6.6 *Terminal Evacuation*

Appendixes

A Airfield Resources including communications

B Telephone Contact Numbers (Limited distribution only)

C Plan Diagrams

D Correction Sheet

Note: *Italics indicate that the section or sub section is optional.*

MODEL AIRFIELD/UNIT EMERGENCY PLAN SIGNATURE SHEET

AUTHORITY

This _____ Airfield/Unit Emergency Plan has been prepared by the Airfield/Unit Emergency Committee in compliance with the Defence Aviation Safety Manual and is issued under the authority of the Base Commander/Unit CO/OC.

Recommended:

_____

Chairman Airfield/Unit Emergency Committee

Approved:

_____

Base Commander/Unit CO/OC

Endorsed:

_____

FEGCDR/OC WG/Regt CO

The _____ Airfield/Unit Emergency Plan is issued as a subplan of the _____ DISPLAN in accordance with State Emergency Management Arrangements.

Note: *Italics* – Only if appropriate State legislation applies.

MODEL AIRFIELD/UNIT EMERGENCY PLAN GLOSSARY AND ABBREVIATIONS

Note: Any term not found below should be obtained from State Emergency Management Legislation, International Civil Aviation Organisation, Airservices Australia or Civil Aviation Safety Authority Documents or existing Defence Documents.

ABBREVIATIONS

ADF

Australian Defence Force

AEP

Airfield Emergency Plan

AEP

Airfield Emergency Procedures

ATS

Air Traffic Services (Airservices or ADF Air Traffic Controllers)

ATSB

Australian Transport Safety Bureau

BASO

Base Aviation Safety Officer

CAR

Civil Aviation Regulations

CASA

Civil Aviation Safety Authority

DFSB

Defence Flight Safety Bureau

DVI

Disaster victim identification

DVR

Disaster victim registration

ECC

Emergency Coordination Centre

EOC

Emergency Operations Centre

FCP

Forward Command Post

ICAO

International Civil Aviation Organisation

RFFS

The Rescue and Firefighting Service provided by contractors, Airservices Australia or Australian Defence Force.

SARMC

The Search and Rescue Mission Coordinator – an appointment within Airservices Australia.

SARO

Search and Rescue Officer – an appointment within Airservices Australia or the Australian Defence Force.

UASO

Unit Aviation Safety Officer

UEP

Unit Emergency Plan

GLOSSARY

Airfield/Aerodrome

A defined area on land or water (including any buildings installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Air Traffic Services (ATS)

Air traffic control service provided by Airservices Australia or the Australian Defence Force.

Airfield Control Tower

A unit established to provide air traffic services to airfield traffic.

Airfield Operator

Any owner, licensee, Authority or Corporation, or any other body which has legal responsibility for a particular Airfield. (e.g. The Federal Airport Corporation, ADF).

Airfield Emergency Plan (AEP)

A plan developed by the Airfield Operator/Base Commander to coordinate emergency response agencies and their individual Airfield Emergency Procedures, State or supporting area plans for dealing with an airfield emergency.

Airfield Emergency Procedures (Standard Operating Procedures)

Individual agency procedures for meeting the Airfield Emergency Plan.

Aircraft/Aeroplane

Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Airside

The movement area of an airfield, adjacent terrain and buildings or portions thereof, access to which access is controlled.

Apron

That part of an airfield to be used for the purpose of enabling passengers to board or disembark from an aircraft, loading of freight/cargo onto, or unloading freight/cargo from an aircraft, refuelling, parking or carrying out maintenance on aircraft.

Assembly Area

A pre-arranged, strategic point on or off the airfield where general airfield staff and their vehicles can be assembled in order to be escorted to the airside during an emergency.

Casualty Processing Area

The area where medical staff assemble to provide triage treatment and arrange transportation to hospital for those persons injured in the emergency.

Combat Agency

The agency primarily responsible for responding to a specified or potential emergency.

Control

The overall direction of response activities in an emergency.

Coordination

The bringing together of agencies and individuals to ensure effective emergency or rescue management, but does not include the control of agencies and individuals by direction.

Director Defence Defence Flight Safety Bureau

An appointment within the ADF charged with all aviation safety matters including the responsibility of investigating all Defence Aviation Class A and B events.

Defence Flight Safety Bureau

The organisation within the ADF charged with aviation safety matters including the responsibility of investigating all Defence Aviation Class A and B events.

Emergency/Disaster

An emergency due to an actual or imminent occurrence which:

a. endangers, or threatens to endanger, the safety of health of persons, and

b. destroyed or damages, or threatens to destroy or damage, property.

Emergency Operations Centre/Emergency Coordination Centre

A fixed location established on or near the airfield used as a centre for coordination and communication during an emergency.

Mobile Command Post/Forward Command Post (FCP)

The point where cooperating agency heads assemble to receive and disseminate information and make operational decisions on the immediate rescue operation.

Full Emergency

A condition declared when it is known that an aircraft approaching the airfield is, or is suspected to be, in such trouble that there is danger of an accident and requiring the response from off airfield agencies.

Level I–up to 18 seats (ATS reference——Light)

Level II–up to 215 seats (ATS reference–Medium)

Level III–up to 560 seats (ATS reference–Heavy)

Hazardous Materials/Dangerous Goods

Articles or substances which are capable of posing significant risk to health, safety or property.

Incident (ICAO Definition)

An occurrence, other than an emergency/disaster, associated with the operation of an aircraft, which affects or could affect the safety of operation.

Joint User Airfield

An Airfield under the control of a part of the Defence Force in respect of which an arrangement under Section 20 of the Civil Aviation Act is in force.

Landside

Those parts of an airfield not considered airside, i.e. areas normally accessible to the general public or ADF personnel not performing routine duties airside.

Local Standby

A condition declared when an aircraft approaching the airfield is known or is suspected to have developed some defect but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing and thus *not* requiring a response by off airfield agencies.

Manoeuvring Area

Those parts of an airfield used for the take-off, landing and taxing of aircraft, excluding aprons.

Reception Centre

An assembly area located on an airfield or in a unit for passengers or relatives.

Recovery

The process of returning the airfield to its normal operational status.

Response

The process of combating an emergency and of providing relief for personnel affected by the emergency.

Staging Area

A pre-arranged, strategically placed area on or outside the airfield where support response personnel, vehicles and other equipment can be assembled.

Supporting–Plan

A plan complete in itself, for the emergency management of a special or high risk hazard or event.

Suspect Item

An object considered out of place, unattended or unusual for which an explanation cannot be readily determined and which may constitute a threat.

Triage

Sorting and classification of casualties to determine the order of priority for the treatment and transportation.

Unit Emergency Plan

A plan developed by the unit commander to coordinate all agencies and their individual unit emergency procedures, State or supporting area plans for dealing with a unit emergency.

Unit Emergency Procedures (Standard Operating Procedures)

Individual agency procedures for meeting the Unit Emergency Plan requirements.

Warning Agency

The agency that has initial information on an emergency or potential emergency and responsibility to advise other agencies.

MODEL AIRFIELD/UNIT EMERGENCY PLAN DISTRIBUTION LIST

AEP No	NAME	ORGANISATION

AMENDMENT LIST

No	Date of Amendment	Date Entered	Entered By

SECTION 1 – INTRODUCTION

1.1 Aim

The aim of the _____ Airfield Emergency Plan/Unit Emergency Plan (AEP/UEP) is to provide a timely and coordinated response to, and recovery from, an emergency at the Airfield/involving Unit aircraft.

1.2 Scope

1.2.1 This Plan details the arrangements for control and coordination of the response to, and initial recovery from, an emergency within the boundary or in the airfield vicinity the airfield/involving Unit aircraft, as defined, of _____.

1.2.2 This Plan is based on the assumption that each agency with a statutory responsibility has in place appropriate supporting Airfield Emergency Procedures (or Standard Operating Procedures) which deal with that agency's response in accordance with this Plan.

1.3 Legislation

(Detail all pertinent legislation to the Airfield including any specific State/Territory/Defence legislation/instructions that may be appropriate.)

SECTION 2 – MANAGEMENT ARRANGEMENTS

2.1 Airfield/Unit Emergency Committee

2.1.1 Membership

2.1.2 Terms of Reference

2.1.3 Sub Committees

2.2 Roles and Responsibilities

2.3 Plan Overview

2.4 Control and Coordination

2.5 Plan Review

2.5.1 Reviews

2.5.2 Amendments

2.5.3 Suggestions

2.6 Exercises

2.6.1 Aim

2.6.2 Type

2.6.3 Frequency

2.6.4 Statutory Requirements

2.6.5 Analysis

SECTION 3 – EMERGENCY RESPONSE FACILITIES

3.1 **Emergency Coordination Centre**

3.1.1 Function

3.1.2 Location

3.1.3 Set Up

3.1.4 Coordinating Authority

3.1.5 Stand Down

3.2 **Forward Command Post (Units: if required)**

3.2.1 Function

3.2.2 Location

3.2.3 Set up

3.2.4 Coordinating Authority

3.2.5 Stand Down

3.3 **Casualty Processing Area**

3.3.1 Function

3.3.2 Location

3.3.3 Set Up

3.3.4 Coordinating Authority

3.3.5 Stand Down

3.4 **Reception Centres (Units: if required)**

3.4.1 Passenger Reception Centre

3.4.1.1 Function

3.4.1.2 Location

3.4.1.3 Set up

3.4.1.4 Coordinating Authority

3.4.1.5 Stand Down

3.4.2 Relatives Reception Centre

3.4.2.1 Function

3.4.2.2 Location

3.4.2.3 Set up

3.4.2.4 Coordinating Authority

3.4.2.5 Stand Down

3.5 **Media Centre (Units: if required)**

3.5.1 Function

3.5.2 Location

3.5.3 Set up

3.5.4 Coordinating Authority

3.5.5 Stand Down

SECTION 4 – OPERATIONAL RESPONSE

4.1 **Activation**

4.2 **Airfield Access**

4.2.1 Airfield Location

4.2.2 Primary Emergency Access

4.2.3 Secondary Emergency Access

4.2.4 Staging Area

4.2.5 Assembly Area

4.3 **Local Standby**

4.3.1 Definition

4.3.2 Combat Agency

4.3.3 Support Agencies

4.3.4 Activation

4.3.5 Staging Area

4.3.6 Stand Down

4.4 **Full Emergency**

4.4.1 Definition

4.4.2 Combat Agency

4.4.3 Support Agencies

4.4.4 Activation

4.4.5 Staging Area

4.4.6 Control Area

4.4.7 Stand Down

4.5 **Crash on Airfield**

4.5.1 Definition

4.5.2 Combat Agency

4.5.3 Support Agencies

4.5.4 Activation

4.5.5 Staging area

4.5.6 Control Authority

4.5.7 Airspace Closure over the Airfield

4.5.8 Stand Down

4.6 **Crash off Airfield**

The Airfield Operator/Base Commander/Unit CO/OC may not have any jurisdiction outside the boundary of the Airfield and therefore the Local /State Emergency Plans are to be used. However a crash off Airfield may activate a portion of an Airfield Emergency Plan (e.g. welfare supporting plans), if the aircraft that crashed either originated or was inbound to the Airfield, and will require activation of a portion of a Unit Emergency Plan.

4.6.1 **Crash on Land**

4.6.1.1 Definition (in the vicinity)

4.6.1.2 Combat Agency

4.6.1.3 Support Agencies

4.6.1.4 Activation

4.6.1.5 Staging area

4.6.1.6 Control Authority

4.6.1.7 Stand Down

4.6.2 **Crash on Water**

4.6.2.1 Definition (in the vicinity)

4.6.2.2 Combat Agency

4.6.2.3 Support Agencies

4.6.2.4 Activation

4.6.2.5 Staging area

4.6.2.6 Control Authority

4.6.2.7 Stand Down

The Airfield Operator/Base Commander may not have any jurisdiction outside the boundary of the Airfield and therefore the local/state emergency plans are to be used.

The Airfield Operator/Unit CO/OC may however have a supporting role as follows:

4.6.7.1 Combat Agency

4.6.7.2 Support Agencies

4.6.7.3 Activation

4.6.7.4 Staging area

4.6.7.5 Control Authority

4.6.7.6 Stand Down

4.7 **Sabotage—Bomb Threat (including Buildings)**

4.7.1 Definition

4.7.2 Combat Agency

4.7.3 Activation

4.7.4 Staging area

4.7.5 Control Authority

4.7.6 Stand Down

4.8 **Unlawful Seizure**

4.8.1 Definition

4.8.2 Combat Agency

4.8.3 Activation

4.8.4 Staging area

4.8.5 Control Authority

4.8.6 Stand Down

4.9 **Fire/Structural**

4.9.1 Definition

4.9.2 Combat Agency

4.9.3 Support Agencies

4.9.4 Activation

4.9.5 Staging area

4.9.6 Control Authority

4.9.7 Stand Down

4.10 **Natural Disaster**

4.10.1 Definition

4.10.2 Combat Agency

4.10.3 Support Agencies

4.10.4 Activation

4.10.5 Staging area

4.10.6 Control Authority

4.10.7 Stand Down

4.11 **Medical Emergency**

4.11.1 Definition

4.11.2 Combat Agency

4.11.3 Support Agencies

4.11.4 Activation

4.11.5 Staging area

4.11.6 Control Authority

4.11.7 Stand Down

4.12 **Hazardous Material Incident**

4.12.1 Definition

4.12.2 Combat Agency

4.12.3 Support Agencies

4.12.4 Activation

4.12.5 Staging area

4.12.6 Control Authority

4.12.7 Stand Down

4.13 **Investigations**

The following agencies may have a statutory responsibility to investigate the cause of the emergency.

4.13.1

- Defence Flight Safety Bureau (for all Defence Aviation Class A and B events)
- Australian Transport Safety Bureau (if a civil aircraft is involved)
- Coroner/Police
- COMCARE
- Department of Infrastructure, Transport and Regional Development and Local Government (Joint User Airfields)
- Facility Owner/operator and their insurance company/CSIG/CSG

4.13.2 Activation (For state aircraft, see chapter 9 and chapter 10)

The investigation automatically starts when the Plan is activated.

4.13.3 Staging Area

4.13.4 Coordinating Authority

4.13.5 Stand Down

4.14 **Crowd Control**

SECTION 5 – RECOVERY

5.1 **Management**

5.1.1 Committee Membership

5.1.2 Contingency Planning

5.1.3 Damage Assessment

5.2 **Return to Operational Status**

The second aim of this plan is to bring the Airfield back to operational status in a safe, efficient and orderly manner. It is clearly noted who has control and coordination responsibilities for this function.

5.2.1 Airfield Inspection

5.2.2 Return to Restricted Aircraft Operations

5.2.3 Return to Unrestricted Aircraft Operations

5.2.4 Airspace Re-opening over the Airfield

5.3 **Critical Incident Stress Program**

5.4 **Post Trauma Management**

SECTION 6 – SUPPORTING PLANS

6.1 **Disabled Aircraft Recovery**

6.2 **Care of the Uninjured**

6.3 **Care of the Relatives**

6.4 **Recovery of Facilities**

6.5 **Media**

6.6 **Terminal Evacuation**

APPENDIX A – AIRFIELD RESOURCES INCLUDING COMMUNICATIONS

APPENDIX B – TELEPHONE CONTACTS

APPENDIX C – AIRFIELD/UNIT DIAGRAMS

APPENDIX D – CORRECTIONS SHEET

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SAMPLE AIRFIELD EMERGENCY PLAN

NOTE

- This annex refers to Airfield Emergency Plans only. For Unit Emergency Plans, refer to Annex C.

GLOSSARY AND ABBREVIATIONS

A glossary is mandatory and a suggested minimum is included in section 3 chapter 10, annex A. The standardisation of terminology is of prime importance and hence wherever possible additional definitions and abbreviations should be obtained from Defence Flight Safety Bureau (DFSB), International Civil Aviation Organisation (ICAO), Airservices Australia, Emergency Management Australian (EMA), or Civil Aviation Safety Authority (CASA) documentation.

SECTION 1 – INTRODUCTION

1.1 Aim

The aim of _____ Airfield Emergency Plan (AEP) is to provide a timely and coordinated response for re and recovery to an emergency at the Airfield.

1.2 Scope

1.2.1 This Plan details the arrangements for control and coordination of the response to and initial recovery from an emergency within the boundary, or in the vicinity of the airfield, as defined, of _____.

1.2.2 This Plan is based on the assumption that each agency with a statutory role has in place appropriate supporting Emergency Response Procedures (or Standard Operating Procedures) which deal with that agency's response in accordance with this Plan.

1.2.3 The scope of the Plan needs to be expanded to define the area of the Airfield boundary, including a map if appropriate. Further, the definition of 'in the vicinity' needs to be confirmed, again with a map if appropriate, by all on-Airfield agencies that would respond and provide support off Airfield. The use of a commonly used map reference, e.g. Gregory's or UBD is recommended.

1.3 Legislation

1.3.1 Detail all legislation/Defence Instructions pertinent to the Airfield including any specific State/Territory legislation that may be appropriate.

SECTION 2 – MANAGEMENT ARRANGEMENTS

This section should set out clearly:

a. How the plan was derived,

b. What are the general roles and responsibilities of participating organisations, and

c. Arrangements for plan maintenance.

2.1 Airfield Emergency Committee

2.1.1 Membership

The composition of the Committee and its Terms of Reference should be detailed. The Committee must consist of representatives of all agencies or organisations expected to be involved in responses under the plan. These representatives must be sufficiently senior to commit their organisations to the Committee's agreed decisions. The first step should be to determine what arrangements for integrated emergency management already exist external to the Airfield. In most cases, for AEPs, it may be possible to add the Airfield authority, Airservices Australia/Defence ATC and Defence aviation units to an already working and experienced emergency planning committee, the Base/Station Aviation Safety Committee (BASC/SASC), to form an effective Airfield Emergency Committee (AEC).

2.1.2 Terms of Reference

Terms of Reference for the Committee must include the authority to plan, the planning aim, and planning assumptions. They should include the requirement for the Committee to view and approve plans and procedures, which support the main plan. They could also include detail of how often the Committee should meet, and they could even outline how the plan is to be formulated. Terms of Reference can be decided by the Committee itself, or by the Base Commander.

2.1.3 **Subcommittees**

If the number of representatives is substantial, subcommittees can be formed to work through the detail of the planning process and report back to the full Committee for approval of arrangements. Representatives from the list below should be considered for the subcommittees. The list is not exhaustive and it is also appreciated that not all Airfields will have access to the full range of organisations and agencies. Each Airfield will need to examine its own situation and decide accordingly. It is essential that all arrangements must be agreed by all involved in those arrangements, and that their own plans and procedures are vetted by the AEC.

- Australian Defence Force.
- Airfield Operator/Base Commander.
- Airservices Australia/Defence ATC.
- Defence aviation units.
- Service/Civilian Police.
- Fire.
- Rescue.
- Local and State Emergency Services.
- Medical.
- Ambulance.
- Welfare.
- Public Information/Media Liaison.
- ATSB.
- Contractors/Suppliers.
- Civil Aviation Safety Authority.

2.2 **Roles and Responsibilities**

2.2.1 Despite the variety of events, which could trigger a full or partial activation of the AEP, there are certain roles and responsibilities, which will not basically change. These are often determined by statutory responsibilities under legislation. For example, while the detail may vary slightly from State to State or Territory, fire agencies are always responsible for fire suppression, welfare agencies are always responsible for welfare issues.

2.2.2 It can be helpful to users, in understanding the overall concept of the plan, if roles and responsibilities of participating agencies are outlined in general terms in this section (Management Arrangements) of the document.

2.2.3 Detail of responsibilities and functions for participating organisations, as they apply to particular events, can be detailed under the sections dealing with each event later in the document. As an example, the Defence Community Organisation (DCO) may have the role of providing assistance to victims and relatives. This role can be stated in this section of the plan, and the DCO would then be listed as a support agency under the detail of the different events together with who they will be coordinated by, later in the document.

2.2.4 The organisations or agencies whose roles and responsibilities can be stated in this section of the plan should have representation on the AEC.

2.3 **Plan Overview**

2.3.1 An explanation and diagrammatic representation showing the control and coordination links between the various functional areas (Forward Command Post, Emergency Coordination Centre, Passenger Processing and Reception) can be helpful in outlining the 'concept of operations' of the plan, because these three functions are 'created' only when the plan is activated. An explanation of how the plan works is useful in giving responders a perspective on the part played in emergency response by their particular organisation.

2.3.2 During emergencies, quick reference to particular sections is enhanced, because the 'big picture' is understood and detail or repetition in particular sections can be reduced.

2.4 **Control and Coordination**

2.4.1 This should outline which agency/position has the control and which agency/position has the coordinating role for emergencies.

2.5 **Plan Review**

2.5.1 Details of how the plan is to be reviewed, tested, amended etc, should be included here. There are mandatory requirements which must be accommodated, but these are a minimum and if the AEC sees a need to increase these, they should state the extra requirements.

2.5.2 When conducting a review, either after a full or partial activation, because of either a real event or an exercise, the AEC should examine each salient point for applicability and suitability, and determine if improvements can be made to the response arrangements. Results of these examinations need to be promulgated to all concerned and the plan amended accordingly.

2.5.3 How often other than after exercises, and actual activation of the Plan, will the Plan (and procedures) be reviewed, together with how results will be promulgated, should be listed here, i.e. review every 12 months.

2.5.4 Detail who is responsible for producing amendments, how changes to detail should be notified, how amendments will be accounted for to ensure all agencies have current copies of the plan.

2.5.5 Detail how any suggestions to the plan from interested persons/agencies can be handled at committee level.

2.5.6 The plan may require changes to detail such as telephone numbers, personnel, contact details, resource lists etc, to be notified to the AEC as soon as known, and amendments issued as soon as practicable.

2.6 **Exercises**

2.6.1 Exercising of various components of the plan is essential. The aim should be frequent, low cost exercises of portions of the Plan such as activation charts, communications etc. Exercises can be 'table top' of varying sizes and complexity, involve actual deployment of resources, be simple or complex. They should, other than mandatory requirements, be aimed at those aspects, which require training.

SECTION 3 – EMERGENCY RESPONSE FACILITIES

3.1 **Emergency Coordination Centre (ECC)**

3.1.1 **Function.** The need for an ECC will be mainly dependent upon the maximum size of aircraft using the Airfield. It is up to the Base Commander whether an ECC is required and some prior consideration of facility requirements should be given.

3.1.2 **Location.** For major ADF Airfields it is recommended that provision of an ECC be pre-planned. It is up to the individual AEC guided in the main by the Base Commander to determine if and where the ECC is to be located. Consideration of an alternative ECC location should also be given as the nominated primary ECC may be unavailable owing to such things as evacuation of the building containing the ECC due to fire or threatened loss of communication facilities.

3.1.3 **Set up.** When and under what circumstances activation of the ECC should occur is a vexed issue. It would be ideal if one could establish clear cut guidelines on this, however, the simple fact remains that it is at the discretion

of the Base Commander whether the ECC needs to be established or not. It is a decision which in all probability, will not be made at the time the crash alarm is sounded, but will be delayed until a full assessment of the situation is undertaken by the Base Commander. (Note—the procedures relating to Aircraft Sabotage are treated differently). What can be clearly established is the opening and preparation of facilities in the ECC so that if the need is determined, all that remains is notification to support agencies to respond with appropriate personnel. For all emergencies other than LOCAL STANDBY it is considered appropriate that the agency responsible for set up of the ECC (usually the Base Commander's organisation/Base Aviation Safety Officer (BASO)) opens and prepares the ECC.

3.1.4 **Coordinating Authority.** The BASO will normally be the coordinating authority on behalf of the Base Commander. The list of support agencies is indicative only and should be determined by the local emergency committees.

3.1.5 **Stand Down.** The responsibility for standing down the ECC usually rests with the Base Commander.

Example

FUNCTION. The function of the ECC is to support the Emergency Response Commander.

Depending on the scale of the emergency the Commander may elect to establish and activate the Emergency Coordination Centre.

The Emergency Response Commander will be located at the ECC and will assume overall command of the rescue effort as soon as the ECC is activated.

LOCATION. The location of the ECC is ... A plan of the location is in appendix ...

Depending on the location and scale of the incident, the Emergency/Disaster Plan Coordinator may elect to establish the Regional Emergency Coordination Centre (RECC) at .....

SET UP. The plan for the set up of the ECC is in appendix ... In an emergency situation airfield staff will open and set up the ECC, or if possible the ECC should be a dedicated area which is permanently set up.

COORDINATING AUTHORITIES. The coordinating authority is the BASO. The BASO will be supported by representatives of the following agencies:

- Base Commander's Organisation;
- Defence Aviation Units;
- Fire Section;
- Medical Section/Ambulance Service;
- Airservices Australia/Defence ATC;
- Media Liaison Officer/Public Relations Officer;
- Australian Protective Service/Security Contractors/Service Police;
- Defence Community Organisation; and
- State Emergency Services.

STAND DOWN. The Emergency Response Commander is responsible for stand down of the ECC. Stand down procedures will normally be implemented on a progressive basis as the emergency winds down.

ATTACHMENTS. A plan/map showing the locations of the ECC in respect of surrounding building area together with road/street names should be provided. Another plan showing the layout of the ECC room itself would be beneficial for all support agencies.

3.2 **Forward Command Post (FCP)**

3.2.1 **Function.** Each Airfield will have different staffing arrangements and many will not be operational 24 hours. Emergencies could therefore occur where non-Airfield Headquarters based agencies are first to respond to the scene. Some airfields may be of sufficiently small size such that a FCP is not required unless the accident occurs outside the airfield boundaries.

3.2.2 **Location.** The information given in this section and, in particular siting details, is therefore important to many support agencies as they may find themselves doing the initial set up. For example, siting the FCP upwind and up-slope of the accident site, distance from the site dictated by site hazards (Explosive Ordnance, for example), etc.

3.2.3 **Set up.** Each Airfield will also have different FCP vehicles with varying type and amount of facilities within them. State/Service Police will normally have their own communications vehicle with each organisation responsible for establishing and maintaining internal communications for their own agency.

3.2.4 **Coordinating Authority.** The determination of who should serve as support agencies at the FCP is once again up to the individual emergency committees. Suffice to say the FCP will not operate efficiently if there are too many personnel. Appointed liaison officers must not be diverted from their main role of assisting the Incident Site Commander (ISC) in overall command and control.

3.2.5 **Stand Down.** The responsibility for standing down the FCP usually rests with the ISC in consultation with other agencies. Stand down procedures will normally be implemented on a progressive basis as the emergency winds down.

Example

FUNCTION. FCP refers to the location of the ISC of the major response agencies.

The following agencies will all support the ISC at the FCP at the scene of the emergency:

- Base Command headquarters;
- Fire Services;
- Ambulance/Medical Coordinator; and
- Operating Unit.

The FCP serves as the focus for command and control operations of the combat and support agencies. It is necessary that effective liaison and communication channels be established with the Incident Site Commander and support agencies.

LOCATION. The siting of the FCP will be dictated by the scale and type of incident. An ideal arrangement for siting is in appendix ...

The location of the FCP, in the initial period, will also serve as the location of the ECC, until the ECC is established in the main building area.

The ISC has the discretionary power to relocate the FCP from its initial set up location.

SET UP. It is the responsibility of the emergency response personnel to establish the initial FCP. A mobile FCP vehicle identified by a blue rotating beacon will signify the location of the FCP. The resources available in the vehicle are shown in appendix ....

The FCP should be kept free of non-essential vehicles and personnel. Separate marshalling areas should be established by emergency service agencies.

COORDINATING AUTHORITY. The rescue and firefighting services will hand over to the ISC as soon as the accident site is declared safe. It is then the ISC's responsibility to coordinate the emergency response of all support agencies.

STAND DOWN. The ISC will determine when the stand down should occur. Stand down procedures will normally be implemented on a progressive basis once the situation is under control, all casualties are cleared and recovery is in

hand.

ATTACHMENTS. A plan showing the typical layout of a crash site complete with FCP and casualty processing areas should be provided. It is recommended that the standard ICAO plan be used. If an established Mobile Forward Command Post vehicle is available then a layout diagram of facilities may be included as well.

3.3 **Casualty Processing Area**

3.3.1 **Function.** It is important that certain basic information be provided in this section so that agency personnel not familiar with the Medical Plan will still have an appreciation of how, where, and when casualty processing will be facilitated.

3.3.2 **Location.** The layout should allow for size of the aircraft involved and ensure that congestion does not occur. Actual site conditions will dictate eventual layout but should still encompass the major individual processing areas.

3.3.3 **Set up**. Different medical plans may incorporate varying procedures. This section should reflect details that conform to the individual Medical Sub-Committee requirements and that have been tried and refined through exercises. Consideration should be given to the need for multi-site casualty processing should the crash site extend over a large area or the number of casualties relative to the site conditions dictate a duplication of areas or re-location to a hangar or large shed is warranted. Pre-planning the availability of these areas will ensure the quickest possible response times during a time critical real emergency.

3.3.4 **Coordinating Authority.** The Base Senior Medical Officer (SMO) would normally coordinate activities at the Casualty Processing Area (CPA). However, it maybe that a senior ambulance officer initiates the CPA and acts as coordinator until the arrival of the Medical Officer.

Example

FUNCTION. The aim of the CPA is to facilitate:

- triage assessment;
- classification of passengers according to injuries and sorting into different areas;
- initial first aid/medical treatment; and
- transportation of injured and uninjured to hospitals or Terminal Processing areas.

LOCATION. The CPA is located adjacent to the FCP at least 100 m from the emergency site. As an example, a rotating green beacon could signify the area.

SET UP. Medical Section or the Ambulance Service will normally supervise the setting up of the CPA, including specific areas for:

- Triage/treatment/resuscitation;
- Marshalling Area;
- Transport Area (Buses for the Uninjured);
- Ambulance Loading Area; and
- Helicopter Landing Areas.

COORDINATING AUTHORITY. The SMO in association with the ambulance will coordinate the facilitation of casualty processing. Supporting agencies could include:

- St John Ambulance,
- DCO,
- State Emergency Service, and
- Hospital Staff.

HANDLING OF DECEASED. To allow for correct identification, it is paramount that the deceased are not moved unless absolutely necessary. If bodies are moved, Disaster Victim Identification (DVI) teams require the original position to be photographed, marked and numbered. The DVI team will arrange for temporary morgue facilities to be established on the site and for moving the deceased to the mortuary.

ATTACHMENT. A plan showing a typical layout of the CPA should be provided.

3.4 **Reception Centres**

3.4.1 **Function.** Consideration should be given to all aviation accidents in this section of your plan. An accident on or off airfield will generally necessitate activation of this plan. The accident aircraft may not necessarily have departed from or be enroute to your airfield for anxious friends or relations to be phoning the airfield for information. This phase of an accident will normally be of the longest duration. It may need to be active even after the airfield is again fully operational. In any major aviation accident response, arrangements will be made to ensure sightseers are controlled. Both ‘on-airfield’ and ‘off-airfield’ accidents need to be addressed. Similarly, local plans should address media liaison and contact details. For any aviation accident, assessment should be made to determine if full or partial activation is required. If the accident does not involve your airfield/is off home base, there may only be a requirement to establish visitor/inquiry areas and manned telephones. If the aircraft has departed from or is enroute to your airfield, a higher level of activation would be required. Establishment of reception areas for relatives, welfare services and regular update services throughout terminals could be expected. If the incident is on-airfield/home base, a full activation of this plan and procedures would be necessary. Consideration should then be given to other contingencies such as the anticipated duration, transportation requirements, the need for relief personnel, whether the terminal/Unit headquarters would be required for extended hours by stranded passengers waiting for other flights, anxious relatives, NOK etc

3.4.2 **Location.** When considering areas for the various functions thought should be given to:

- security of the area;
- access/egress;
- size of the area;
- facilities such as seating;
- telephones/facsimiles;
- refreshments etc;
- processes that need to be undertaken within areas such as triage, medical, DVI and welfare;
- wheelchair and stretcher access;
- identification of all persons, including passengers;
- areas for relatives, friends and authorised personnel;
- location and availability of various supplies such as first-aid kits, blankets, stretchers etc; and
- power supply for equipment.

Within your plan and procedures, these areas and areas where equipment is located should be represented on a diagram. Regular announcements on the status of the airfield/accident site should be given to inform all involved personnel.

3.4.3 **Set up.** Each airfield will have different facilities and resources. Normally, an appointed Officer would set up and await the arrival of both the DCO staff as well as Service/State Police.

3.4.4 **Coordinating Authority.** The determination of who should serve as support agencies at the reception areas is once again up to the individual emergency committees. Suffice to say, the reception area will not operate efficiently if there are too many personnel. Appointed liaison officers must not be diverted from their main role of assisting the ISC in overall command and control.

3.4.5 The airfield (runways/airspace) may return to full operations well before the operating Unit. Consideration should be given to the need for passenger/crew/relative processing arrangements on resumption of operations whilst

still carrying out this plan function. As a function ceases to be a requirement, the area should be reinstated prior to being returned to operation.

3.4.6 De-activation should be staged in the same way as activation. It should be expected that enquires and sightseers may continue for days.

3.5 **Media Centre**

3.5.1 **Function.** The function of the media centre is to provide up to date and accurate information to the media. A Media Liaison Officer (MLO) should be appointed to manage the centre and the media. This should assist in minimising other resources needed to control the media. For most Defence bases there will be no discrete media centre on site, rather the MLO/PRO will be located at the ECC.

3.5.2 **Location.** As before, the following should be considered when establishing a media centre:

- security of the area;
- access/egress;
- size of the area;
- facilities such as tables and chairs;
- telephones/facsimiles;
- refreshments; and
- power supply for equipment.

3.5.3 **Set up.** Normally, the Base Commander would provide such a facility and provide for the initial set up.

3.5.4 **Coordinating Authority.** The Base Commander will coordinate media operations.

3.5.5 **Stand Down.** The Base Commander/ISC in consultation with the MLO/PRO will determine when the stand down should occur. It should be noted however, that the media's interest normally continues well after the initial incident is over and consequently the Media Centre could be in operation for a number of days after the event, especially if the event has attracted foreign media interest.

SECTION 4 – OPERATIONAL RESPONSE

4.01 This Section contains detailed information about the operational arrangements for each of the various types of emergencies that may occur. The categories are substantially the same as those in the ICAO Emergency Services Manual and are as follows:

4.1 Activation.

4.2 Airfield Access.

4.3 Local Standby.

4.4 Full Emergency.

4.5 Crash On Airfield.

4.6.1 Crash Off Airfield—Crash on Land.

4.6.2 Crash Off Airfield—Crash on Water.

4.7 Sabotage/Bomb Threat (including buildings).

4.8 Unlawful Seizure.

4.9 Fire/Structural.

4.10 Natural Disaster.

4.11 Medical Emergency.

4.12 Hazardous Material.

4.13 Investigations.

4.0.2 A standard format including headings which are broadly applicable to almost all of the relevant types of emergencies is recommended. The standard format also includes a Call-out Notification Chart which should be developed for each case. The headings and the chart should be adjusted to suit the type of emergency and local arrangements. Additional headings and charts may be required to suit different emergencies.

4.0.3 Readers of Operational Response Arrangements for Security Incidents should be referred to the relevant Department of Transport and Regional Development, Aviation Security Response Arrangements (ASRA) document or the Defence Security Organisation for more complete information.

4.1 **Activation**

One of the most important issues in understanding how the Plan works is the activation sequence. The Plan is self-activating for Local Standby and Full Emergency. However, partial activation of the Plan may be required in other circumstances. An example of an Activation Plan is given below.

Example

Airfield Classification	**DISPLAN Equivalent**	**Warning Agency**	**Action Required**
Local Standby	Alert	ATC	Only RFFS required
Full Emergency			
• Level I	Call Out	ATC	Emergency Services Required
• Level II	Call Out	ATC	Emergency Services Required
• Level III	Call Out	ATC	Emergency Services Required
Crash on Airfield	Call Out	ATC	Emergency Services Required
Crash off Airfield	Call Out	ATC	Emergency Services Required
Unlawful Seizure	Standby	Police	Emergency Services on standby
Bomb Threat	Standby	Police	Emergency Services on standby
Hazardous Material	Call Out	RFFS	Emergency Services Required
Fire	Call Out	RFFS	Emergency Services Required
Natural Disaster	Call Out	RFFS	Emergency Services Required

4.2 **Airfield Access**

4.2.1 The aim of this section is to provide both general information on the location of the airfield, as well as a detailed location of important primary and secondary access gates.

4.2.2 Most emergency support organisations will be well aware of the location of the airfield but few will remember specific gate details. It is important therefore to provide easy to read plans with street/road names wherever possible. Street directory map references can assist in this regard.

4.2.3 The need for secondary access is a contingency that should not be overlooked. It may be necessary for reasons such as:

- providing more direct access to a crash site,
- providing access to primary gate becomes blocked, or
- an emergency occurs at or in the vicinity of the primary gate.

Consideration should be given to the necessity to list all alternative gates or only those that have a capacity to perform efficiently in allowing access of emergency vehicles. Consideration of vehicle length, width and weight, as well as ease of access to major thoroughfares should also be given.

4.2.4 Once emergency service vehicles and personnel arrive at the access point it is important that they know where to go and what to do. The section on the Staging Area should provide details on these items and make specific mention of facilities available at this site. Any specific requirement in respect of progress beyond the Staging Area should be stated here i.e. ‘due to the possibility of aircraft movements all emergency vehicles should not proceed to the movement area without an escort’. Other general comments such as ‘confining operations to hard and sealed surfaces due to the possibility of boggy conditions’ may also be pertinent at particular Airfields. Any other important site specific operational details should be considered.

4.2.5 Depending upon the size and location of an airfield, it is advisable to consider the contingency of choked access roads leading to the airfield. While this may not hinder suitably lit and sirened emergency vehicles, it may prevent key off duty airfield personnel from gaining access.

4.2.6 Pre-planned staff assembly point/s together with specific standard operating procedures regarding identification and escorts will help deal with this possibility.

4.2.7 The inclusion of concise, easy to follow maps/plans is critical. It is recommended that an overall airfield plan showing major roads to/from and key gates be included as well as a smaller scale plan showing the internal road layout and the adjacent building area of the primary access. A third plan showing the layout of facilities at the Staging Area would be beneficial if it is well established.

Example

AIRFIELD LOCATION. The Airfield is in the suburb of ..... approximately ... kilometres from the city of .... with access via two main approaches:

PRIMARY EMERGENCY. An emergency access gate has been nominated ACCESS for primary access to the airside of the airfield/to the Unit. The gate is referred to as Gate ? and is located at…….approximately ... m ..... of the ……..

Permanent red and white direction signs are erected on ..... and ..... Avenues. A flashing red light will be activated at the gate during an emergency incident.

UBD Ref Map ?? – G8.

(See attachment ..... for location).

SECONDARY. Access to an accident site may be through other Emergency Access gates on the Airfield. Information on the access point will be notified to all responding agencies.

STAGING AREA. A Staging Area has been established adjacent to Gate …... Vehicles and equipment will be organised here by the Duty Safety or Security Services Officer in the order they will be required at the emergency site.

Information is continually relayed to agencies at the Staging Area by the Duty Safety or Security Services Officer.

STAFF ASSEMBLY POINT. In the event of a major incident at the airfield, road access to the airfield may be difficult or impossible. In this event, the following arrangements will apply. Staff required at the airfield for emergency or operational duties will report to ……., with valid ID card for escort to the airfield.

Attachments: Overall Plan—Major Roads Closed, Detail Plan, Internal Roads and Set out of Staging Area.

4.3 Local Standby

4.3.1 **Definition.** A condition declared when an aircraft approaching the airfield is known or is suspected, to have developed some defect but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing and thus NOT requiring a response by off airfield agencies.

4.3.1.1 Airfield resources may be placed on 'Local Standby' at the request of the Pilot in Command. Normally, the response to a 'Local Standby' declaration would be from airfield based facilities only (Medical Section, ATC etc), the RFFS and BASO/UASO.

Note: For the purpose of activating an AEP, a PAN call from an aircraft will result in the declaration of not less than a Local Standby.

4.3.1.2 **Declaration.** If a pilot declares that a 'problem' exists and time permits, full communication will be undertaken between the pilot and ATC to ensure the fullest amount of information is known to both parties, thereby allowing for a well informed decision to be taken. ATC will ask, 'Do you wish the airfield to be placed on Local Standby?' If the answer is affirmative, ATC will activate the response by declaring a 'Local Standby'.

4.3.1.3 **Response.** At airfields where there is a fire service, that service will be placed on standby together with such other on-airfield resources as the Base Commander/Unit CO/OC considers appropriate. At an airfield where there is no on-airfield fire service, ATC will state 'There is no on-airfield service at your intended airfield; what services do you require?'. At these aerodromes, the AEC will have negotiated formal agreements with local emergency response agencies, which will ensure that a response commensurate with the seriousness of the situation is provided.

4.3.1.4 The main concern here is to ensure that the response is appropriate. It is notable that, in some states, serious consideration is being given to charging for attendances of civil agencies.

4.3.2 Combat Agency

The airfield rescue and fire service is normally the combat agency for local standby.

4.3.3 Activation

Initiated by Airservices Australia or Australian Defence Force Air Traffic Services. For ADF Airfields operating under CTAF procedures, specific local procedures for activation will need to be produced.

4.3.4 Staging Area

Per local arrangements.

4.3.5 Stand Down

Assembled services will be stood down by ATC in consultation with the pilot and the airfield fire services.

4.4 Full Emergency

4.4.1 Definition

4.4.1.1 A condition declared when it is known that an aircraft approaching the airfield is, or is suspected to be, in such trouble that there is danger of an accident requiring a response from off airfield agencies.

4.4.1.2 'Full Emergency' is declared by either the pilot in command or ATC. In order to provide an initial measured

response, one of the following levels will be used by ATC in declaring the 'Full Emergency' to outside services:

Level I – up to 18 seats	(ATC – Light)
Level II – up to 215 seats	(ATC – Medium)
Level III – up to 560 seats	(ATC – Heavy)

4.4.1.3 **Declaration.** If a pilot declares a 'Mayday' or 'Emergency', ATC will activate a response by declaring a Full Emergency, Level I, II or III, depending on the number of seats in the aircraft type. When the actual number of people on board (POB) is known, ATC will immediately advise responding agencies.

4.4.2 **Combat Agency.** The initial Combat Agency will be the Airservices Australia/Contracted Rescue and Firefighting Service, the ADF or local fire service depending on resources.

4.4.3 **Support Agencies.** Service/State Police, Fire Brigade, Medical Section/Ambulance Service, Base Command Organisation as per local arrangements.

4.4.4 **Activation.** Initiated by Airservices Australia or the Australian Defence Force Air Traffic Services. For ADF airfields operating under CTAF procedures, specific activation procedures will need to be produced.

4.4.5 **Staging Area.** Per local arrangements.

4.4.6 **Control Authority.** Per local arrangements.

4.4.7 **Stand Down.** Assembled services will be stood down by the ISC.

4.5 **Crash on Airfield**

4.5.1 **Definition**

4.5.1.1 An aircraft crash is a self evident situation where an aircraft is seen to crash or is about to crash. This may include an aircraft descending out of control, an aircraft on fire, a mid air collision or an explosion of or on an aircraft.

4.5.1.2 In order to provide an initial response, on of the following levels will be used by ATC in declaring the Crash to outside services:

Level I – up to 18 seats	(ATC – Light)
Level II – up to 215seats	(ATC – Medium)
Level III – up to 560 seats	(ATC – Heavy)

4.5.2 **Combat Agency.** The initial Combat Agency will be the Airservices Australia/Contracted Fire Fighting Service, the ADF or local fire service depending on resources.

4.5.3 **Support Agencies.** Service/State Police, Fire Brigade, Medical Section/Ambulance Service, Base Command Organisation, Medical Services, Hospitals, Coroner as per local arrangements.

4.5.4 **Activation.** Initiated by Airservices Australia or the Australian Defence Force Air Traffic Services.

4.5.5 **Staging Area.** Per local arrangements.

4.5.6 **Control Authority.** Per local arrangements.

4.5.7 **Stand Down.** Assembled services will be stood down by the ISC.

4.6 **Crash off Airfield**

4.6.1 **Crash on Land.** The Base Commander may not have any jurisdiction outside the boundary of the airfield and therefore the Local/State Disaster/Emergency Plans will be used. However, a crash off-airfield may activate a portion of the AEP, (e.g. welfare supporting plans), and will require activation of a UEP, if the aircraft that crashed either originated from, or was inbound to, the Airfield, or was an airfield-based Unit aircraft.

4.6.2 As some elements, such as Airservices Australia, Contractor, or Australian Defence Force RFFS (where established), may respond outside the airfield's boundary, a clearly defined area must be included in the scope of the plan.

4.6.3 **Crash on Water**

Again it should be indicated that the Base Commander/Unit CO/OC may not have any jurisdiction outside the boundary of the airfield and that the Local/State Disaster/Emergency Plans will be used. The Plan however, should indicate who has the control and coordination responsibility for a rescue operation 'in the vicinity' of the airfield.

4.7 **Sabotage – Bomb Threat**

This procedure can be made common for threats against aircraft and those against other airfield facilities if desired.

Example

Definition. A Bomb Threat occurs when a person advises that an explosive device has been or will be placed in an aircraft/Unit or facility. When a threat has been received, it is rapidly assessed as either 'Genuine' or 'Hoax'. Responsibility for threat assessment rests with the Base Commander or their representative.

Aircraft Repositioning. Immediately a bomb threat made against an aircraft on the ground is assessed as 'Genuine', consideration will be given to moving the aircraft to one of the preferred bomb search locations. These locations are shown in appendix ... Alternatively/additionally, a Unit/facility may need to be evacuated.

Unit/Facility Search. When a threat against a Unit/facility is assessed as 'Genuine', consideration must be given to search and/or evacuation. The search may be directed and prioritised by consideration of aspects such as public access areas and high risk targets such as critical infrastructure, public access areas especially toilets and left luggage lockers etc.

Combat Authority. Service/State Police Force, Hazardous Devices Section.

Support Agencies:

- Base Command Organisation.
- Airservices Australia/Defence ATC.
- Airfield Rescue and Fire Service.
- Australian Protective Service/Contracted Security.
- Australian Customs (International A/C only).
- Unit Command.
- Police Forces.
- Ambulance Service.
- Army Bomb Disposal.

Notification. Response to a bomb threat situation is initiated by the Base/Unit Command using Notification Chart No ....

Control Authority. Per local arrangement.

Stand Down. Stand down procedures will be initiated by the Base Commander in consultation with participating agencies.

4.8 **Unlawful Interference**

4.8.1 **Definition.** An aircraft in-flight has suffered unlawful interference when this fact is communicated by the pilot-in-command, either directly, through use of transponders or by use of approved covert signals. ATC may deem an aircraft to have suffered possible unlawful interference if communications cease and unauthorised manoeuvres

occur. Advice of unlawful interference of an aircraft on the apron could also be communicated by apron staff.

4.8.2 **Control.** ATC is responsible for the aircraft while it is in flight, and while it is moving around an airfield under its own power. Police are responsible for the aircraft while it is on the ground at all other times.

4.8.3 **Combat Agency.** Service/State Police will be the initial combat agency, with specialist police units being called upon as needed. The responsible Commander has the ultimate option of requesting Defence assistance such as the Special Air Service Regiment, which could be utilised to support the police in resolving the incident.

4.8.4 **Support Agencies:**

- Base Command Organisation.
- Airservices Australia/Military ATC.
- Airfield Rescue and Fire Service.
- Australian Protective Service/Contractors/Service Police.
- Australian Security Intelligence Organisation.
- Australian Customs Service (international a/c only).
- Unit Command.
- Ambulance service.

4.8.5 **Notification.** Response to a unlawful interference of an aircraft is normally initiated by the pilot-in-command.

4.8.6 **Control Authority.** As per local arrangements.

4.8.7 **Stand Down.** Stand down procedures will be initiated by the Base Commander in consultation with participating agencies.

4.9 **Fire/Structural**

4.9.1 **Definition.** An airfield ground or structural fire is a situation where a grass or scrub fire starts on, or comes onto the airfield, or a building catches fire.

4.9.2 **Combat Authority.** Airservices Australia/Defence ATC or military RFFS where established with the assistance of the state fire authority as appropriate.

4.9.3 **Support agencies.** State fire brigade, Base Command Organisation, Unit Command, State police. Activation Response to an airfield ground or structural fire will be initiated by the RFFS (or appropriate authority). The notification chart is found at page ....

4.9.4 **Control Authority.** Service/State Police.

4.9.5 **Stand Down.** Authorised by the Service/State police in consultation with the RFFS and State fire brigade.

4.10 **Natural Disaster**

4.10.1 **Definition.** Natural disasters identified as possible hazards on .... airfield are: storm and tempest; earthquake. The prime consequences of both events would be structural damage to airfield buildings and facilities (including movement areas). The effects of a natural disaster of the magnitude to cause an emergency on ... airfield/at Unit would unlikely be isolated to the airfield. Therefore, airfield support agencies should expect that an emergency service response would be limited in the early stages of the emergency.

4.10.2 **Combat Agency.** The Base Commander with support from EMA, State Emergency Services and Service/State Police. Activation by the Base Commander using notification charts on pages ...

4.10.3 **Stand Down.** The State Police.

4.11 **Medical Emergency**

As this section is specialised and dependent on a number of variables, guidance is not provided. This section of the AEP must be completed in consultation with local medical services.

4.12 **Hazardous Materials**

4.12.1 **Definition.** A hazardous material incident is an incident where a container holding a hazardous material has been broken or is suspected of being broken: Hazardous materials may include radioactive material, biological substances and chemical materials. A range of hazardous materials is regularly transported by air through ... airfields and may be in transit or stored at the airfield.

4.12.2 **Combat Authority:**

- Radioactive and biological materials—Health Department/DAFS/DSMA.
- Chemical materials—State Fire Brigade/DAFS/DSMA.
- Aircraft fuel spill—Base Command Organisation or RFFS.

4.12.3 **Support Agencies.** Airfield RFFS, State Fire Brigade, Base Command Organisation, EPA, Health Department/DSMA/DAFS, Service/State Police. Activation and response will be initiated by the RFFS (or appropriate authority). The notification charts are found at page ...

4.12.4 **Control Authority.** May be exercised by the Base Commander, RFFS, Service Police or Medical Section depending on the spill involved.

4.12.5 **Stand Down.** Authorised by the combat authority.

4.13 **Investigations**

4.13.1 Following an emergency at ... airfield, investigations will be required. Until preliminary investigations, at least, have been completed, it is unlikely that the Base Commander, Unit CO/OC or higher command will be able to commence removal of wreckage or clean up operations.

4.13.2 **Investigation Agencies.** The following agencies will have a statutory responsibility to investigate the cause of the emergency:

a. Defence Flight Safety Bureau – in the event of an emergency involving a military aircraft.

b. ATSB – in the event of an emergency involving a civil aviation accidents.

c. State Coroner/State Police – in the event of an emergency involving a death or serious injury.

d. Comcare – in the event of an emergency with WHS implications for Defence or other personnel.

e. DITRD AVSEC/State Police – in the event of an emergency involving unlawful seizure or bomb detonation.

4.13.3 **Activation.** The investigation is automatically activated as soon as an accident occurs. Notification charts at page ... assume that each organisation will notify a recovery representative from within their respective organisations. Assembly—the assembly areas for investigation teams is ...

4.13.4 **Control.** The Service/State Police (depending on accident location) will control access to the incident site after all critical rescue operations have ceased.

4.13.5 **Stand Down.** Each individual agency will arrange the stand down of their own investigation staff.

4.14 **Crowd Control.** Plans for crowd control must be considered depending on the airfield's size. It may be necessary to use State Police or contractors for this task. This aspect needs to be carefully considered by the local AEC.

SECTION 5—RECOVERY

5.1 Management—General

5.1.1 It is essential that the need for recovery operations is assessed and planned during the early stages of an emergency response operation. The responsible agency must be nominated.

5.1.2 All Airfield agencies/Units should prepare contingency plans to cope immediately with the loss of all or part of a facility, including but not limited to air movements terminals, cargo/freight facilities, fuel facilities, road access, administration buildings and computer facilities.

5.1.3 If required, provide a Terms of Reference and Membership eg Aviation Units, Airservices Australia/Defence ATC, Base Command, DFSB. Subject to clearance by the investigating teams, the custodian of the aircraft/facility is responsible for the removal of wreckage and clean up of facilities. The custodian is also responsible for the removal and disposal of fuel and hazardous materials.

5.1.4 Once the investigation and removal of wreckage/clean up are completed, the next stage of the recovery phase is to bring the airfield back to full operational status in a safe, efficient and orderly manner.

5.2 Return to Operational Status

The following tasks may be required prior to return of the Airfield to full operations.

5.2.1 **Airfield Inspections:**

a. **Definition.** Inspection of Airfield manoeuvring areas, aprons, aircraft navigation facilities and airfield lighting to determine the damage, if any, resulting from the emergency.

b. **Control.**

c. **Activation.**

d. **Support Agencies.**

5.2.2 **Return to Restricted Aircraft Operations:**

a. **Definition.** Return to restricted aircraft operations means the re-commencement of some aircraft operations using those parts of the airfield manoeuvring areas that are not affected by the emergency or the rescue operations. This activity is undertaken with extreme care so as not to endanger any emergency personnel or hinder the emergency rescue and initial recovery operation.

b. **Control.**

c. **Activation.**

d. **Support Agencies.**

5.2.3 **Return to Unrestricted Aircraft Operations:**

a. **Definition.** Return to unrestricted aircraft operations means the re-commencement of normal aircraft operations.

b. **Control.**

c. **Activation.**

d. **Support Agencies.**

5.2.4 **Airspace Closure**

The ADF does not have the legal authority to close airspace beyond its area of responsibility. Should an accident occur outside of military Restricted airspace, consideration should be given to the creation of a Temporary Restricted Area (TRA) to enable access for emergency aircraft whilst denying access to non-essential aircraft. The TRA requires consultation and coordination with the HQJOC Joint Airspace Control Cell and CASA to promulgate a Notice To Airmen (NOTAM). This should be initiated through the nearest 44 Wing Air Traffic Control (ATC) Detachment Commander.

- **Airspace Closure (Airfield Control Zone).**
- **Control Authority.**
- **Activation.**
- **Coordinating Authority.**

5.3 **Critical Incident Stress Program**

5.3.1 Most agencies will have, within their own procedures, systems to deal with critical incident stress management of their own staff. There is, however, a need to detail the control, co-ordination, activation and stand down procedures for those other agencies staff and personnel involved, but not otherwise covered.

5.4 **Post Trauma Management**

5.4.1 All agencies are responsible for providing a critical incident stress management programme for their staff. For some time after the emergency, emergency service personnel, victims, NOK, relatives and the public may wish to visit the accident site.

5.4.2 The Base Commander should make a suitable area available for these people and issue details to all airfield personnel so that they can give necessary directions.

5.4.3 Base Commanders should supervise these areas to ensure that assistance can be made available if any of these people are distressed and to avoid any possible disruption to other airfield operations. Provision of amenities must be considered.

5.5 **Security Control:**

a. **Definition.** Returning the airfield to normal operations will require the gradual handing back of control of the airfield and security to the normal agencies.

b. **Control.**

c. **Activation.**

d. **Support Agencies.**

e. Tasks to be undertaken include:

(1) audit of security on the area(s) where operations will be resumed;

(2) isolation of area(s) still affected by the rescue or recovery activities;

(3) resumption of perimeter access control by the Base Commander;

(4) resumption of terminal access controls; and

(5) setting up of systems to provide access to emergency sites by essential personnel, including those not already holding an ADF Identity Card.

SECTION 6 – SUPPORTING PLANS

Supporting plans are used when a subject is complex enough to warrant its own sub-plan or when only a portion of the AEP may be activated, such as welfare, Unit evacuation etc. Examples of sub-plans are listed below:

6.1 RECOVERY OF DISABLED AIRCRAFT PLAN

Introduction

6.1.1 **Aim.** The aim of the Recovery of Disabled Aircraft Plan is to provide for the co-ordinated response of agencies to quickly and safely remove an aircraft which has caused the temporary closure of a runway or taxiway.

6.1.2 **Management Arrangements:**

a. **Roles and Responsibilities.** The plan must nominate the roles and responsibilities for the following:

(1) Base Command organisation;

(2) Operating Unit Command;

(3) Service/State Police;

(4) DFSB /ATSB;

(5) DASA; and

(6) Airservices Australia/Defence ATC.

b. **Control.** The controlling agency shall be nominated.

c. **Plan Review.** A review of the Recovery of Disabled Aircraft Plan is to be conducted:

(1) following activation of the plan, and

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.1.3 **Operational Response.** The Recovery of Disabled Aircraft Plan for an immobilised aircraft is activated by the ATC or the pilot-in-command of the aircraft or, following an emergency (eg crash or security incident), the Plan is activated by the Base Commander, Unit CO/OC or BASO.

a. **Call Out.**

b. **Combat Agency—the Unit CO is the combat agency.**

c. **Access.**

d. **Assembly Area.**

e. **Stand down.**

6.2 CARE OF THE UNINJURED PLAN

6.2.1 Introduction

Aim. The aim of the Care of the Uninjured Plan is to provide the co-ordinated response of agencies in the shortest possible time to remove the uninjured and/or slightly injured passengers and crew from the emergency site and provide them with care and comfort.

Scope. The scope of Sub-plan must be detailed.

6.2.2 Management Arrangements:

a. **AEP Welfare Subcommittee.** Detail Terms of Reference and Membership.

b. **Roles and Responsibilities.** The roles and responsibilities for the following must be nominated:

(1) Base Commander/Air Movements/Unit;

(2) Service/State Police;

(3) Medical Teams;

(4) Ambulance; and

(5) Disaster Welfare Coordinator.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Care of Uninjured Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.2.3 **Response Facilities.** Nominate locations, access arrangements and alternatives for:

a. Passenger Reception Area,

b. Reconciliation Areas, and

c. Staging Area.

A diagram showing these locations should be included in the plan where possible.

6.2.4 **Release of Victims from the Passenger Reception Centre.** Consideration needs to be given to arrangements for the release for victims from the Passenger Reception Centres as follows:

a. reconciliation with relatives,

b. victims without waiting relatives, and

c. victims waiting for other victims.

6.2.5 **Operational Response:**

a. **Activation.** This section must nominate the activator for the plan. Suggested activation is as follows:

(1) The Care of the Uninjured Plan is automatically activated when the emergency response to an aircraft crash is activated. The agencies involved in the plan are placed on standby in the event of activation of the following plans:

(a) full emergency,

(b) crash on-airfield, and

(c) crash off-airfield.

b. **Call Out.**

c. **Stand Down.**

6.3 **CARE OF RELATIVES PLAN**

6.3.1 **Introduction:**

a. **Aim.** The aim of the Care of Relatives Plan is to provide the co-ordinated response of given agencies to assist the friends and relatives of uninjured survivors, who are in attendance at the airfield following an emergency.

b. **Scope.** In this section you must detail the scope of the Sub-plan.

6.3.2 **Management Arrangements:**

a. **AEP Welfare Subcommittee.** Refer Care of the Uninjured Plan.

b. **Roles and Responsibilities**. The roles and responsibilities for the following must be nominated:

(1) Base Commander/Air Movements/Unit;

(2) Service/State Police;

(3) Disaster Welfare Coordinator; and

(4) Other Agencies.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Care of Relatives Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.3.3 **Response Facilities.** Locations, access arrangements and alternatives for the following must be nominated:

a. Relatives Reception Centre(s); and

b. Staging Area.

6.3.4 **Operational Response:**

a. **Activation.** The activator and timing for activation of the Sub-plan must be nominated. Suggested activation is as follows:

(1) The Care of Relatives Plan is automatically activated when the emergency operational response to the following emergencies is activated:

(a) aircraft crash on-airfield;

(b) aircraft crash off-airfield provided the aircraft originated from or was destined for the airfield; and

(c) the agencies involved in the Plan are placed on standby in the event of activation of the emergency plans for full emergency or unlawful seizure.

6.5 **MEDIA HANDLING PLAN**

6.5.1 **Introduction:**

a. **Aim.** The aim of the Media Handling Plan is to provide the media with accurate and timely information and to quell the potential for adverse publicity.

b. **Scope.** The scope of the Sub-plan must be nominated.

6.5.2 **Management Arrangements:**

a. **Roles and Responsibilities.** The roles and responsibilities must be nominated for the following:

(1) Base Commander;

(2) Defence MLO/PRO;

(3) Unit Comamnd;

(4) Service/State Police; and

(5) Other Agencies.

b. **Control.** The controlling agency must be nominated.

c. **Plan Review.** A review of the Media Handling Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.5.3 **Response Facilities.** The locations, access arrangements and alternatives must be nominated for the following:

a. Media information area(s); and

b. Staging Area.

6.5.4 **Operational Response:**

a. **Activation.** The activator and timing for activation must be nominated. The Media Handling Plan is automatically activated when the following emergency responses are activated:

(1) Full Emergency;

(2) Crash on-airfield;

(3) Unlawful Seizure;

(4) Bomb Threat (genuine only);

(5) Hazardous Material Emergency; and

(6) Natural Disaster.

b. The Media Handling Plan is placed on standby when there is an off-airfield crash.

c. **Call Out.**

d. **Stand Down.**

6.6 **AIR MOVEMENTS/UNIT EVACUATION PLAN**

6.6.1 **Introduction:**

a. **Aim.** The aim of the Air Movements/Unit Evacuation Plan is to provide for the coordinated response of given agencies to quickly and safely evacuate Air Movements/a Unit during an emergency.

b. **Scope.** The Air Movements/Unit Evacuation Plan details the arrangements for the control and coordination of the evacuation. It should be noted than an evacuation will most likely occur in response to an emergency such as a building fire or security incident. These emergencies will have their own management structures and combat authority, etc, and the evacuation Plan includes arrangements to link the two concurrent operations.

6.6.2 **Management Arrangements:**

a. Detail the Terms of Reference and Membership of the Air Movements/Unit Evacuation Subcommittee.

b. **Roles and Responsibilities.** The roles and responsibilities must be nominated for the following:

(1) Base Command organisation/Unit Command;

(2) Home-base Units;

(3) Service/State Police;

(4) Commercial Tenants; and

(5) Fire Services.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Air Movements/Unit Evacuation Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.6.3 **Response Facilities.** The locations and access arrangements must be nominated for the following:

a. Fire Control Room,

b. Sprinkler Valve Room, and

c. any other critical engineering facilities.

6.6.4 **Operational Response:**

a. **Activation.** The activator and timing for activation must be nominated. Suggested activation is as follows:

(1) All or part of the Air Movements/Unit Evacuation Plan is activated by the Base Commander when the operational response to the following emergencies is activated:

(a) fire in Air Movements/the Unit;

(b) a genuine bomb threat or detonation;

(c) an unlawful seizure emergency;

(d) natural disaster; or

(e) hazardous material incident.

(2) The agencies involved in the Plan are placed on standby in the event of:

(a) a fire alarm in Air Movements/the Unit, or

(b) during the assessment phase of a bomb threat in the terminal.

(3) **Call Out.**

(4) **Combat Agency.**

(5) **Stand Down.**

6.6.5.1 **Areas of Responsibility for Wardens.** If applicable, wardens are to be detailed together with their areas and hours of operation:

a. Head Warden,

b. Deputy Head Wardens,

c. Area Wardens, and

d. Areas without Wardens.

APPENDIX A – AIRFIELD RESOURCES INCLUDING COMMUNICATIONS

Aim

To identify immediate resources available on site that can be brought into service at short notice.

General

To ensure all available resources are identified and are available to assist all other sub plans.

Activation

- assessment
- type of incident
- authority

Response

- timing
- internal/external

Recovery

- relief of resources
- adequacy of resources
- return to operations

De-activation

- assessment of Airfield status
- assessment of required resources

Some of the airfield resources to be considered include human resources, plant and equipment, facilities, communications (including portable), power supply, lighting/shelter and emergency (first aid) equipment. Resources identified within the plan should not be confined to those available on-airfield. The plan should identify tenant's resources and those off-airfield. Off-airfield resources could include construction companies, hire companies, government authorities etc.

Resources to be considered may not necessarily be associated with the initial response, but may be required for recovery of aircraft/facility and for repairs to enable return to operations.

A special consideration should be human resources, as in an emergency situation, relief for initial responders may be required if the plan will be active for an extended period. Resources not directly involved may be of assistance for different functions eg. Unit headquarters staff, office staff, government agencies (EMA, Comcare) etc.

The authority to activate and utilise these resources shall be clearly defined. This will enable a shortened response time.

Resources should be categorised (PLANT AND EQUIPMENT, HUMAN RESOURCES, FIRST AID, COMMUNICATIONS etc) and presented as an inventory as an appendix of the plan. The inventory should include numbers, location and response time.

Resource lists can never be exhaustive as they also tend to be a prompt for those in charge of the operation.

Miscellaneous items such as catering, hire of mobile phones, transport and accommodation should also be considered.

As an additional appendix to either the resources or communications sub-plan, contact points for on-airfield and outside resources should be included. As an aid for on-airfield resources, a plan showing the location of resources and facilities may be of benefit.

At this assessment point it is imperative that it is understood who has the authority to activate these resources. Dependent on the type of incident or standby a number of resources may be required to be activated. Consideration should always be given to the response time of any potentially required resource.

When the situation exceeds the resources on-airfield outside resources will be required. As airfield management will not always have control of the availability of these resources, early standby notice should be considered. The response time of resources at this point will become critical to the length that this plan will remain active.

Recovery is normally left to the last minute or at the end of a situation. Recovery planning should commence at the same time as initial response. Whether it be the clearing of discarded equipment, organising of disabled aircraft recovery equipment or arranging for relief staff. Earlier activation of this phase will generally lead to an earlier return to operations and a lesser impact on the airfield.

Deactivation may consist of standing down various pieces of equipment not required or at completion of a task. This plan may well remain active beyond the airfield returning to full operations.

Properly prepared and coordinated communication arrangements are vital to correct an effective activation of the airfield plan. Timely contact of the right agencies/people will ensure the best response to any airfield emergency. A pro forma example of the Communications Section is provided for planning purposes. Explanatory notes on each of the sub-sections of the Communication plan are given below.

Emergency Call-out Charts

You may consider producing different charts for different emergencies if there is a significant difference in the call out procedures in particular emergencies. In most cases, the one chart will suffice with the level of call out depending on the size, nature etc of the particular emergency.

Important things to note in Call-out Chart preparation are:

- Do not overload the one agency with a large number of people to contact:
- Each phone call takes time and therefore could cause delays. Have a stepped contact system. This will reduce overall call-out time and build an informal confirmation process.
- The call-outs should be shown in a priority order in each area to match local state arrangements.
- Ensure Outside Agencies are given a high priority as it may take outside agencies longer to get there.

Airfield Communication Facilities

This area should contain all communications facilities that will be available during an emergency. Items like emergency field phone location, pre-wired telephone points, Telstra Distribution/Junction boxes etc should be recorded for urgent reference. Any of the items in this Section can be either listed with a Map reference or shown on a Map of the airfield.

Telephones

(i) Field Telephone Locations.

(ii) Pre-wired emergency telephone points. For example, EOC, Specific Buildings, Specific Field.

(iii) Telstra Distribution Line Box—box locations.

(iv) Mobile Telephone holders (Airfield/Base Command, BASO/UASO/Unit CO/OC Airservices Australia/Defence ATC, other employees etc).

(v) Land line telephone availability.

Radios

(i) Two way radio users on-airfield (list various agencies).

(ii) Radio repeater towers on-airfield.

(iii) Different frequencies used on-airfield (if available).

(iv) Availability of emergency supply of portable radios.

(v) Specific frequencies set aside for emergency use.

(vi) Frequencies used by civil agencies, and compatibility with ADF agencies.

Communication Vehicles

(i) Mobile Field HQ vehicle.

(ii) Vehicles that have mobile communications facilities.

Public Address Systems

(i) Availability and coverage.

Testing Communications

The Base Commander should ensure regular inspection and maintenance of the emergency telephone network, as well as other radios, mobile telephones etc.

APPENDIX B – TELEPHONE CONTACTS

Emergency Telephone Contact Lists

Listing telephone numbers in an appendix assists in the amendment program. Telephone numbers will be the most common change to the Plan and thus if listed in a concise format as an appendix this will make the process easier. It is recommended that the appendix section of the Plan be placed on a restricted distribution list to ensure that only those who need to know, have private and sensitive numbers.

This list can be broken up into different sections i.e. on Airfield Agencies/facilities, Emergency Services and other outside Agencies, Airlines, etc or it can be one continuous list. It can also be in priority order or preferably alphabetical order for each section.

The reference number is used on the Call-out Charts to enable quick cross reference to the appropriate person/agency and their contact number. The contact list should contain not only the main or first contact number but also a second or back up contact number.

(This could be another number in same office, pager no, Mobile telephone no, etc.)

The agencies etc listed in the pro forma are examples and the contact list needs to be varied to meet your local and State arrangements. This list can be as long/short as necessary but must cover all the Prime Agencies. This list should be updated and confirmed regularly (monthly preferable). The following example listing is not in any order of priority nor exhaustive.

Ref No	Agency	Ph No	2nd No	Mobile	Time
1.	ATC Detachment Commander				
2.	Base Commander				
3.	Base Aviation Safety Officer				
4.	Unit Operations/Unit CO/OC/UASO				
5.	Wing/regiment commander (OC WG/Regt CO)				
6.	FEGCDR				
7.	Australian Protective Service/Service Police				
8.	Rescue and Firefighting Services				
9.	Airservices Australia/Military ATC				
10.	Air Movements Section				
11.	Chaplain/DCO				
12.	Australian Custom Service				
13.	DFSB/ATSB				
14.	Quarantine				
15.	Dept. of Immigration				
16.	CASA Airworthiness/DGTA–ADF				
17.	State/Service Police				

18.	Fire Brigade				
19.	Medical Section/Ambulance				
20.	State Emergency Service				
21.	Community Services/DCO				
22.	Red Cross				
23.	State Coroner				
24.	Bureau of Meteorology				
25.	Telstra				
26.	Health and Medical				
27.	St John Ambulance				
28.	Foreign Affairs				

APPENDIX C – PLAN DIAGRAMS

Again as with telephone numbers, maps and charts and lines of communication may change from time to time and thus for ease of amendments an appendix seems the best option.

It should be remembered that the Plan is an all encompassing document and that call-out charts, whilst in the Plan, will most likely also be adjacent to telephones or positions most likely to need them.

Remember the three levels; the Plan, the Procedures and then Individual Instructions.

APPENDIX D—CORRECTIONS SHEET

Proposals for an amendment or addition to the contents of the _____ Airfield Emergency Plan should be entered below and forward to:

The Secretary
Airfield Emergency Committee
_____ Airfield

The following change is proposed to the _____ Airfield Emergency Plan:

Signed: _____

Name:_____

Command/Unit: _____

Date:_____

SAMPLE UNIT EMERGENCY PLAN

NOTE

- This annex refers to Unit Emergency Plans only. For Airfield Emergency Plans, refer to annex B.

A glossary is mandatory and a suggested minimum is included in Section 3 Chapter 10, Annex A. The standardisation of terminology is of prime importance and thus wherever possible additional definitions and abbreviations should be obtained from Defence Flight Safety Bureau (DFSB), International Civil Aviation Organisation (ICAO) or Airservices Australia, Emergency Management Australian (EMA) or Civil Aviation Safety Authority (CASA) documentation.

SECTION 1 – INTRODUCTION

1.1 Aim

The aim of _____ Unit Emergency Plan (UEP) is to provide a timely and coordinated response for rescue and recovery to an emergency involving Unit aircraft/personnel during operations at home base or whilst on deployment. This UEP needs to support and comply with FEG/wing/regiment emergency plans and AEPs published at the home base and deployed bases.

For prolonged operations at deployed bases a specific UEP for operations at that base will be issued, if required.

This instruction provides broad guidance for unit personnel and assigns to specific Unit appointments, tasks to be conducted in the event of an aviation accident or incident.

1.2 Scope

1.2.1 This UEP details the arrangements for control and coordination of the response to and initial recovery from an emergency involving Unit aircraft/personnel during operations at home base and whilst on deployment. This UEP applies to all personnel posted to, attached to, or on temporary duty with the Unit.

1.2.2 This Plan is based on the assumption that each agency with a statutory role has in place appropriate supporting Emergency Plans (or Standing Instructions) which deal with that agency's response.

1.2.3 The scope of the Plan needs to define the area of operations, with a map if appropriate.

1.3 Authority

1.3.1 Detail all legislation/Defence Instructions/Standing Instructions/Emergency Plans pertinent to the Unit including any specific State/Territory legislation that may be appropriate.

SECTION 2 – MANAGEMENT ARRANGEMENTS

This section should set out clearly:

a. How the plan was derived,

b. What are the general roles and responsibilities of participating personnel,

c. Arrangements for plan maintenance, and

d. Arrangements for deployed bases.

2.1 Unit Emergency Committee (UEC)

2.1.1 Membership

The composition of the UEC and its terms of reference should be detailed. The UEC must consist of representatives of all personnel expected to be involved in responses under the plan. The first step should be to determine what arrangements for integrated emergency management already exist external to the Unit.

2.1.2 **Terms of Reference**

Terms of Reference for the UEC must include the authority to plan, the planning aim, and planning assumptions. They should include the requirement for the Committee to view and approve plans and procedures, which support the main plan. They could also include detail of how often the UEC should meet, and they could even outline how the plan is to be formulated. Terms of Reference can be decided by the UEC itself, or by the Unit CO/OC.

2.2 **Roles and Responsibilities**

2.2.1 Despite the variety of events, which could trigger a full or partial activation of the UEP, there are certain roles and responsibilities, which will not basically change. The personnel that typically should be included here are the Operations Officer, Duty Pilot/Supervisor, UASO, UMASO, Safety Liaison Officer, SENGO/SMM, CO, ADMINO and other aircrew. Other units that may be included in the UEP could be the Base Photography Section for example.

2.2.2 It can be helpful to users, in understanding the overall concept of the plan, if roles and responsibilities of participating personnel are outlined in general terms in this section (Management Arrangements) of the document. The types of duties should include recall, notification, recording, reporting, impounding, liaising, counselling, commanding and controlling. Requirements to provide personnel to man the Airfield ECC as part of the relevant AEP should be included. Checklists for the responsibilities of participating personnel should be included as an annex.

2.2.3 The personnel whose roles and responsibilities can be stated in this section of the plan should have representation on the UEC.

2.3 **Plan Overview**

2.3.1 An explanation and diagrammatic representation showing the control and coordination links between the various functional areas (Forward Command Post, Emergency Coordination Centre and Unit Operations Desk) can be helpful in outlining the ‘concept of operations’ of the plan. An explanation of how the plan works in broad terms is useful in giving responders a perspective on their part played in emergency response.

During emergencies, quick reference to particular sections is enhanced, because the ‘big picture’ is understood and detail or repetition in particular sections can be reduced.

2.4 **Control and Coordination**

2.4.1 You should outline which agency/position has the control and which agency/position has the coordinating role for emergencies.

2.5 **Plan Review**

2.5.1 Details of how the plan is to be reviewed, tested, amended etc, should be included here. There are mandatory requirements, which must be accommodated, but these are a minimum and if the UEC sees a need to increase these, they should state the extra requirements.

2.5.2 When conducting a review, either after a full or partial activation, because of either a real event or an exercise, the UEC should examine each salient point for applicability and suitability, and determine if improvements can be made to the response arrangements. Results of these examinations need to be promulgated to all concerned and the plan amended accordingly.

2.5.3 How often other than after exercises, and actual activation of the UEP will the UEP (and procedures) be reviewed, together with how results will be promulgated, should be listed here, i.e. review every 12 months.

2.5.4 Detail who is responsible for producing amendments, how changes to detail should be notified, how amendments will be accounted for to ensure all agencies have current copies of the UEP.

2.5.5 Detail how any suggestions to the plan from interested persons/agencies can be handled at committee level.

2.5.6 The plan may require changes to detail such as telephone numbers, personnel, contact details, resource lists etc, to be notified to the UEC as soon as known, and amendments issued as soon as practicable.

2.6 **Exercises**

2.6.1 Exercising of various components of the plan is essential. The aim should be frequent, low cost exercises of portions of the Plan such as activation charts, communications etc. Exercises can be 'table top' of varying sizes and complexity, involve actual deployment of resources, be simple or complex. They should, other than mandatory requirements, be aimed at those aspects that require training.

SECTION 3 – EMERGENCY RESPONSE FACILITIES

3.1 **Unit Emergency Control Centre (Unit ECC)**

3.1.1 **Function.** It is up to the Unit CO/OC whether a Unit ECC is required and some prior consideration of facility requirements should be given.

3.1.2 **Location.** The Unit ECC is usually the Operations Desk. It is up to the individual UEC guided in the main by the CO/OC to determine if and where the Unit ECC is to be located. Consideration of an alternative Unit ECC location should also be given as the nominated primary Unit ECC maybe unavailable owing to such things as evacuation of the building containing the Unit ECC due to fire or threatened loss of communication facilities.

3.1.3 **Set up.** Describe how the room should be set-up, location/use of phones, radios etc.

3.1.4 **Coordinating Authority.** The Duty Supervisor will normally be the coordinating authority on behalf of the Unit CO/OC. Include a list of other personnel in this room and any restricted entry requirements.

3.1.5 **Stand Down.** The responsibility for standing down the Unit ECC usually rests with the Unit CO/OC.

Example

FUNCTION. The function of the Unit Emergency Coordination Centre (ECC) is to support the Base ECC and Incident Site Commander (ISC) in the Forward Command Post (FCP).

Depending on the scale of the emergency the Duty Supervisor may elect to establish and activate the Unit ECC.

The Duty Supervisor will be located at the Unit ECC and will assume overall command of the unit effort as part of any larger rescue effort as soon as the Unit ECC is activated.

LOCATION. The location of the Unit ECC is ... A plan of the location is in appendix ...

SET UP. The plan for the set up of the Unit ECC is in appendix ... In an emergency situation unit staff will open and set up the Unit ECC, or if possible the Unit ECC should be a dedicated area which is permanently set up.

COORDINATING AUTHORITIES. The coordinating authority is the Duty Supervisor. They will be supported by the following personnel:

- Operations Officer;
- Unit Aviation Safety officer;
- Administration Officer; and
- Unit Media Liaison Officer/Public Relations Officer.

STAND DOWN. The CO/OC is responsible for stand down of the Unit ECC. Stand down procedures will normally be implemented on a progressive basis as the emergency winds down.

ATTACHMENTS. A plan/map showing the locations of the Unit ECC in respect of surrounding building area together with road/street names should be provided. A plan showing the layout of the Unit ECC room itself would be beneficial for all support agencies.

3.2 **Forward Command Post (FCP)**

3.2.1 **Function.** Each Unit will have different staffing arrangements and many will not be operational 24 hours. Emergencies could therefore occur where non-Unit based agencies are first to respond to the scene. The Unit may provide no support to the FCP or may provide a liaison officer if available and requested by the ISC.

3.2.2 **Location.** Location for the FCP should be obtained from the relevant AEP.

3.2.3 **Set up.** Set up for the FCP should be obtained from the relevant AEP.

3.2.4 **Coordinating Authority.** The coordinating authority for the FCP should be obtained from the relevant AEP.

3.2.5 **Stand Down.** Stand down procedures will normally be implemented on a progressive basis as the emergency winds down.

Example

FUNCTION. Forward Command Post (FCP) refers to the location of the ISC of the major response agencies.

The following agencies will all support the Incident Site Commander at the FCP at the scene of the emergency:

- Base Command headquarters;
- Fire Services;
- Ambulance/Medical Coordinator; and
- Operating Unit.

The FCP serves as the focus for command and control operations of the combat and support agencies. It is necessary that effective liaison and communication channels be established with the ISC and support agencies.

LOCATION. The siting of the FCP will be dictated by the scale and type of incident. An ideal arrangement for siting is in appendix ...

The location of the FCP, in the initial period, will also serve as the location of the Airfield Emergency Coordination Centre, until the Airfield ECC is established in the main building area.

The ISC has the discretionary power to relocate the FCP from its initial set up location.

SET UP. It is the responsibility of the emergency response personnel to establish the initial FCP. A mobile FCP vehicle identified by a blue rotating beacon will signify the location of the FCP. The resources available in the vehicle are shown in appendix ...

The FCP should be kept free of non-essential vehicles and personnel. Separate marshalling areas should be established by emergency service agencies.

COORDINATING AUTHORITY. The rescue and fire fighting services will hand over to the ISC as soon as the accident site is declared safe. It is then the ISC's responsibility to coordinate the emergency response of all support agencies.

STAND DOWN. The ISC will determine when the stand down should occur. Stand down procedures will normally be implemented on a progressive basis once the situation is under control, all casualties are cleared and recovery is in hand.

ATTACHMENTS. A plan showing the typical layout of crash site complete with FCP and casualty processing areas should be provided. It is recommended that the standard ICAO plan be used. If an established Mobile Forward Command Post vehicle is available then a layout diagram of facilities may be included as well.

3.3 **Casualty Processing Area**

3.3.1 This section is usually for Airfield Emergency Response Plans only.

3.4 **Reception Centres**

3.4.1 **Function.** Consideration should be given to all aviation accidents in this section of your plan. An accident on or off airfield will generally necessitate activation of this plan. The accident aircraft may not necessarily have departed from or be enroute to your airfield for anxious friends or relations to be phoning the unit for information. This phase of an accident will normally be of the longest duration. It may need to be active even after the unit is again fully operational. In any major aviation accident response, arrangements will be made to ensure sight-seers are controlled. Both 'on-airfield' and 'off-airfield' accidents need to be addressed. Similarly, local plans should address media liaison and contact details. For any aviation accident, assessment should be made to determine if full or partial activation is required. If the accident does not involve your airfield/is off home base, there may only be a requirement to establish visitor/inquiry areas and manned telephones. If the aircraft has departed from or is enroute to your airfield/home base, a higher level of activation would be required. Establishment of reception areas for relatives, welfare services and regular update services could be expected. If the incident is on-airfield/home base, a full activation of this plan and procedures would be necessary. Consideration should then be given to other contingencies such as the anticipated duration, transportation requirements, the need for relief personnel, anxious relatives, NOK etc.

3.4.2 **Location.** When considering areas for the various functions thought should be given to:

- security of the area;
- access/egress;
- size of the area;
- facilities such as seating;
- telephones/facsimiles;
- refreshments etc;
- processes that need to be undertaken within areas such as triage, medical, Disaster Victim Identification (DVI) and welfare;
- wheelchair and stretcher access;
- identification of all persons, including passengers;
- areas for relatives, friends and authorised personnel;
- location and availability of various supplies such as first-aid kits, blankets, stretchers etc; and
- power supply for equipment.

Within your plan and procedures, these areas and areas where equipment is located should be represented on a plan. Regular announcements on the status of the airfield/accident site should be given to inform all involved personnel.

3.4.3 **Set up.** Each unit will have different facilities and resources. Normally, an appointed Officer would set up and await the arrival of both the DCO staff as well as Service/State Police.

3.4.4 **Coordinating Authority.** The determination of who should serve as support agencies at the reception areas is once again up to the individual UEC. Suffice to say, the reception area will not operate efficiently if there are too many personnel.

3.4.5 The airfield (runways/airspace) may return to full operations well before the Unit. Consideration should be given to the need for passenger/crew/relative processing arrangements on resumption of operations whilst still carrying out this plan function. As a function ceases to be a requirement, the area should be reinstated prior to being returned to operation.

3.4.6 De-activation should be staged in the same way as activation. It should be expected that inquiries and sightseers may continue for days.

3.5 **Media Centre**

3.5.1 **Function.** The function of the media centre is to provide up to date and accurate information to the media.

A Media Liaison Officer (MLO) should be appointed to manage the centre and the media. This should assist in minimising other resources needed to control the media. For most Defence Bases there will be no discrete Media centre on site, rather the MLO/PRO will be located at the ECC. The MLO at the ECC would normally handle media enquiries on behalf of both the Base and the Unit.

3.5.2 **Location.** From the relevant AEP.

3.5.3 **Set up.** Normally, the Base Commander would provide such a facility and provide for the initial set up.

3.5.4 **Coordinating Authority.** The Base Commander would normally coordinate media operations.

3.5.5 **Stand Down.** The Base Commander/ISC in consultation with the MLO/PRO will determine when the stand down should occur. It should be noted however, that the media's interest normally continues well after the initial incident is over and consequently the Media Centre could be in operation for a number of days after the event, especially if the event has attracted foreign media interest.

SECTION 4 – OPERATIONAL RESPONSE

4.0.1 This Section contains detailed information about the operational arrangements for each of the various types of emergencies that may occur. The categories are substantially the same as those in the ICAO Emergency Services Manual and are as follows:

4.1 Activation.

4.2 Unit Access.

4.3 Local Standby.

4.4 Full Emergency.

4.5 Crash On Airfield.

4.6 Crash Off Airfield.

4.7 Sabotage/Bomb Threat (including buildings).

4.8 Unlawful Seizure.

4.9 Fire/Structural.

4.10 Natural Disaster.

4.11 Medical Emergency.

4.12 Hazardous Material.

4.13 Investigations.

4.0.2 A standard format including headings which are broadly applicable to almost all of the relevant types of emergencies is recommended. The standard format also includes a Call-out Notification Chart which should be developed for each case. The headings and the chart should be adjusted to suit the type of emergency and local arrangements. Additional headings and charts may be required to suit different emergencies.

4.1 Activation

One of the most important issues in understanding how the Plan works is the activation sequence. The Plan is self-activating for Local Standby and Full Emergency. However, partial activation of the Plan may be required in other circumstances. An example of an Activation Plan is given below.

Example

Unit DISPLAN Classification	Warning Equivalent	Action Agency	Required
Local Standby	Alert	ATC/OPSO	Only RFFS required, Duty Supervisor
Full Emergency	Call Out		Emergency Services Required, Duty Supervisor, CO/OC, UASO, UASMO, SENGO, ADMINO etc
Crash on Airfield	Call Out	ATC	Emergency Services Required, Duty Supervisor, CO/OC, UASO, UASMO, SENGO, ADMINO etc
Crash off Airfield	Call Out	ATC	Emergency Services Required, Duty Supervisor, CO/OC, UASO, UASMO, SENGO, ADMINO etc
Unlawful Seizure	Standby	Police	Emergency Services on standby, Duty Supervisor, CO/OC, UASO, ADMINO etc
Bomb Threat	Standby	Police	Emergency Services on standby, Duty Supervisor, CO/OC, ADMINO etc
Hazardous Material	Call Out	RFFS	Emergency Services Required, Duty Supervisor, CO/OC, UASO, UASMO, SENGO, ADMINO etc
Fire	Call Out	RFFS	Emergency Services Required, Duty Supervisor, CO/OC, ADMINO etc
Natural Disaster	Call Out	RFFS	Emergency Services Required, Duty Supervisor, CO/OC, ADMINO etc

4.2 **Unit Access**

.2 The aim of this section is to provide both general information on the location of the unit as well as a detailed location of important primary and secondary access gates. This part of the plan should usually refer to the AEP.

4.3 **Local Standby**

4.3.1 **Definition.** A condition declared when an aircraft operated by the Unit is known, or is suspected, to have developed some defect but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing and thus NOT requiring a response by off airfield agencies.

4.3.1.1 Unit resources may be placed on ‘Local Standby’ at the request of the Pilot in Command. Normally, the response to a ‘Local Standby’ declaration would be from airfield based facilities only (Medical Section, ATC etc), the RFFS and the Unit Duty Supervisor/BASO/UASO.

Note: For the purpose of activating a UEP, a PAN call from an aircraft will result in the declaration of not less than a Local Standby.

4.3.1.2 **Declaration.** If a pilot declares that a ‘problem’ exists and time permits, full communication will be undertaken between the pilot and ATC to ensure the fullest amount of information is known to both parties, thereby allowing for a well informed decision to be taken. ATC will ask ‘Do you wish the airfield to be placed on Local Standby?’ If the answer is affirmative, ATC will activate the response by declaring a ‘Local Standby’.

4.3.1.3 **Response.** The AEP will cover the airfield response to the declaration. The Unit response should be to ensure relevant staff are notified and available to respond/assist as required.

4.3.1.4 The main concern here is to ensure that the response is appropriate.

4.3.2 **Combat Agency**

The airfield rescue and fire service is normally the combat agency for local standby.

4.3.3 **Activation**

Initiated by Airservices Australia or Australian Defence Force Air Traffic Services. For ADF Airfields operating under MBZ procedures, specific local procedures for activation will need to be produced.

4.3.4 **Staging Area**

Per local arrangements.

4.3.5 **Stand Down**

Assembled services will be stood down by ATC in consultation with the pilot and the airfield fire services.

4.4 **Full Emergency**

4.4.1 **Definition**

4.4.1.1 A condition declared when it is known that an aircraft approaching the airfield/operated by the Unit is, or is suspected to be, in such trouble that there is danger of an accident and requiring the response from off airfield agencies.

4.4.1.2 'Full Emergency' is declared by either the pilot in command or ATC. In order to provide an initial measured response, one of the following levels will be used by ATC in declaring the Full Emergency to outside services:

Level I – up to 18 seats	(ATC – Light)
Level II – up to 215 seats	(ATC – Medium)
Level III – up to 560 seats	(ATC – Heavy)

4.4.1.3 **Declaration.** If a pilot declares a 'Mayday' or 'Emergency', ATC will activate a response by declaring a Full Emergency, Level I, II or III, depending on the number of seats in the aircraft type. When the actual number of people on board (POB) is known, ATC will immediately advise responding agencies.

4.4.2 **Combat Agency.** The initial Combat Agency will be the Airservices Australia/Contracted Rescue and Firefighting Service, the ADF or local fire service depending on resources.

4.4.3 **Support Agencies.** Service/State Police, Fire Brigade, Medical Section/Ambulance Service, Base Command Organisation as per local arrangements.

4.4.4 **Activation.** Initiated by Airservices Australia or the Australian Defence Force Air Traffic Services. For ADF airfields operating under MBZ procedures, specific activation procedures will need to be produced.

4.4.5 **Staging Area.** Per local arrangements. Determine if UASO will go to the FCP as the ISC etc.

4.4.6 **Control Authority.** Per local arrangements.

4.4.7 **Stand Down.** Assembled services will be stood down by the ISC.

4.5 **Crash on Airfield**

4.5.1 **Definition**

4.5.1.1 An aircraft crash is a self-evident situation where an aircraft operated by the Unit is seen to crash or is about to crash. This may include an aircraft descending out of control, an aircraft on fire, a mid air collision or an explosion of or on an aircraft.

4.5.1.2 In order to provide an initial response, one of the following levels will be used by ATC in declaring the Crash to outside services:

Level I – up to 18 seats	(ATC – Light)
Level II – up to 215 seats	(ATC – Medium)

Level III – up to 560 seats (ATC – Heavy)

4.5.2 **Combat Agency.** The initial Combat Agency will be the Airservices Australia/Contracted Fire Fighting Service, the ADF or local fire service depending on resources.

4.5.3 **Support Agencies.** Service/State Police, Fire Brigade, Medical Section/Ambulance Service, Base Command Organisation, Medical Services, Hospitals, Coroner as per local arrangements.

4.5.4 **Activation.** Initiated by Airservices Australia or the Australian Defence Force Air Traffic Services.

4.5.5 **Staging Area.** Per local arrangements.

4.5.6 **Control Authority.** Per local arrangements. Determine if UASO will go to the FCP etc.

4.5.7 **Stand Down.** Assembled services will be stood down by the Forward Commander.

4.6 **Crash off Airfield**

4.6.1 **Crash on Land.** The Base Commander may not have any jurisdiction outside the boundary of the airfield and therefore the Local/State Disaster/Emergency Plans will be used. However, a crash off-airfield may activate a portion of the AEP, (eg welfare supporting plans), and will require activation of the UEP, if the aircraft that crashed was a Unit aircraft. The UEP should detail actions by relevant Unit personnel on notification of an off-base crash and dovetail with the Base AEP.

4.6.2 As some elements, such as Airservices Australia, Contractor, or Australian Defence Force RFFS (where established), may respond outside the airfield's boundary, a clearly defined area must be included in the scope of the plan.

4.6.3 **Crash on Water**

Again it should be indicated that the Base Commander/Unit CO/OC may not have any jurisdiction outside the boundary of the airfield and that the Local/State Disaster/Emergency Plans will be used. The UEP should detail actions by relevant Unit personnel on notification of a crash over water and dovetail with the Base AEP.

4.7 **Sabotage – Bomb Threat**

This procedure can be made common for threats against aircraft and those against other unit facilities if desired.

Example

Definition. A Bomb Threat occurs when a person advises that an explosive device has been or will be placed in an aircraft/Unit or facility. When a threat has been received, it is rapidly assessed as either 'Genuine' or 'Hoax'. Responsibility for threat assessment rests with the Base Commander or their representative.

Aircraft Repositioning. Immediately a bomb threat made against an aircraft on the ground is assessed as 'Genuine', consideration will be given to moving the aircraft to one of preferred bomb search locations. These locations are shown in appendix ... Alternatively/additionally, a Unit/facility may need to be evacuated.

Unit/Facility Search. When a threat against a Unit/facility is assessed as 'Genuine', consideration must be given to search and/or evacuation. The search may be directed and prioritised by consideration of aspects such as public access areas and high risk targets such as critical infrastructure and public access areas especially toilets and left luggage lockers etc.

Combat Authority. Service/State Police Force, Hazardous Devices Section.

Support Agencies:

- Base Command Organisation.

- Airservices Australia/Defence ATC.
- Airfield Rescue and Fire Service.
- Australian Protective Service/Contracted Security.
- Australian Customs (International A/C only).
- Unit Command.
- Police Forces.
- Ambulance Service.
- Army Bomb Disposal.

Notification. Response to a bomb threat situation is initiated by the Unit Command using Notification Chart No ...

Control Authority. Per local arrangement.

Stand Down. Stand down procedures will be initiated by the Base Commander in consultation with participating agencies.

4.8 **Unlawful Seizure**

4.8.1 **Definition.** An aircraft in-flight has suffered unlawful seizure when this fact is communicated by the pilot-in-command, either directly, through use of transponders or by use of approved covert signals. ATC may deem an aircraft to have suffered possible unlawful seizure if communications cease and unauthorised manoeuvres occur. Advice of unlawful seizure of an aircraft on the apron could also be communicated by apron staff.

4.8.2 **Control.** ATC is responsible for the aircraft while it is in flight, and while it is moving around an airfield under its own power. Police are responsible for the aircraft while it is on the ground at all other times.

4.8.3 **Combat Agency.** Service/State Police will be the initial combat agency, with specialist police units being called upon as needed. The responsible Commander has the ultimate option of requesting Defence assistance such as the Special Air Service Regiment, which could be utilised to support the police in resolving the incident.

4.8.4 **Support Agencies:**

- Base Command Organisation.
- Airservices Australia/Defence ATC.
- Airfield Rescue and Fire Service.
- Australian Protective Service/Contractors/Service Police.
- Australian Security Intelligence Organisation.
- Unit Command.
- Ambulance service.

4.8.5 **Notification.** Response to a unlawful seizure of an aircraft is normally initiated by the pilot-in-command.

4.8.6 **Control Authority.** As per local arrangements.

4.8.7 **Stand Down.** Stand down procedures will be initiated by the Commander in consultation with participating agencies.

4.9 **Ground or Structural Fire**

4.9.1 **Definition.** A ground or structural fire is a situation where a grass or scrub fire starts on, or comes onto Unit property, or a Unit building catches fire.

4.9.2 **Combat Agency.** Airservices Australia/Defence ATC or military RFFS, where established, with the

assistance of the state fire authority as appropriate.

4.9.3 **Support Agencies.** State fire brigade, Base Command Organisation, Unit Command, State police. Activation Response to a Unit ground or structural fire will be initiated by the RFFS (or appropriate authority). The notification chart is found at page ...

4.9.4 **Control Authority.** Service/State Police.

4.9.5 **Stand Down.** Authorised by the Service/State police in consultation with the RFFS and State fire brigade.

4.10 **Natural Disaster**

4.10.1 **Definition.** Natural disasters identified as possible hazards at a Unit are: storm and tempest or earthquake. The prime consequences of both events would be structural damage to Unit buildings and facilities (including movement areas). The effects of a natural disaster of the magnitude to cause an emergency at a Unit would unlikely be isolated to the Unit. Therefore, Unit support agencies should expect that an emergency service response will be limited in the early stages of the emergency.

4.10.2 **Combat Agency.** The Unit Commander with support from EMA, State Emergency Services and Service/State Police. Activation by the Unit Commander using notification charts on pages ...

4.10.3 **Stand down.** The State Police.

4.11 **Medical Emergency**

As this section is specialised and dependent on a number of variables, guidance is not provided. This section of the UEP must be completed in consultation with local medical services.

4.12 **Hazardous Materials**

4.12.1 **Definition.** A hazardous material incident is an incident where a container holding a hazardous material has been broken or is suspected of being broken. Hazardous materials may include radioactive material, biological substances, chemical materials. A range of hazardous materials is regularly transported by air through ... airfields and may be in transit or stored at the Unit.

4.12.2 **Combat Agency:**

- Radioactive and biological materials—Health Department/DAFS/DSMA.
- Chemical materials—State Fire Brigade/DAFS/DSMA.
- Aircraft fuel spill—Base Command Organisation or RFFS.

4.12.3 **Support Agencies.** Airfield RFFS, State Fire Brigade, Base Command Organisation, EPA, Health Department/DSMA/DAFS, Service/State Police. Activation and response will be initiated by the RFFS (or appropriate authority). The notification charts are found at page ...

4.12.4 **Control Authority.** May be exercised by the Base/Unit Commander, RFFS, Service Police or Medical Section depending on the spill involved.

4.12.5 **Stand Down.** Authorised by the combat agency.

4.13 **Investigations**

4.13.1 Following an emergency at ... unit, investigations will be required. Until preliminary investigations, at least, have been completed, it is unlikely that the Unit CO/OC or higher command will be able to commence removal of wreckage or clean up operations.

4.13.2 **Investigation Agencies.** The following agencies will have a statutory responsibility to investigate the cause of the emergency:

a. Defence Flight Safety Bureau – in the event of an emergency involving a military aircraft.

b. ATSB – in the event of an emergency involving a civil aircraft.

c. State Coroner/State Police – in the event of an emergency involving a death or serious injury.

d. Comcare – in the event of an emergency with WHS implications for Defence or other personnel.

e. DITRD AVSEC/State Police – in the event of an emergency involving unlawful seizure or bomb detonation.

4.13.3 **Activation.** The investigation is automatically activated as soon as an accident occurs. The preservation/recording of data/information, photographs/video of perishable data/information, collection of fluids etc should begin as soon as the site is safe. Notification charts at page ... assume that each organisation will notify a recovery representative from within their respective organisations. The assembly areas for investigation teams are .....

4.13.4 **Control.** The Service/State Police (depending on accident location) will control access to the incident site after all critical rescue operations have ceased.

4.13.5 **Stand Down.** Each individual agency will arrange the stand down of their own investigation staff.

4.14 **Crowd Control.** Plans for crowd control must be considered depending on the unit's size, it may be necessary to use State police or contractors for this task. This aspect needs to be carefully considered by the UEC.

SECTION 5 – RECOVERY

5.1 Management – General

5.1.1 It is essential that the need for recovery operations is assessed and planned during the early stages of an emergency response operation—the responsible agency must be nominated.

5.1.2 All Units should prepare contingency plans to cope immediately with the loss of all or part of a facility, including but not limited to maintenance facilities, cargo/freight facilities, fuel facilities, road access, administration buildings and computer facilities.

5.1.3 If required, provide a Terms of Reference and Membership eg Aviation Units, Airservices Australia/Defence ATC, Base Command, DFSB. Subject to clearance by the investigating teams, the custodian of the aircraft/facility is responsible for the removal of wreckage and clean up of facilities. The custodian is also responsible for the removal and disposal of fuel and hazardous materials.

5.1.4 Once the investigation and removal of wreckage/clean up are completed, the next stage of the recovery phase is to bring the Unit back to full operational status in a safe, efficient and orderly manner.

5.2 Return to Operational Status

The following tasks may be required prior to return of the Unit to full operations.

5.2.1 Airfield Inspections

Normally covered by AEP.

5.2.2 Return to Restricted Aircraft Operations

Normally covered by AEP.

5.2.3 Return to Unrestricted Aircraft Operations

Normally covered by AEP.

5.2.4 **Airspace Closure**

Normally covered by AEP.

5.3 **Critical Incident Stress Program**

5.3.1 The Unit needs to have systems to deal with critical incident stress management of their own staff.

5.4 **Post Trauma Management**

5.4.1 All units are responsible for providing a critical incident stress management program for their staff. For some time after the emergency, emergency service personnel, victims, NOK, relatives and the public may wish to visit the accident site.

5.4.2 The Unit commander should make a suitable area available for these people and issue details to all Unit personnel so that they can give necessary directions.

5.4.3 Unit commanders should supervise these areas to ensure that assistance can be made available if any of these people are distressed and to avoid any possible disruption to other unit operations. Provision of amenities must be considered.

5.5 **Security Control**

Normally covered by AEP.

SECTION 6 – SUPPORTING PLANS

6.0.1 Supporting plans are used when a subject is complex enough to warrant its own sub-plan or when only a portion of the UEP may be activated, such as welfare, Unit evacuation etc. Examples of sub-plans are listed below.

6.1 **RECOVERY OF DISABLED AIRCRAFT PLAN**

Introduction

6.1.1 **Aim.** The aim of the Recovery of Disabled Aircraft Plan is to provide for the coordinated response of agencies to quickly and safely remove an aircraft which has caused the temporary closure of a runway or taxiway.

6.1.2 **Management Arrangements:**

a. **Roles and Responsibilities.** The plan must nominate the roles and responsibilities for the following:

(1) Base Command organisation.

(2) Operating Unit Command.

(3) Service/State Police.

(4) DFSB/ATSB.

(5) DGTA–ADF.

(6) Airservices Australia/Military ATC.

b. **Control.** The controlling agency shall be nominated.

c. **Plan Review.** A review of the Recovery of Disabled Aircraft Plan is to be conducted:

(1) following activation of the plan, and

(2) following an exercise designed to practice or test the plan or when the roles and responsibilities of any party are changed.

6.1.3 **Operational Response.** The Recovery of Disabled Aircraft Plan for an immobilised aircraft is activated by the ATC or the pilot in command of the aircraft or, following an emergency (eg crash or security incident), the Plan is activated by the Unit CO/OC or UASO.

a. **Call Out.**

b. **Combat Agency.** The Unit CO is the combat agency.

c. **Access.**

d. **Assembly Area.**

e. **Stand down.**

6.2 CARE OF THE UNINJURED PLAN

6.2.1 Introduction:

a. **Aim.** The aim of the Care of the Uninjured Plan is to provide the coordinated response of agencies in the shortest possible time to remove the uninjured and/or slightly injured passengers and crew from the emergency site and provide them with care and comfort. This plan will be covered in the Base AEP and the UEP should indicate how the Unit response will dovetail with the AEP.

b. **Scope.** The scope of Sub-plan must be detailed.

6.2.2 Management Arrangements:

a. **UEP Welfare Subcommittee.** Detail Terms of Reference and Membership.

b. **Roles and Responsibilities.** The roles and responsibilities for the following must be nominated:

(1) Unit commander.

(2) Service/State Police.

(3) Medical Teams.

(4) Ambulance.

(5) Disaster Welfare Coordinator.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Care of Uninjured Plan is to be conducted:

(1) following activation of the plan;

(2) following an exercise designed to practice or test the plan; or

(3) when the roles and responsibilities of any party are changed.

6.2.3 **Response Facilities.** Nominate locations, access arrangements and alternatives for:

a. Passenger Reception Area,

b. Reconciliation Areas, and

c. Staging Area.

A diagram showing these locations should be included in the plan where possible.

6.2.4 **Release of Victims from the Passenger Reception Centre.** Consideration needs to be given to arrangements for the release for victims from the Passenger Reception Centres for:

a. reconciliation with relatives,

b. victims without waiting relatives, and

c. victims waiting for other victims.

6.2.5 **Operational Response:**

a. **Activation.** This section must nominate the activator for the plan. Suggested activation is as follows:

(1) full emergency,

(2) crash on airfield, and

(3) unlawful seizure.

b. **Call Out.**

c. **Stand Down.**

6.3 **CARE OF RELATIVES PLAN**

6.3.1 **Introduction:**

a. **Aim.** The aim of the Care of Relatives Plan is to provide the coordinated response of given agencies to assist the friends and relatives of uninjured survivors, who are in attendance at the unit following an emergency. This plan will be covered in the Base AEP and the UEP should indicate how the Unit response will dovetail with the AEP.

b. **Scope.** In this section you must detail the scope of the Sub-plan.

6.3.2 **Management Arrangements:**

a. **UEP Welfare Subcommittee.** Refer Care of the Uninjured Plan.

b. **Roles and Responsibilities.** The roles and responsibilities for the following must be nominated:

(1) Unit commander.

(2) Unit ASO and executives.

(3) Police.

(4) Unit Disaster Welfare Coordinator.

(5) Other Agencies.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Care of Relatives Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.3.3 **Response Facilities.** Locations, access arrangements and alternatives for the following must be nominated:

a. Relatives Reception Centre(s); and

b. Staging Area.

6.3.4 **Operational Response:**

a. **Activation.** The activator and timing for activation of the Sub-plan must be nominated. Suggested activation is as follows:

(1) The Care of Relatives Plan is automatically activated when the emergency operational response to the following emergencies is activated:

(a) aircraft crash on-airfield;

(b) aircraft crash off-airfield; and

(c) the agencies involved in the Plan are placed on standby in the event of activation of the emergency plans for full emergency or unlawful seizure.

6.5 MEDIA HANDLING PLAN

6.5.1 **Introduction:**

a. **Aim.** The aim of the Media Handling Plan is to provide the media with accurate and timely information and to quell the potential for adverse publicity. This plan will be covered in the Base AEP and the UEP should indicate how the Unit response will dovetail with the AEP.

b. **Scope.** The scope of Sub-plan must be nominated.

6.5.2 **Management Arrangements:**

a. **Roles and Responsibilities.** The roles and responsibilities must be nominated for the following:

(1) Unit Commander.

(2) Defence MLO/PRO.

(3) Unit Executive and ASO.

(4) Service/State Police.

(5) Other Agencies.

b. **Control.** The controlling agency must be nominated.

c. **Plan Review**. A review of the Media Handling Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.5.3 **Response Facilities.** The locations, access arrangements and alternatives must be nominated for the following:

a. Media information area(s).

b. Staging area.

6.5.4 **Operational Response:**

a. **Activation.** The activator and timing for activation must be nominated. The Media Handling Plan is automatically activated when the following emergency responses are activated:

(1) Full Emergency;

(2) Crash on-airfield;

(3) Unlawful Seizure;

(4) Bomb Threat (genuine only);

(5) Hazardous Material Emergency; or

(6) Natural Disaster.

b. The Media Handling Plan is placed on standby when there is an off-airfield crash.

c. **Call Out.**

d. **Stand Down.**

6.6 UNIT EVACUATION PLAN

6.6.1 **Introduction:**

a. **Aim.** The aim of the Unit Evacuation Plan is to provide for the coordinated response of given agencies to quickly and safely evacuate the Unit during an emergency.

b. **Scope.** The Unit Evacuation Plan details the arrangements for the control and coordination of the evacuation. It should be noted than an evacuation will most likely occur in response to an emergency such as a building fire or security incident. These emergencies will have their own management structures and combat agency, etc, and the evacuation Plan includes arrangements to link the two concurrent operations.

6.6.2 **Management Arrangements:**

a. Detail the Terms of Reference and Membership of the Unit Evacuation Subcommittee.

b. **Roles and Responsibilities.** The roles and responsibilities must be nominated for the following:

(1) Unit Command;

(2) Service/State Police;

(3) Commercial Tenants; and

(4) Fire Services.

c. **Control.** The controlling agency must be nominated.

d. **Plan Review.** A review of the Unit Evacuation Plan is to be conducted:

(1) following activation of the plan,

(2) following an exercise designed to practice or test the plan, or

(3) when the roles and responsibilities of any party are changed.

6.6.3 **Response Facilities.** The locations and access arrangements must be nominated for the following:

a. Fire Control Room,

b. Sprinkler Valve Room, and

c. Any other critical engineering facilities.

6.6.4 **Operational Response:**

a. **Activation.** The activator and timing for activation must be nominated. Suggested activation is as follows:

(1) All or part of the Unit Evacuation Plan is activated by the Unit Commander or delegate when the operational response to the following emergencies is activated:

(a) fire in the Unit,

(b) a genuine bomb threat or detonation,

(c) an unlawful seizure emergency,

(d) natural disaster, or

(e) hazardous material incident in the Unit.

(2) The agencies involved in the Plan are placed on standby:

(a) in the event of a fire alarm in the Unit, or

(b) during the assessment phase of a bomb threat in the Unit.

(3) **Call Out.**

(4) **Combat Agency.**

(5) **Stand Down.**

6.6.5 **Areas of Responsibility for Wardens.** If applicable, wardens are to be detailed together with their areas and hours of operation:

a. **Head Warden.**

b. **Deputy Head Wardens.**

c. **Area Wardens.**

d. **Areas without Wardens.**

APPENDIX A – UNIT RESOURCES INCLUDING COMMUNICATIONS

Aim

To identify immediate resources available on site that can be brought into service at short notice.

General

To ensure all available resources are identified and are available to assist all other sub plans.

Activation

- assessment
- type of incident
- authority

Response

- timing
- internal/external

Recovery

- relief of resources
- adequacy of resources
- return to operations

De-activation

- assessment of Unit status
- assessment of required resources

Some of the Unit resources to be considered cover human resources, plant and equipment, facilities, communications (including portable), power supply, lighting/shelter and emergency (first aid) equipment. Resources identified within the plan should not be confined to those available on-airfield. The plan should identify tenant's resources and those off-airfield. Off-airfield resources could include construction companies, hire companies, government authorities etc.

Resources to be considered may not necessarily be associated with the initial response, but may be required for recovery of aircraft/facility and for repairs to enable return to operations.

A special consideration should be human resources, as in an emergency situation, relief for initial responders may be required if the plan will be active for an extended period. Resources not directly involved may be of assistance for different functions eg Unit headquarters staff, office staff, government agencies (EMA, Comcare) etc.

The authority to activate and utilise these resources shall be clearly defined. This will enable a shortened response time.

Resources should be categorised (PLANT AND EQUIPMENT, HUMAN RESOURCES, FIRST AID, COMMUNICATIONS etc) and presented as an inventory as an appendix of the plan. The inventory should include numbers, location and response time.

Resource lists can never be exhaustive as they also tend to be a prompt for those in charge of the operation.

Miscellaneous items such as catering, hire of mobile phones, transport and accommodation should also be considered.

As an additional appendix to either the resources or communications sub-plan, contact points for on-airfield and outside resources should be included. As an aid for on-airfield resources, a plan showing the location of resources and facilities may be of benefit.

At this assessment point it is imperative that it is understood who has the authority to activate these resources. Dependent on the type of incident or standby a number of resources may be required to be activated. Consideration should always be given to the response time of any potentially required resource.

When the situation exceeds the resources on-airfield outside resources will be required. As Unit management will not always have control of the availability of these resources, early standby notice should be considered. The response time of resources at this point will become critical to the length that this plan will remain active.

Recovery is normally left to the last minute or at the end of a situation. Recovery planning should commence at the same time as initial response. Whether it be the clearing of discarded equipment, organising of disabled aircraft recovery equipment or arranging for relief staff. Earlier activation of this phase will generally lead to an earlier return to operations and a lesser impact on the Unit.

Deactivation may consist of standing down various pieces of equipment not required or at completion of a task. This plan may well remain active beyond the airfield returning to full operations.

Properly prepared and coordinated communication arrangements are vital to correct an effective activation of the plan. Timely contact of the right agencies/people will ensure the best response to any airfield emergency. A pro forma example of the Communications Section is provided for planning purposes. Explanatory notes on each of the sub-sections of the Communication plan are given below.

Emergency Call-out Charts

You may consider producing different charts for different emergencies if there is a significant difference in the call out procedures in particular emergencies. In most cases, the one chart will suffice with the level of call out depending on the size, nature etc of the particular emergency.

Important things to note in Call-out Chart preparation are:

- Do not overload the one agency with a large number of people to contact:
- Each phone call takes time and therefore could cause delays. Have a stepped contact system. This will reduce overall call-out time and build an informal confirmation process.
- The call-outs should be shown in a priority order in each area to match local state arrangements.
- Ensure Outside Agencies are given a high priority as it may take outside agencies longer to get there.

Unit Communication Facilities

This area should contain all communications facilities that will be available during an emergency. Items like emergency field phone location, pre-wired telephone points, Telstra Distribution/Junction boxes etc should be recorded for urgent reference. Any of the items in this Section can be either listed with a Map reference or shown on a Map of the Unit.

Telephones

(i) Field Telephone Locations.

(ii) Pre-wired emergency telephone points. For example, EOC, Specific Buildings, Specific Field.

(iii) Telstra Distribution Line Box—box locations.

(iv) Mobile Telephone holders (Airfield/Base Command, BASO/UASO/Unit CO/OC Airservices Australia/Defence ATC, other employees etc).

(v) Land line telephone availability.

Radios

(i) Two way radio users on-airfield (list various agencies).

(ii) Radio repeater towers on-airfield.

(iii) Different frequencies used on-airfield (if available).

(iv) Availability of emergency supply of portable radios.

(v) Specific frequencies set aside for emergency use.

(vi) Frequencies used by civil agencies, and compatibility with ADF agencies.

Communication Vehicles

(i) Mobile Field HQ vehicle.

(ii) Vehicles that have mobile communications facilities.

Public Address Systems

(i) Availability and coverage.

Testing Communications

The Base Commander should ensure regular inspection and maintenance of the emergency telephone network, as well as other radios, mobile telephones etc.

APPENDIX B – TELEPHONE CONTACTS

Emergency Telephone Contact Lists

Listing of the telephone numbers in an appendix assists in the amendment program. Telephone numbers will be the most common change to the Plan and thus if listed in a concise format as an appendix will make the process easier. It is recommended that the appendix section of the Plan be placed on a restricted distribution list to ensure that only those who need to know, have private and sensitive numbers.

This list can be broken up into different sections i.e. on Airfield Agencies/facilities, Emergency Services and other outside Agencies, Airlines, etc or it can be one continuous list. It can also be in priority order or preferably alphabetical order for each section.

The reference number is used on the Call-out Charts to enable quick cross reference to the appropriate person/agency and their contact number. The contact list should contain not only the main or first contact number but also a second or back up contact number.

(This could be another number in same office, pager no, Mobile telephone no, etc).

The agencies etc listed in the pro forma are examples and the contact list need to be varied to meet your local and State arrangements. This list can be as long/short as necessary but must cover all the Prime Agencies. This list should be updated and confirmed regularly (monthly preferable). The following listing is not in any order of priority nor exhaustive.

Ref Nº	Agency	Ph Nº	2nd Nº	Mobile	Time
1.	ATC Detachment Commander				
2.	Base Commander				
3.	Base Aviation Safety Officer				
4.	Unit Operations/Unit CO/OC/UASO				
5.	Wing/regiment commander (OC WG/REGT CDR)				
6.	FEGCDR				
7.	Australian Protective Service/Service Police				
8.	Rescue & Fire Fighting Services				
9.	Airservices Australia/Defence ATC				
10.	Air Movements Section				
11.	Chaplain/DCO				
12.	Australian Custom Service				
13.	DFSB /ATSB				
14.	Quarantine				
15.	Dept. of Immigration				
16.	CASA Airworthiness/DGTA–ADF				
17.	State/Service Police				
18.	Fire Brigade				
19.	Medical Section/Ambulance				
20.	State Emergency Service				
21.	Community Services/DCO				

22.	Red Cross				
23.	State Coroner				
24.	Bureau of Meteorology				
25.	Telstra				
26.	Health and Medical				
27.	St John Ambulance				
28.	Foreign Affairs				

APPENDIX C – PLAN DIAGRAMS

Again as with telephone numbers, maps and charts and lines of communication may change from time to time and thus for ease of amendments an appendix seems the best option.

It should be remembered that the Plan is an all encompassing document and that call-out charts whilst in the Plan will most likely also be adjacent to telephones or positions most likely to need them.

Remember the three levels, the Plan, the Procedures and then Individual Instructions.

APPENDIX D – CORRECTIONS SHEET

Proposals for an amendment or addition to the contents of the _____ Unit Emergency Plan should be entered below and forward to:

The Secretary
Unit Emergency Committee
_____ Unit

The following change is proposed to the _____ Unit Emergency Plan:

Signed:_____

Name:_____

Command/Unit:_____

Date:_____

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ICAO STANDARDS AND RECOMMENDATIONS – ANNEX 14

1. This is not a comprehensive transcript of all International Civil Aviation Organisation (ICAO) Annex 14 Standards and Recommended Practices (SARPS). Note that these SARPs apply to AERODROME (AIRFIELD) EMERGENCY PLANS only, however, they can be used as guidance for Unit Emergency Plans.

Para **Text**

9.1.1 An aerodrome emergency plan shall be established at an Aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome.

9.1.2 The aerodrome emergency plan shall provide for the coordination of the actions to be taken in an emergency occurring at an aerodrome or in its vicinity.

9.1.3 The plan shall coordinate the response or participation of all existing agencies which, in the opinion of the appropriate authority, could be of assistance in responding to an emergency.

Note: Examples of agencies are:

on the aerodrome: air traffic control unit, rescue and fire fighting services, aerodrome administration, medical and ambulance services aircraft operators, security services, and police; and

off the aerodrome: fire departments, police, medical and ambulance services, hospitals, military organisations, and harbour patrol or coast guard.

9.1.4 The plan should provide for co-operation and coordination with the rescue coordination centre, as necessary.

9.1.5 The aerodrome emergency plan document should include at least the following:

(a) types of emergencies planned for;

(b) agencies involved in the plan;

(c) responsibility and role of each agency, the Emergency Operations Centre and the command post for each type of emergency;

(d) information on names and telephone numbers of offices or people to be contacted in the case of a particular emergency; and

(e) a grid map of the aerodrome and its immediate vicinity.

Emergency Operations Centre and Command Post

9.1.6 A fixed Emergency Operations Centre and a mobile command post should be available for use during an emergency.

9.1.7 The Emergency Operations Centre should be a part of the aerodrome facilities and should be responsible for the over all coordination and general direction of the response to an emergency.

9.1.8 The command post should be a facility capable of being moved rapidly to the site of an emergency, when required, and should undertake the local coordination of those agencies responding to the emergency.

9.1.9 A person should be assigned to assume control of the emergency operations centre and, when appropriate, another person the command post.

Communication System

9.1.10 Adequate communication systems linking the command post and the emergency operations centre with each other and with the participating agencies should be provided in accordance with the plan and consistent with the particular requirements of the aerodrome.

Aerodrome Emergency Exercise

9.1.11 The plan shall contain procedures for periodic testing of the adequacy of the plan and for reviewing the results in order to improve its effectiveness.

Note: The plan includes all participating agencies and associated equipment.

9.1.12 The plan shall be tested by conducting:

(a) a full-scale aerodrome emergency exercise at intervals not exceeding two years;

(b) partial emergency exercises in the intervening year to ensure that any deficiencies found during the full-scale aerodrome emergency exercise have been corrected; and

(c) reviewed thereafter, or after an actual emergency so as to correct any deficiency found during such exercises or actual emergency.

Note: The purpose of a full-scale exercise is to ensure the adequacy of the plan to cope with different types of emergencies. The purpose of a partial exercise is to ensure the adequacy of the response to individual participating agencies and components of the plan, such as the communications system.

Application

9.2.1 Rescue and fire fighting equipment and services shall be provided at an aerodrome.

Note 1: Public or private organisations, suitably located and equipped, may be designated to provide the rescue and fire fighting service. It is intended that the fire station housing these organisations be normally located on the aerodrome, although an off-aerodrome location is not precluded provided the response time can be met.

Note 2: It is intended that the above include the availability of suitable rescue equipment and services at an aerodrome located close to water swampy areas or other difficult environment where a significant portion of approach or departure operations takes place over these areas. Special fire fighting equipment need not be provided for water areas. This does not prevent the provision of such equipment if it would be of practical use such as when the areas concerned include reefs or islands.

Emergency Access Roads

9.2.20 Emergency access roads should be provided on aerodromes where terrain conditions permit their construction, so as to facilitate achieving minimum response times. Particular attention should be given to the provision of ready access to approach areas up to 1000m from the threshold, or at least within the aerodrome boundary. Where a fence is provided, the need for convenient access to outside areas should be taken into account.

Note: Aerodrome service roads may serve as emergency access roads when they are suitably located and constructed.

9.2.21 Emergency access roads should be capable of supporting the heaviest vehicles which will use them, and be useable in all weather conditions. Roads within 90m of a runway should be surfaced to prevent surface erosion and the transfer of debris to the runway. Sufficient vertical clearance should be provided from overhead obstructions for the largest vehicles.

Communication and Alerting Systems

9.2.25 A discrete communication system should be provided linking a fire station with the control tower, any other fire station on the aerodrome and the rescue and fire fighting vehicles.

9.2.26 An alerting system for rescue and fire fighting personnel, capable of being operated from that station, should be provided at a fire station, any other fire station on the aerodrome and the aerodrome control tower.

CRASH KIT RECOMMENDED LIST OF EQUIPMENT

This list contains a recommended list of equipment to be contained in a Unit Aviation Safety Officer (UASO), Regiment Aviation Safety Officer (RASO), Wing Aviation Safety Officer (WASO) or Base Aviation Safety Officer (BASO) crash kit. It is not exhaustive and some items may need to be added or omitted depending upon the circumstances. Minimum specifications and standards for specific aircraft type HAZMAT should be obtained from AAP 6730.002—*Aviation Accident Work Health & Safety Manual* (AAWHSM). Contact DFSB if further advice is required.

Transport

Transport reserved for the Aviation Safety Officer and the crash kit to get to the site and begin Incident Site Commander (ISC) duties.

Personal Protective Equipment (PPE)

Breathing protection masks.
Dust masks.
Disposable coveralls.
Overboots.
Eye protection.
Gloves (surgical, leather, heavy duty rubber etc).
Identifying vests.
Sunglasses.
Ear plugs.
Waterless antiseptic handwash.
Barrier cream.
Insect repellent.
Sunscreen.
First aid kit.
CamelBak.

Recording Equipment

35 mm SLR camera, or digital camera with 10 megapixel capacity or greater and associated accessories (lens, film, batteries etc).
Digital recorders and associated accessories (batteries, tapes/cards, microphones, headsets etc).
Digital Video recorder if possible.

Site Equipment

Perimeter tape.
Wire stakes/marking flags.
Identification tags (for marking components/items).
Tape measures (50 metre, 8 metre).
Compass (prismatic).
The machine that goes ‘bing’.
Duct/masking tape.
Twine.
Magnifying glass.
Fluid sample bottles (including labels).

Communications Equipment

Recall list.
Mobile phone.
UHF/UHF hand-held transceivers and associated equipment (batteries, charger etc).

Stationery

Blank witness statement forms.
Checklist folder.
Graph paper.
Lined paper.
Ruler.
Stapler.

Document stamp.
Tape.
White out.
Pens/pencils etc.
Permanent pens.

Documents

Users' handbooks for all equipment.
AAWHSM extracts as required.

Miscellaneous

Torch.
Leatherman tool.
Flight computer (CR-1, CR-2 or similar 'whiz wheel').
Navigation protractor.
Spare batteries.
Battery chargers.
Whistles.
Calculator.
Toilet paper.
Mirror.

EXERCISE WORK PLAN

Introduction

1. The detail required in a work plan depends on the size and type of exercise to be undertaken. The plan must clearly identify the course to be taken and the requirements of those agencies involved in the exercise. Development of this work plan should take place well before the exercise to allow for its complete development and the inclusion of all necessary criteria.

Policy Meeting

2. A policy meeting is needed early in the planning process in order to identify the scale and timings of the proposed exercise. The attendees at this meeting should be from management, staff responsible for the implementation of the exercise and persons with the authority to make decisions on the discussion issues listed below.

3. To give adequate time for completion of all logistical requirements, this meeting should be held at least twelve weeks prior to a full scale exercise or eight weeks prior to a partial exercise.

4. Items for discussion might include:

- **a.** type nature and scope of exercise,
- **b.** aim and objectives,
- **c.** duration,
- **d.** policy directives,
- **e.** organisations involved,
- **f.** key appointments,
- **g.** budget considerations,
- **h.** location,
- **i.** timings,
- **j.** coordination,
- **k.** logistics,
- **l.** planning meetings,
- **m.** method of evaluation,
- **n.** exercise planning committee nominations, and
- **o.** work health and safety.

Exercise Planning Committee

5. The exercise planning committee established through recommendations from the policy meeting should comprise representatives from all the organisations involved. The role of this committee is to write the formal exercise papers incorporating the decisions and recommendations identified at the policy meeting.

6. Other areas to be addressed by this committee include:

- **a.** format of the exercise,
- **b.** schedule of events,
- **c.** actors for role plays, and
- **d.** exercise control requirements.

Progress Meetings

7. These meetings are necessary for the continued development of exercise documents including checks on authenticity of the General and Special Idea (refer to Chapter 10, Annex G).

8. Other areas that may require ongoing development are:

- **a.** general instructions, and

b. intelligence background.

Documents

9. The exercise documents should be prepared by persons nominated by the exercise planning committee. Section 3 chapter 10, annex G discusses the documents in more detail. The exercise planning committee must also examine and approve the exercise documents. It is also important that all organisations involved in the exercise agree to the final content prior to approval by the exercise director.

Coordination and Timings

10. Participating organisations need to receive the final exercise instruction several weeks prior to the exercise to allow time for the assessment of resource commitments. If the exercise is designed to test operational response, the Special Idea and commencement times should be withheld until activation. The exercise planning committee also requires time to organise logistics and brief the actors in their role-play. An exercise control briefing and actors briefing needs to be held approximately four days before the exercise. A further briefing of actors is advisable before the exercise.

Debriefing

11. The debrief provides an opportunity for the participating organisations to report on their effectiveness to respond and operate within the Airfield Emergency Plan/Unit Emergency Plan (AEP/UEP) guidelines and for the exercise director and evaluators to report on the exercise from their perspective. Several debriefs are held after exercises with the primary of these being called the ‘Hot Wash up’ and ‘Cold Wash up’. The Hot Wash up debrief is held immediately after the exercise and is attended by all the exercise control staff. This type of debrief is also held by all the participating organisations individually including all participants. The Cold Wash up debrief is usually held twenty-four hours later and is attended by at least one representative from each of the participating organisations.

12. The type of questions that should be asked at these debriefs are as follows:

a. Were the objectives achieved?

b. What skills and knowledge were gained as a result?

c. How could procedures be improved?

d. Was the exercise justified?

e. What are the recommendations from the exercise?

Post Exercise Activities

13. There are several post exercise activities that should be undertaken immediately or as soon as practical after the end of exercise play. These include:

a. inspection and clearance of the site;

b. restoration of the site;

c. damage control report;

d. letters of appreciation;

e. payment of costs etc; and

f. AEP/UEP revision/amendment as necessary.

EXERCISE DOCUMENTS

Introduction

1. It is necessary to style the exercise documents to suit the type and scale of exercise that is to be undertaken. The content of this document must allow organisations to understand the parameters that they must operate within. Poor documentation will lead to confusion and poor performance by participating organisations.

Exercise Codename

2. A codename should be considered for all exercises so they are not confused with normal every day operational activities or other exercises being held simultaneously. The name should be kept short and relevant to the activities.

Exercise Instruction

3. The exercise instruction outlines Why, When, Where and How the exercise is to be run. There are several topics that should be addressed in the document. These are discussed below. The classification status for the exercise should also be included.

a. **References.** Details are given here of any references that relate to the operational response associated with the exercise, i.e. Local Airfield Emergency Plan/Unit Emergency Response Plan, Standing Operating Procedures etc.

b. **Introduction.** The introduction contains information on:

(1) an explanation of the type of exercise,

(2) when and where the exercise will be conducted,

(3) participating organisations, and

(4) exercise limitations.

c. **Aim.** This is a broad statement of intent, which gives direction as to what will be achieved by the exercise. The aim must be clear, concise, and practical. Examples of an aim are to:

(1) practice coordination of rescue resources to an aircraft incident,

(2) test call out procedures for an emergency at the airfield, and

(3) evaluate the efficiency of information recording in the operations centre.

d. **Objectives.** The objectives are precise statements of the intended outcomes in terms of the knowledge, skills, attitudes and/or operating procedures to be measured or observed during and after the exercise at individual, group and agency level. They must support the aim. Objectives should state the performance required, the conditions under which performance is to be tested and the standards to be achieved.

e. **Exercise Format.** Information necessary for the conduct of the exercise should include:

(1) activation and stand down times,

(2) pre-exercise information,

(3) the level to which the exercise will be taken, and

(4) intelligence gathered relevant to the exercise.

f. **Safety/Medical.** Details of safety precautions and names of safety officers should be identified, including emergency procedures for real injury situations together with emergency contacts. Instructions should cover the use of a codeword such as ‘No Duff’ so that the exercise can be terminated should a real injury or incident occur which requires resources that are committed to the exercise.

g. **Damage.** A damage control officer should be nominated to oversee the protection of buildings, property and other facilities including the reporting of damage caused during the exercise.

h. **Administration.** Several areas may need clarification under this heading. These may include:

(1) exercise area including any restrictions,

(2) information for role players including briefing points, and

(3) briefing and debriefing arrangements for exercise control staff and participants.

i. Security. Areas needing security consideration are:

(1) exercise area security;

(2) documentation security; and

(3) visitor/observer designated areas.

j. Media and Public Relations. Media interaction should be considered. In particular whether there should be partial activation (internal only) or a full-scale activation of all media for public information.

k. Command and Control. This applies to the organisation of the exercise and must identify:

(1) control staff,

(2) participants,

(3) observers, and

(4) visitors.

Reference should also be made to the prefixing of all exercise communications with the nominated code name to avoid confusion with the normal ongoing transmissions.

l. Annexes. A list of all supporting documents should be attached.

m. Distribution List. This is a list of organisations and personnel that the documents should be distributed to.

n. Authority. A signature of the exercise director should be included for authenticity.

General Idea

4. This is a narrative designed to inform participants of general background knowledge that would normally be available during a real incident. The General Idea ‘sets the scene’ for the exercise.

Special Idea

5. This is a narrative providing specific information to selected personnel or organisations detailing events not written into the General Idea. This information may include timings relevant to the activation of the exercise and a specific sequence of events identifying the exercise scenario and casualty extent. The Special Idea is to be restricted to control staff until immediately prior to the commencement of the exercise, and then released to selected organisational representatives.

NOTE

- Both the General and Special Idea documents are normally only used in partial or tabletop exercises.

Sequence of Events

6. A detailed script for the sequence of events is recommended to assist with the effective control and input to the exercise. The sequence of events script should be restricted to exercise control staff only.

Control Staff Listing

7. All exercise control staff are listed by name, the organisation they represent and the function they are to perform during the exercise. A detailed list of role players may also be added in this section.

Organisation Chart

8. An organisational diagram depicting the command and control structure may be added.

Supporting Organisations Aims and Objectives

9. Each organisation's aims and objectives should be listed to clarify their roles and to avoid confusion during the exercise.

Maps

10. Maps identifying the exercise site and other applicable information should be attached.

Exercise Report

11. On completion of the exercise, a report should be prepared which addresses all aspects of the exercise from planning through to the clean up. The report should highlight the good points, address deficiencies identified and make recommendations for the future.

NOTE

- The format given above is not intended to be restrictive and must be adjusted to suit the type and scope of exercise.

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EXERCISE EVALUATION

Objectives

1. To adequately assess the effectiveness of any exercise, there must first have been written objectives against which the success of the exercise can be measured.

Exercise Evaluators

2. Evaluators must:

a. be familiar with the subject being exercised (Airfield/Unit Emergencies);

b. be familiar with Airfield/Unit Emergency Procedures;

c. observe and record functional performance during the exercise;

d. participate in the exercise debriefing;

e. analyse evaluation data; and

f. develop follow-up conclusions and recommendations.

Principles of Evaluation

3. **Participant Evaluation.** Participants, role players, and control staff, have a role in evaluation. A complete exercise report must contain all views, not just that of designated evaluators.

4. **Evaluator Guidelines.** Whether evaluators are evaluating only, or are doubling as role players or control staff, there are a number of applicable guidelines:

a. they should remain objective;

b. they should be prepared to observe the unexpected;

c. they should know what they are looking for;

d. they should not interfere with operations (in the evaluator role); and

e. they should not provide evaluation information to participants during the exercise.

5. All evaluation does not have to wait until the conclusion of the exercise. Evaluators can be a valuable mechanism to help control the progress of the exercise. They can make critical observations about the scenario and responses and give controllers the opportunity to redirect the exercise play as necessary to ensure the maintenance of realism.

6. **Immediate Debriefing.** During the ‘hot washup’ or debriefing at the end of play, the exercise is given a fairly thorough overview by participants who critique their performance. Guidelines are required to avoid the debrief wandering or losing objectivity. Though exercise developers are responsible for the debrief, some guidelines are stated here to provide evaluators with more constructive guidelines for the debriefing:

a. the debrief should be held soon as possible after the end of the exercise;

b. only provide constructive criticism (blame-fixing must be avoided);

c. contributions should be progressively prepared during the exercise;

d. focus on correcting identified problems; and

e. focus on cooperation.

7. Participant reactions which may be sought by evaluators during debrief include:

a. overall general reactions, suggested improvements, modifications;

b. usefulness of Airfield Emergency Plan/Unit Emergency Plan (AEP/UEP) guidelines and other suggested improvements;

c. reactions and suggested improvements to control arrangements i.e., physical layouts, information displays, staffing etc;

d. realism of the scenario, suggested improvements;

e. reactions to exercise format, length;

f. effectiveness of individual lead-up training, suggested improvements;

g. reaction to information management and flow; and

h. effectiveness of management issues such as briefings, instructions, participation etc.

8. While there are obviously many more issues which can be addressed, according to the particular interests of evaluators, the debrief is not the only evaluation forum. It is only the start.

9. Comments at the debriefing should be recorded and treated as data for the evaluation report. Evaluators must complete the evaluation objectively and develop recommendations for follow-up action. These recommendations should be aimed at improving preparedness. An evaluation report should be developed from individual reports and circulated to participants for review and comment.

Evaluation Method

10. To dictate in detail how each evaluator should actually perform an assessment, and when and where these assessments should be undertaken, would be too directive and counter-productive. A critique format for the exercise should be standardised, but also should allow each evaluator to have some flexibility in how they evaluate their designated area. By using the same format for each component of each exercise, some commonality of perception can be achieved, thus enhancing the quality of input into each exercise follow-up.

Evaluation Reports

11. Each evaluator's report should present an analysis of needed improvements in the AEP/UEP, based on an examination of responses obtained during the exercise. Each report should reflect the evaluator's view of proceedings, (depending on which areas were evaluated), their view of the measure of proceedings against the exercise objectives, and their view of the actual exercise management (realism v practicality, time constraints, optimism v reality etc). A useful format for an evaluator's report is to use the objectives as sub-headings. An analysis of what went well and what did not can then be developed from the various sources of information. The analysis should address:

a. evaluator's group observations;

b. players' debriefing comments;

c. comments from controllers and/or umpires and observers; and

d. any subsequent clarification and/or discussion with players.

12. The overall evaluation report should be directed to the Airfield/Unit Emergency Planning Committee and should be the subject of review and discussion. It should not be seen as an edict handed down by evaluators. The best recommendations (those with the greatest chance of being implemented) are those that are agreed by all involved agencies.

13. A draft evaluation report should be prepared by evaluators based on their individual reports. This draft report should be discussed at a meeting of at least the main exercise evaluators, exercise planners, and exercise participants. The focus should be on developing a consensus on which recommendations can and should be implemented with recommended priorities.

14. The final evaluation report can be a useful tool for future exercises and for improving the emergency response system. The following format for preparing recommendations in the report may be useful:

SAMPLE RECOMMENDATION

- SUBJECT:
- PROBLEM DESCRIPTION:
- ACTION REQUIRED:
- ACTION AGENCY:
- PROPOSED COMPLETION DATE:
- SUBMITTED BY:

EXERCISE EVALUATION FORM

(NOT FOR USE BY RESPONSE AGENCIES)

Name of evaluator: _____

Organisation: _____

Airfield/Unit/Facility: _____

Activity Being Observed: _____

Date: _____

Evaluation

Rate the following criteria from 1 to 10 with 1 being the lowest. Add comments as necessary.

1. **Was there a clearly defined overall exercise aim?**

   1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

2. **Were there clear and relevant objectives for each participating organisation?**

   1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

3. **Did the exercise address the aims and objectives?**

   1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

4. **Was the exercise realistic for the scale of normal operations at the airfield (timings, scenario, etc)?**

   1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

5. **Was the exercise carried out in a logical sequence?**

   1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

6. **Were the response times realistic?**

1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

7. **Was the response to the exercise in accordance with local plans?**

1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

8. **Was the debrief conducted effectively to identify issues from all response agencies?**

1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

9. **Were the recommendations from the last exercise implemented?**

1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

10. **Was the exercise planned and staged as an effective evaluation tool?**

1 2 3 4 5 6 7 8 9 10

Comments _____

_____

_____

Signed _____

SECTION 3

CHAPTER 11

SURVEY AND AUDIT

INTRODUCTION

1. Aviation safety surveys are an important part of the review, reporting and improvement processes that support the Defence ASMS. Combined with auditing they are one of the major tools of the overall ASMS review process.

PURPOSE

2. This chapter provides guidance to complement the requirements of Section 2.

AVIATION SAFETY SURVEYS

3. Aviation safety surveys of flying units have been utilised over a number of years, and have yielded very positive safety and capability outcomes. The issues raised, hazards identified and recommendations made as a result of these surveys have improved accident prevention and the aviation safety culture of Defence. A survey is an important tool in gauging the health of a unit from a cultural perspective, allowing individuals to provide opinions on safety matters while maintaining anonymity. Safety surveys are not part of any auditing function and they do not check a compliance with regulations.

4. Defence Aviation utilises two types of aviation safety surveys, the Snapshot Survey and the Periodic Aviation Safety Survey.

a. **Snapshot Survey.** The Snapshot Survey seeks to support commanders in the management of safety culture, as well as provide feedback on the outcomes of any command actions taken to improve attitudes towards safety. The information collected through the program represents a significant extension to the information available to commanders and has the potential to improve decision making in matters of safety and personnel management.

b. **Periodic Aviation Safety Survey.** Periodic Aviation Safety Surveys can be initiated at any time by Air Commander Australia, Commander Fleet Air Arm (COMFAA), Commander 16 Bde (Avn), FEG Commanders, Wing/Regiment Commanders, or Unit Commanders. For example, a survey may be completed as part of a recommendation from an aviation accident investigation in order to improve the safety culture and ASMS of a particular Unit or FEG. Wings/Regiments/Units may at any time also undertake a Periodic Aviation Safety Survey that has a reduced scope, focusing on particular operations or hazards on a day-to-day basis.

Snapshot Survey

5. The Snapshot Survey seeks to support commanders in the management of safety culture, as well as provide feedback on the outcomes of any command actions taken to improve attitudes towards safety. The information collected through the program represents a significant extension to the information available to commanders and has the potential to improve decision making in matters of safety and personnel management when contextualized and combined with other data sources available. The Snapshot Survey also forms an important component of the overarching Defence Aviation surveillance and assurance framework. Snapshot Survey results are used to establish both unit and organisational benchmarks that are used as a way of measuring improvement over a period of time.

6. The Snapshot Survey is administered by DFSB to all Air Force, Army Aviation and Fleet Air Arm units annually. Participation in the Snapshot Survey program is available to other elements upon request. Annex A provides information on the management, coordination, and administration of the Snapshot Survey, including the storage, use and reporting of survey results.

7. **Face–to–Face Culture Workshop.** The DFSB Face-to-Face Culture Workshop is a structured program, designed to complement safety culture surveys. While the Snapshot Survey is an extremely valuable tool, the face-to-face workshop allows commanders to gain a deeper insight into issues that may affect the safety, performance and wellbeing of their personnel. The Face-to-Face Culture Workshop has been adapted from the United States Naval Safety Center program. The program is typically conducted over a two-to-three day period and involves facilitated group discussions and interviews. The Face-to-Face Culture Workshop is available to unit commanders upon formal request to DFSB. Given resource limitations, priority will be given to units assessed as having the highest need.

Periodic Aviation Safety Survey

8. Periodic Aviation Safety Surveys can be initiated at any time by COMAUSFLT, COMD FORCOMD, ACAUST, FEG Commanders, Wing/Regiment Commanders, or Unit Commanders. For example, a survey may be completed as part of a recommendation from an aviation accident investigation in order to improve the safety culture and ASMS of a particular Unit or FEG. Wings/Regiments/Units may at any time also undertake a Periodic Aviation Safety Survey that has a reduced scope, focusing on particular operations or hazards on a day-to-day basis.

9. Periodic Aviation Safety Surveys (sometimes referred to as 'Spot' surveys) offer flexibility in scope and format. It is up to the organisation conducting the survey as to the focus of the survey, survey format and how the survey will be conducted.

10. The following guidance is aimed at in-house informal/opportunity surveys at Wing/Regiment and Unit level.

11. Process. Considerations should include the following:

a. Determine Requirement. Requirement for the survey may be directed by a commander (e.g. wanting to get a better insight into the safety attitudes, beliefs and concerns of subordinates; concerns following an increase in aviation safety events or the emergence of potential trends) or simply as an ASO initiative. Surveys should be limited in frequency (e.g. no more than 1–2 times per year) to avoid 'survey fatigue'.

b. Approval/Format. The survey will typically be conducted by the ASO. The ASO should consult with the commander as to the scope of the survey, target group (e.g. operations and/or maintenance personnel), report format (e.g. written report, formal/informal briefing), when results will be delivered, and how/when feedback will be provided to those surveyed.

c. Question Formulation. The survey should be simple and quick to complete (e.g. ideally 5–10 minutes). The questions that will make up the survey should be clear and concise statements. They should be based on the desired focus area of the survey, be limited in number and, if questions necessitate a rating scale, the rating scale should be consistent and simple (e.g. strongly disagree, disagree, unsure, agree, strongly disagree). The questions should be framed in a positive manner so as to not bias the responses/contaminate the validity of responses such that those surveyed focus on the negative/perceive the survey as a vehicle to express their complaints. Some example questions could include the following:

(1) What are your biggest safety concerns?

(2) What do you think will be the cause of the next significant safety event?

(3) How could this be prevented?

(4) If you were commander for the day, what would you change to improve safety?

(5) List some of the positive safety measures/initiatives within your unit.

(6) Do you have any other comments or concerns regarding safety?

d. Survey Conduct. The survey should be completed by all targeted personnel on the same day to ensure consistency of results (i.e. responses are made against the same current issues and conditions facing the workforce) and to maximise the response rate. The person conducting the survey should 'sell' the survey to those being surveyed to encourage complete and considered responses. Reminders such as the survey provides the opportunity to have your say and improve safety/find out what others are thinking, may be useful. Confidentiality guarantee should also be ensured to encourage 'frank and fearless' responses.

e. Result Analysis. Analysis should focus on the 'big' issues and any trends of note. Extra research may be required to confirm that the issues raised by some respondents are in fact real, rather than simply a misconception of the individual(s) and/or a communication issue. Such issues should still be considered for inclusion in final reporting. Analysis should attempt to identify organisational issues that may have been casual to the issue raised. This should help identify recommendations/potential solutions to address the issue.

f. Reporting. Final reporting should include recommendations to address the issues raised and a proposed implementation plan.

g. Feedback. Feedback to those surveyed should be accomplished in a timely manner and should include what command is going to do to address the issues raised. This will demonstrate command

commitment to safety as well as reinforcing to individuals that they can help improve their organisation's ASMS.

AUDITS

12. The purpose of an audit is to ensure compliance and conformance of processes and procedures with the reference manual or standard. By auditing, organisations can continue to develop and improve their systems and processes in an accountable and recorded manner. While auditing often concentrates on documentation, this is merely an indicator to ensure documentation has been updated to reflect current processes and practices and that the documentation provides clear, concise and accurate guidance to users at all levels of development. The audit process should be seen as a partnership where the aim of both parties is to improve the organisation being audited rather than an adversarial type of relationship.

13. Defence aviation has had an audit program for operational and technical organisations for a number of years, which has yielded very positive safety and capability outcomes. The issues raised and recommendations made as a result of these audits have improved accident prevention and the aviation safety performance of Defence.

14. Compliance is the minimum requirement to ensure safe levels of operation and reduce the number of aviation safety events. Further reduction is made through aviation safety surveys and improvements to the safety culture and effectiveness of the organisation's ASMS.

15. The ASMS audit is an important part of the evaluation, reporting and improvement processes that support the Defence ASMS. ASMS audits are the responsibility of COMAUSFLT, COMD FORCOMD and ACAUST and not the responsibility of DFSB.

Purpose

16. The purpose of an ASMS audit is to independently ensure compliance with the Defence ASMS as documented in this manual.

Audit Responsibility

17. COMAUSFLT, COMD FORCOMD and ACAUST are responsible for ensuring ASMS audits are conducted of FEGs and their subordinate elements to ensure compliance with the requirements of this manual. Best practice would be for a Command led audit team (or teams) to conduct the audit of all subordinate FEGs/Wings/Units that are required to maintain an ASMS. If this is not possible, then the Commander may direct that each FEG audit the Wings and Units within its command. (In such cases, the Commander would still need to audit the FEG.)

Audit Requirement and Frequency

18. ASMS audits are to be conducted every two years.

19. The audit process should be managed so that the time and resources dedicated to audits does not become a hazard in itself.

Audit Procedures

20. ASMS audit procedures should be in accordance with those mandated by COMAUSFLT, COMD FORCOMD and ACAUST and the following paragraphs.

21. Audit Qualifications. Audits should be conducted by personnel appropriately qualified and trained in standardisation and quality assurance. The audit team leader should have successfully completed accredited aviation safety audit and lead auditor training including the ISO 9000 series of standards and AS/NZS 4801:2001.

22. Audit Team Leader Authority. Where a major non-compliance or non-conformance is identified as presenting a serious risk to the continued safe operation of an Aviation System, the audit team leader must raise the issue with the commander. If its seriousness presents an immediate safety concern, it may be necessary for the audit team to direct the cessation of that operation. The audit team leader should advise the commander and higher command as soon as possible of any actions taken.

Audit Administration and Reporting

23. Notification of Audit. The audit team leader is responsible for ensuring that the notification of audit is released to the auditee no later than 30 days prior to the conduct of the audit.

24. Auditee Responsibilities. Commanders of organisations being audited should ensure that all documentation required for audit, as stated in the notification of audit, is available to the audit team. Office accommodation and support equipment as requested by the audit team leader should also be provided.

25. Audit Checklists. Use of the Defence ASMS audit checklist (available on the DFSB website) provides a basis for assurance of compliance with the Defence ASMS requirements as detailed in this manual. Other audit checklists may be used; however, the audit team needs to ensure the checklist used covers all requirements of this manual.

NOTE

- The Defence ASMS audit checklist (available on the DFSB website) can also be used by a commander's representative at any time to proactively check compliance of an ASMS.

26. Outbrief. On completion of the audit, the audit team leader should present an outbrief to the commander regarding the initial findings of the audit. Details of any Corrective Action Requests (CARs) should also be provided which allocate findings according to the following descriptors:

a. Major Non–Compliance. A major non-compliance is a notification that a serious breach of written policy, practice or procedure has been identified. Action to rectify major non-compliances should be completed as soon as possible, but not later than 30 days from the issue date of the audit report.

b. Minor Non–Compliance. A minor non-compliance is a notification that a breach of written policy, practice or procedure has been identified. Action to rectify minor non-compliances should be completed within 90 days of the issue date of the audit report.

c. Observation. An observation will be issued when a practice or procedure has been identified that has the potential to affect safety or function.

27. Audit Report. The audit report is to be provided to the Commander within one month of the completion of the audit. Director Airworthiness Coordination and Policy Agency (DACPA), Director of Defence Defence Flight Safety Bureau (DFSB) and Director General Defence Aviation Safety Authority (DG DASA) are also to be provided a copy of the audit report.

28. Corrective Action Request Tracking. The auditee is to ensure CARs are tracked to completion, with closure formally reported to COMAUSFLT, COMD FORCOMD and ACAUST as applicable. DACPA and DFSB should be advised of the closure of CARs.

CONCLUSION

29. Aviation safety surveys and compliance audits are required to ensure the ASMS is being applied and improved. Both are tools for command so that system health can be assessed and improvements can be made. External agencies providing these services are doing so to assist commanders in improving their ASMS and processes.

Annex:

A. Administration of the Snapshot Survey

ADMINISTRATION OF THE SNAPSHOT SURVEY

INTRODUCTION

1. The purpose of this policy guidance is to detail the procedures for the coordination and management of the DFSB administered Snapshot Survey. The purpose of the survey is twofold. It seeks to support commanders in the management of safety performance and contribute to the overarching Defence Aviation surveillance framework. This dual purpose is fundamental to the design and management of the Snapshot Survey as an instrument embedded both within the command and the Defence Aviation Safety Authority assurance framework. The Snapshot Survey satisfies the survey requirements of the Defence Aviation Safety Management System (ASMS) as well as the Defence Work Health and Safety (WHS) Management System.

SURVEY COORDINATION

2. Tri–Service Application. The Snapshot Survey is administered annually to all personnel in Air Force, Army Aviation and Fleet Air Arm units. Participation in the Snapshot Survey program is also available to other elements upon request.

3. Due to the conceptual overlap, units participating in the Snapshot Survey are encouraged not to request additional unit climate surveys (eg PULSE). Additional assessments expose the workforce to an increased risk of survey fatigue, which may in turn impact commitment to participate in future surveys, including the Snapshot Survey. DFSB staff are available to discuss alternate options with command.

4. Survey Responsibilities. The Director of DFSB is responsible for the management of all aspects of the Snapshot Survey including design, administration, data storage, analysis and reporting.

5. Survey Schedule and Administration. The Snapshot Survey is conducted annually and is administered electronically via email invitation. Paper-based surveys may be made available where access to the Defence Restricted Network (DRN) is limited. Unless otherwise determined by DFSB, the Snapshot Survey will be available for participant completion across a three-week period.

6. The timing of the survey's administration is determined by DFSB in consultation with the Directorate of People Intelligence and Research (DPIR) and with consideration of the annual safety reporting requirements of commanders and key stakeholders.

7. Snapshot Survey Questionnaire. DFSB Aviation Safety Assurance and Training (ASAT) is responsible for the management of the master survey questionnaire. Any suggested changes to the master survey questionnaire should be staffed through Deputy Director ASAT.

8. External Support. External Defence agencies (eg Directorate of Occupational Psychology and Health Analysis (DOPHA) and DPIR) and civilian contractors may be utilised to support the electronic design and delivery of the survey, and analysis of survey results.

REPORTING OF SURVEY RESULTS

9. DFSB Safety Assurance and Training is responsible for the production of Snapshot Survey reports, unless otherwise delegated by DFSB to an approved external agent. Director DFSB will act as the release authority for all reports generated from the Snapshot Survey data. The requirement to produce meaningful and credible information for unit commanders in a timely fashion is a key challenge for the Snapshot Survey Program. The priority given to report generation is as follows:

a. Unit;

b. Force Element Group;

c. workforce or organisational level reports; and

d. supplementary reports (including wing level reports).

10. Unit Level Reporting. Unit-level reports are generated to support commanders in the management of safety culture within their unit. This level of reporting provides the greatest return on investment as it supports local ownership and ensures that survey results are contextualised and reviewed in conjunction with other information that may be relevant to the unit at the time of administration.

11. Reports will be produced for all units participating in the Snapshot Survey, where appropriate representative sample sizes are available. Report structure will include a breakdown of relevant occupational demographics where appropriate sample sizes are available. Annual trends will be reported as survey data becomes available.

12. DFSB will only release unit level reports to the unit Commanding Officer (CO) or authorised delegate. Unit COs or authorised delegates hold authority for the dissemination of the report or information pertaining to their work groups.

13. As part of fostering a generative safety culture, unit COs or authorised delegates are strongly encouraged to share and discuss information contained in the unit-level report with their workforce, command chain, peers and airworthiness authorities. The provision of feedback, both up and down the chain, engenders trust and will ensure the enduring success of the program. Forums such as safety standdowns and safety committee meetings provide an ideal opportunity where results can be discussed in context. Incorporating survey results into safety committee meetings ensures that issues confronting the organisation are discussed, and actions for mitigation/remediation are established, tracked and implemented.

14. Wing/FEG Level Reporting. There is a loss in precision associated with using aggregated data to produce Snapshot Survey results at the Wing/FEG level (ie unit and sub-unit results are more accurate and provide greater insight). Wing/FEG commanders are encouraged to establish a process whereby subordinate commanders are to provide a back-brief on the key Snapshot Survey findings, including any areas of concern and related remedial actions. It is important that the debrief process does not challenge the confidentiality provisions afforded to report owners. Access to unit level reports remains at the discretion of the CO. Information from the Snapshot Survey must not be used as part of a commander's performance assessment.

15. FEG-level reports will be generated to support commanders in identifying potential strengths and opportunities for improvement and to aid in data-driven allocation of resources to eliminate or otherwise minimise risk. To ensure the confidentiality provisions afforded to unit COs are not undermined, units will be de-identified within FEG-level reports. FEG-level reports will be generated following the release of unit-level reports.

16. Workforce or Organisational Level Reporting. Workforce or organisational level reports provide information on the safety culture maturity of Defence Aviation as a whole, including annual trends as the survey data becomes available. Aggregated results are provided to Senior Leadership as part of the Defence Aviation Safety Health Assessment (DASHA), and made available to interested parties on request from DFSB. The report will not identify any unit individually, however, it may include a breakdown of relevant occupational demographics (eg mustering/specialisation).

17. Supplementary Reporting. Aggregated Snapshot Survey information across work groups may be provided to Defence agencies. This could occur as a result of a request for baseline information on organisational safety-culture measures (such as occupational fatigue). These may also assist in comparing results from other Defence-wide attitude surveys. No individuals or work groups will be identified in these aggregated reports.

ETHICS AND PRIVACY CONSIDERATIONS

18. Prior to the commencement of the Snapshot Survey, DFSB must obtain ethics approval (via the People Research Low Risk Ethics Panel). The Snapshot Survey is considered negligible-to-low-risk human research in which there is no foreseeable risk of harm or discomfort, and any foreseeable risk is no more than inconvenience. Participation in the DFSB Snapshot Survey is entirely voluntary. The decision to participate or not participate must be seen by commanders and their personnel as independent of the obligation to comply with legitimate command direction. Participants maintain the right to withdraw from the survey at any time without consequence.

19. At the beginning of the survey administration, participants will be provided an information screen (electronic) or sheet (paper-based) identifying the purpose, use, and reporting of the responses they provide. Subsequent participation in the survey will be considered informed consent to use the responses in the manner detailed.

20. The Snapshot survey will not capture any unique individual identifiers (eg PMKeyS ID). As such, DFSB will not seek to contact any respondent who discloses that their health or safety is at risk. Participants who wish to report threats to health, safety or civil/military offences will be advised to do so through their command chains or via the Safety Network on completion of the survey. To maintain individual anonymity, sub-samples with aggregates of less than five people will not be reported separately. In such cases, these responses will be absorbed into a larger sample. Open-ended survey questions that require a written response will be screened for identifying information and either be redacted or edited to ensure individual anonymity.

21. Data Management. DFSB ASAT is responsible for maintaining the confidentiality and anonymity of individual respondents. Individual response data will be stored as a collated data file in the Document and Record Management System (DRMS) and in accordance with the 'For Official Use Only' disseminating marker. Access to data captured by the Snapshot Survey will only be provided to DFSB approved staff on a 'need-to-know' basis (ie staff directly involved in data analysis and generation of reports). No individual response data will be released outside of DFSB. DD ASAT is responsible for approving individual access privileges to the relevant DRMS folder(s).

22. To further protect the confidentiality of respondent data, the master dataset (produced for each year) will be spilt after three years from the date of creation. Selected demographic information will be stripped from the dataset and stored in an alternate data file . This ensures that after three years survey responses can be considered anonymous. The demographic data file will have access restricted to DD ASAT only.

23. Snapshot Survey data may be used by DFSB in support of research projects pertaining to safety culture, safety attitudes and behaviours, safety resources, aviation safety events, or HF issues (eg fatigue). No individuals or work groups will be identified in any research report or brief resulting from this research.

24. DFSB holds the authority to identify and permit appropriately qualified persons, including Defence Reserve or contracted professionals, to undertake analysis of data. Data provided will not contain the master dataset, but will be comprised of an appropriate subset of the data (with limited demographic details) that meets the needs of the request. Any person undertaking data analysis of the DFSB Snapshot Survey will be required to store and treat the data in accordance with this chapter as well as upholding any additional storage measures provided by DD ASAT. Additionally, any subsequent reports using Snapshot Survey data are required to be reviewed by DFSB prior to release.

25. DFSB Snapshot Survey data is not to be used for any purpose other than that stated in this chapter and disclosed on the survey information screen/sheet.

Related Orders, Instructions and Publications

AAP 6730.001—*Air Force Safety Manual*

National Health and Medical Research Council, Australian Research Council & the Australian Vice-Chancellor's Committee (2007) National Statement on Ethical Conduct in Human Research

Australian Psychological Society (2007) Code of Ethics

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SECTION 3

CHAPTER 12

AVIATION SAFETY MANAGEMENT SYSTEM REVIEW

INTRODUCTION

1. To be effective, an Aviation Safety Management System (ASMS) must strive for continuous improvement. The ASMS must continually evolve as lessons are learnt and processes improve. The overarching Defence ASMS Policy and ASMSs implemented under this policy by commanders of aviation-related organisations both require regular review to identify areas for improvement and ensure their continued applicability and relevance.

AIM

2. The aim of this chapter is to provide guidance to assist commanders in their review of their implemented ASMS.

AVIATION SAFETY MANAGEMENT SYSTEM CONTINUOUS IMPROVEMENT PROCESS

3. ASMS evolution is achieved through a continuous improvement process that has the following five interrelated steps:

a. **Documented Safety Policy.** Policy underpinning the Defence ASMS should be promulgated at all levels (e.g. DASP, DASM, ASMS policy statements, implementation guidance).

b. **Planning.** Plans should be in place to cover all safety-related activities, including communication, training and education, risk management, hazard identification, reporting and tracking, investigation, emergency response, survey and audit.

c. **Implementation.** Plans should be implemented in accordance with the promulgated policy.

d. **Measurement and Evaluation.** The success or otherwise of the implemented plans should be measured and evaluated, using appropriate criteria, to ensure the organisation learns from all activities.

e. **Management Review.** Management should routinely and regularly review all lessons learnt from the measurement and evaluation process to review and amend as appropriate the documented safety policy and instructions.

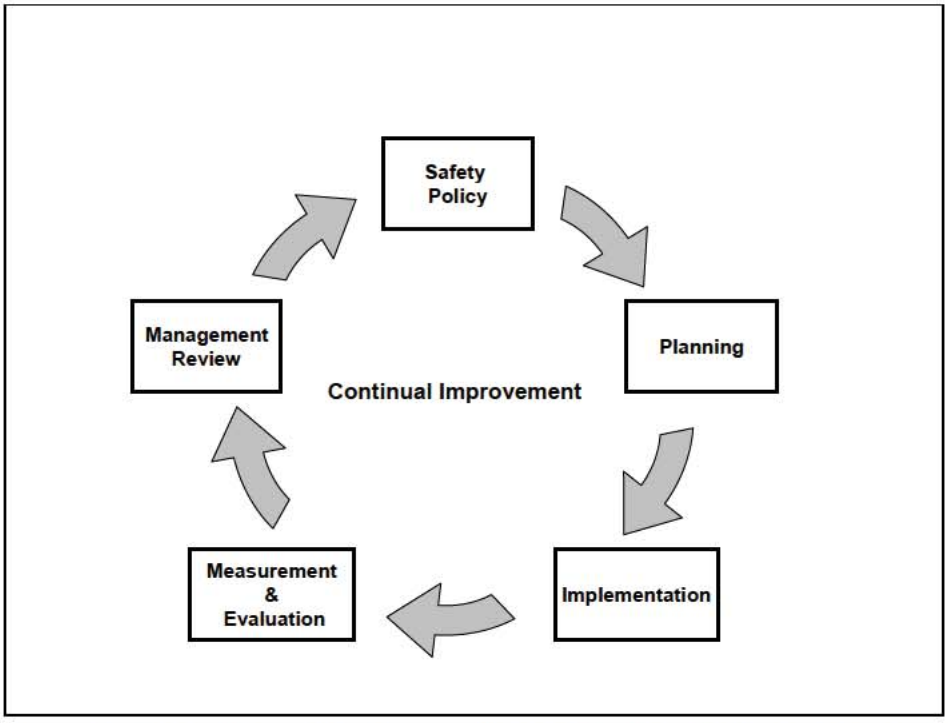

Figure 12–1 Aviation Safety Management System Continuous Improvement Process

ASMS Review Process

4. There are several inputs to the ASMS review function. The requirements of this function are fulfilled in part by the review of system implementation at policy level through command review, effectiveness through safety climate surveys and compliance through audits. Other components of safety oversight include assessment and maintenance of standards and capability outputs. See Figure 12–2 for an outline of safety review functions.

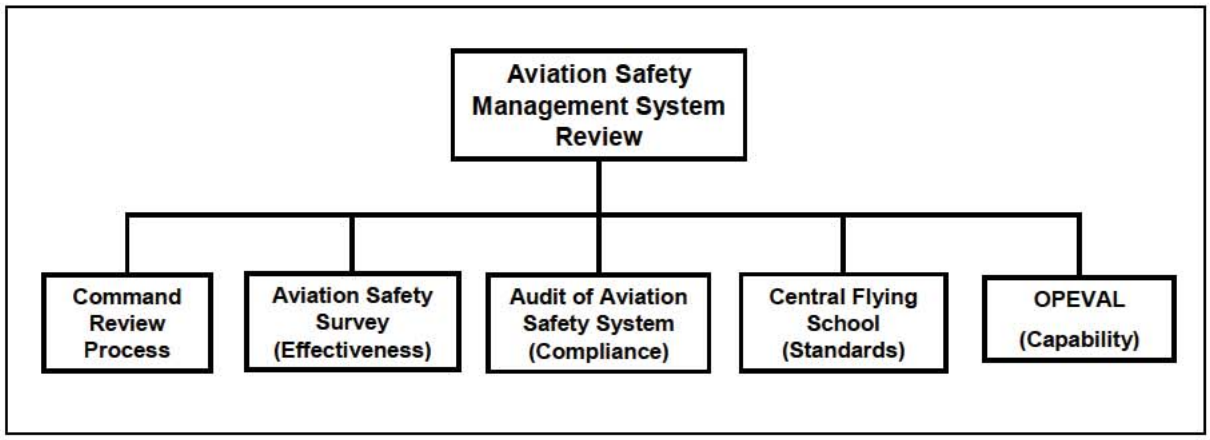

Figure 12–2 Components of Aviation Safety Management System Review

5. The ASMS is embedded within all parts of the airworthiness system. Safety culture is the conduit of the system and determines its effectiveness. ASMS review itself becomes one element of the overall review within the Defence Aviation Safety Program (DASP).

6. Management Review. With respect to airworthiness management, the term 'Review' is defined in AAP 7001.048—*ADF Airworthiness Manual* section 1 chapter 1 as follows:

> ***Review.*** *The review function is independent of regulation and operation functions, and is intended to assess aviation systems' past compliance with regulations, confirm that systems are able to comply in the future and review the ADF airworthiness system. This function is performed by the Airworthiness Board (AwB), Aviation Executive Board (AEB) and Airworthiness Policy Review Committee (APRC). The outcome comprises recommendations to both regulators and operators.*

7. When applied to Aviation Safety Management, this definition of 'Review' includes Aviation Hazard Review Boards (AHRBs), RAAFSAFE, AIRSAFE, and all aviation safety committee meetings and standardisation meetings that report to the AwB and APRC, as well as to the chain of command. All operational, technical and Defence Flight Safety Bureau (DFSB) airworthiness submissions to the AwB also include outcomes of ASMS review. In addition, the top hazards to the operation, maintenance and engineering of a particular aircraft type, identified in aviation safety surveys, should be reported to:

- **a.** the AwB in the operational and technical airworthiness submissions; and
- **b.** aviation safety committees.

8. Regular review of an organisation's documented aviation safety policies and instructions is also an essential element of continual improvement. At its most basic, such reviews ensure that documents accurately reflect current references, appointment holders and organisational structures. Such regular reviews also allow for new ideas and processes to be introduced and for obsolete or superseded procedures or practices to be removed. Commanders should implement a system of regular periodic review of all safety policies and instructions managed by the organisation.

9. Survey. Aviation Safety Surveys contribute to the continual improvement process through evaluating the organisation's safety culture and as a means of assessing effectiveness of the implemented ASMS. Refer to Chapter 11 of this manual for further detail on Aviation Safety Surveys.

10. Audit. Checks to measure compliance are called audits. A vital element of an ASMS is a method of checking that policy accords with philosophy, that procedure complies with policy and that practice complies with procedure. Refer Chapter 11 of this manual for further detail on ASMS audits.

11. Central Flying School (CFS). The important role of CFS within the audit process and as a centre of aviation knowledge has not been specifically defined as part of operational airworthiness and/or the ASMS. Nevertheless, standardisation assessments conducted by CFS are an important element in assessing ASMS effectiveness and as a means to identify additional areas for improvement.

12. Operations Evaluation (OPEVAL). The purpose of an OPEVAL is to identify strengths and weaknesses in capability and to provide feedback on the results of activities such as doctrine, procedures, tactics, organisations, items of equipment and training. OPEVAL teams should be conscious of aviation safety issues and work health and safety issues, and highlight to the management chain of command any tasks that involve undue risk to personnel.

13. Given the purpose of management reviews, aviation safety surveys, audits, CFS visits and OPEVAL activities, it is apparent that there are some areas of overlap; however, in order to understand the complete picture on safety and capability, all types of review must be conducted and reviewed. If this is not conducted effectively, holes will be left in defensive barriers protecting organisations from aviation safety events. See figure 12–3 for a pictorial representation of the overlap of each of these components of safety oversight.

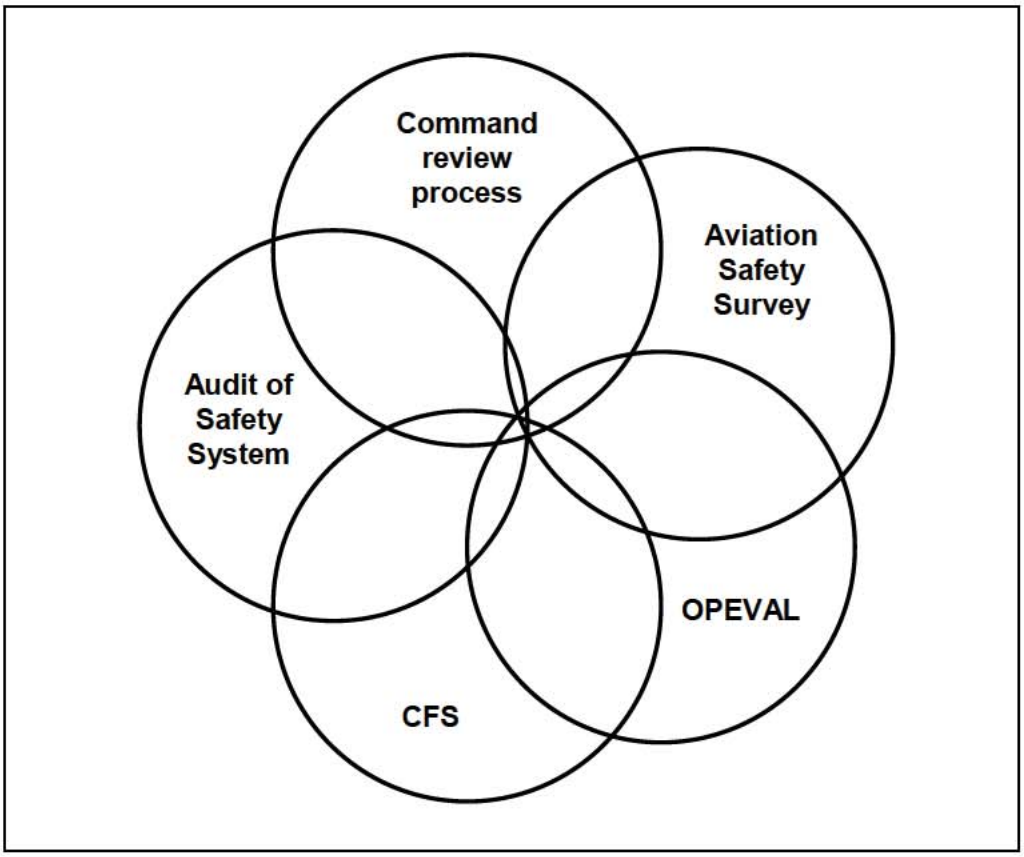

Figure 12–3 Overlap of Different Types of Review Forming Part of Overall Aviation Safety Review

CONCLUSION

14. Ongoing review of an ASMS is required to ensure its continued effectiveness. The ASMS continuous improvement process is an important tool in the success of the organisation's ASMS.

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SECTION 4

CHAPTER 1

INTRODUCTION

1. Medical Officers (MO) will play a key role in all Class A event investigations and some lower class event investigations. In the immediate aftermath of an aviation accident, the MO will be responsible for the handling of any casualties as well as the associated preliminary investigation responsibilities. A Senior Aviation Medical Officer (SAVMO) will always be appointed to an Aviation Safety Investigation Team (ASIT) investigating a Class A event. For other aviation safety events a SAVMO may not necessarily be appointed to the ASIT but will often be required to provide some assistance.

2. The purpose of this section is to provide material which will assist medical personnel to prepare for any role they may have in the conduct of an aviation safety event investigation. Previously this information was contained in ADFP 731—*Medical Guide to Aircraft Accident/Incident Investigation*. (This publication has been withdrawn.) Before reading this section, medical personnel should familiarise themselves with Section 3 Chapter 9, and associated annexes, of this manual which contain important information on all aspects of Defence Aviation safety event investigation. The SAVMO **must** understand the principles of investigation, the role of the other members of the investigation team and the investigation process before participating in any investigation.

Medical Responsibilities

3. Initial Response to an Aviation Accident. During the initial response to an aviation accident medical personnel may be called upon to:

- **a.** provide emergency care as part of the initial accident response;
- **b.** begin the event investigation process (as per chapter 2) prior to appointment of an ASIT;
- **c.** provide specialist advice and consultation; and
- **d.** participate in critical incident stress debriefing.

4. ASIT Responsibilities (Class A Events). When appointed to an ASIT, the SAVMO will usually work closely with the appointed aviation human factors specialist. Duties of the SAVMO include:

- **a.** Determine if medical, psychological, psychiatric, human, social or occupational factors may have caused or contributed to the accident (this will normally be done in conjunction with the aviation human factors specialist).
- **b.** Assist with correct identification of those personnel injured or killed as a consequence of the accident.
- **c.** Determine the cause of injury or death in conjunction with the investigating forensic pathologist.
- **d.** Ensure that, wherever possible, appropriate biological samples are collected from survivors and deceased for toxicological and biochemical analyses.
- **e.** Ensure that post-mortem examinations are conducted by an aviation forensic pathologist and assist the pathologists with post-mortems, forensic pathology and toxicology wherever possible. Refer Defence Health Policy Directive 302—*Arrangements for the Attendance of Australian Defence Force Medical Officers at Post-Mortem Investigation of Fatally Injured Personnel Following Service Aircraft Accidents.*
- **f.** Assist with the collection of physical evidence and medical photography if appropriate.
- **g.** Locate and examine all relevant medical records.
- **h.** Physically examine survivors, accurately record and photograph their injuries, and maintain close liaison with relevant medical authorities involved in the medical management of survivors.
- **i.** Visit accident victims in hospital and collect evidence if available.
- **j.** Prepare 'injury maps' of the victims from crash site analysis.
- **k.** Interview family, work colleagues, witnesses, medical practitioners, and other personnel if appropriate.
- **l.** Conduct detailed accident site and wreckage inspection.
- **m.** Liaise with the responsible forensic pathologist and coroner.

n. Arrange, supervise and assist with removal of human remains from the crash site if authorised to do so. If a significant time delay is foreseen between time of accident and retrieval of human remains, instigate measures to protect remains from environmental conditions (preferably after they have been photographed in situ).

o. Conduct a detailed human factors assessment in conjunction with a suitably experienced aviation human factors specialist.

p. Document and evaluate the performance of aircrew safety and survival equipment, and determine if they were used correctly.

q. Document and evaluate the crashworthiness performance of aircraft safety and life support systems.

r. Evaluate the adequacy of periodic aircrew safety and survival equipment inspections and maintenance.

s. Evaluate the currency and adequacy of aircrew aviation medicine and survival training.

t. Assist other members of the ASIT as required.

u. Ensure that ASIT members have access to critical incident stress debriefing during and after the investigation.

5. ASIT Responsibilities (Class B and Below Events). An ASIT may be formed to investigate Class B and below events; however, because such investigations would not involve a fatality, the appointment of a SAVMO to the team is not mandatory. Nevertheless, a SAVMO may still be called upon to provide assistance to the investigation. This would most likely be a medical assessment of the crew and passengers. However, the degree of assistance required will vary with the complexity of the investigation.

6. SAVMOs will be called on infrequently to participate in an accident investigation and so the opportunities to develop investigative skills are limited. Errors can be committed easily simply due to a lack of experience. The SAVMO must be well prepared by understanding the principles and processes of investigation outlined in this manual. Guidance can also be sought from experienced members of the investigation team. The imperative for the SAVMO is to remain inquisitive, thorough and impartial throughout the course of the investigation. The SAVMO should also demonstrate the same respect for objectivity and confidentiality that is expected in providing daily medical care.

SECTION 4

CHAPTER 2

INITIAL RESPONSE TO AN AVIATION ACCIDENT

PRE-ACCIDENT PREPARATION

1. An important part of pre-accident preparation is for the Base MO and medical staff to be thoroughly familiar with all relevant Airfield/ Unit Emergency Plans (AEP/UEP). Indeed, the MO and medical staff should be key contributors to the development of any Emergency Plan. In the event of an accident, medical staff will be required to activate any supporting medical plans of the AEP/UEP. Typical duties might include:

a. determining the location and identification of Medical Control Areas,

b. initial triage and first aid treatment of casualties,

c. evacuation of casualties to determined Medical Control Areas,

d. coordination of medical/paramedical resources,

e. transport of casualties to definitive medical care,

f. alerting of relevant hospitals and ascertaining their casualty handling capacity,

g. provision of a Critical Incident Mental Health Support (CIMHS) Team,

h. provision of an Environmental Health Officer (ENVHO) to conduct a hazard assessment of the accident site and deal with any public health or environmental issues which may arise,

i. handling of deceased, and

j. commencement of the accident investigation process pending the appointment of an ASIT.

2. In addition to a thorough knowledge of relevant AEP/UEP, medical personnel should also have a thorough understanding of AAP 6730.002—*Aviation Accident Work Health and Safety Manual.* This publication provides valuable information on the sorts of hazards that can be encountered at an accident site and the types of personal protective equipment (PPE) that may be required. Further guidance is also available in the joint DFSB /ATSB booklet *Hazards at aircraft accident sites – Guidance for police and emergency personnel.* An important part of pre-accident preparation is to have appropriate PPE readily available.

IMMEDIATE POST-ACCIDENT DUTIES OF THE MEDICAL OFFICER

3. As an immediate responder, the Base MOs' first responsibility is the triage, treatment, movement, and evacuation of casualties. Preservation of evidence is the second responsibility. The wreckage should be disturbed as little as possible in the process of removing survivors. The MO also has a role to undertake initial medical investigative activities until relieved by the SAVMO appointed to the ASIT. These activities include the following:

a. Make appropriate notifications (for example Senior Health Officer at the next higher headquarters, local civilian hospital, the relevant aviation pathologist (forensic)).

b. Secure an area for physical examinations and interviews of the survivors.

c. Impound aircrew and passenger safety equipment, and medical/dental/psychology records of all involved personnel.

d. Coordinate photography of the accident site including wreckage, safety equipment and all human remains.

e. Perform the appropriate laboratory studies and physical examinations immediately. These examinations should be as thorough and complete as the examinee's condition and circumstance permit, with special emphasis on those areas which may be pertinent to accident causal factors. Ascertain, document and photograph all injuries. Examinations should be performed on all survivors and anyone else (eg air traffic controllers) who may be involved. *If in doubt, examine*. Document the examination on Form PM 184—*Medical Report on an Aircraft Incident or Accident* (see Paragraph 7 of this chapter and Paragraph 29 of Section 4 Chapter 3).

f. Perform radiological studies as indicated following liaison with radiologist. **After all ejections, bailouts and crashes, full spinal imaging (CT or MRI scanning may be a better option depending on availability) is required.**

g. Compile a complete manifest, with location, of all personnel in hospital. Arrange visits with all personnel in outlying hospitals and liaise with civilian medical staff for complete review of injuries. Secure approval for photography wherever possible. Ensure that appropriate Critical Incident Stress Debriefing and follow-up protocols are initiated.

h. Maintain close follow-up with survivors to monitor any changes in their medical condition and to obtain further elaboration on the accident events.

4. While not strictly medical investigative activities, the MO should also undertake the following:

a. Make the appropriate aeromedical dispositions for all personnel on flying status (in consultation with an Aviation Medical Officer if the MO is not qualified in Aviation Medicine).

b. Assist parent unit with single Service notifiable casualty (NOTICAS) and personnel injury reporting.

c. Attend to the psychological trauma that may be present in the next of kin, squadron members, ASIT members, remains recoverers and the MO him/herself. Consider the need for critical incident stress debriefing and notify appropriate personnel to ensure critical incident stress management protocols are initiated (see Section 4 Chapter 3 Paragraph 6).

d. Assist Defence Community Organisation with timely notification for the release of human remains to appointed funeral directors or next of kin as soon as possible.

e. It may become necessary to escort relatives of the deceased personnel through the accident site. As a general rule, the temptation to conduct such visits prematurely should be resisted, lest relatives are inadvertently exposed to undue medical or even psychological risks. For the military personnel who supervise them, these visits are often very stressful and can elicit a range of extreme emotional reactions from relatives. This should be considered when determining how much time to allocate to this type of visit. Such visits should not take place until the Investigator-in-Charge (IIC) of the ASIT has given approval and it can be confidently assumed that:

(1) all human remains have been recovered, particularly in the situation of high-speed accidents/collisions, where small, multiple tissue specimens may be scattered over a considerable area;

(2) there is no risk of altering or destroying evidence required by the ASIT; and

(3) there are no remaining hazardous substance risks.

INITIAL DUTIES OF AN ASIT SAVMO

72 Hour Histories

5. Begin the 72 hour histories and Form PM 184 on all involved personnel. (This task is normally conducted by the ASIT SAVMO but may be commenced by the Base MO.) The 72 hour history should be completed as soon as possible after an accident to ensure accuracy, but certainly within 24 to 48 hours. In the case of a fatality, the 72 hour history must be constructed from friends, coworkers and family of the deceased (see Section 4 Chapter 3 Paragraphs 16 to 18). As significant ‘human factors’ information may emerge from the 72 hour history, close consultation with the ASIT human factors specialist is essential.

Duties Concerning Deceased Personnel

6. Ensure the following have been completed:

a. Obtain full body imaging of remains in and out of flight equipment with emphasis on the hands, feet, head, and neck (anteroposterior and lateral) in conjunction with the investigating forensic pathologist. Obtain other views and perform further radiological studies as indicated. Consider CT-scan or MRI of the spine.

b. Obtain finger and/or footprints of remains.

c. Assist with the autopsy (see Health Policy Directive 302—*Arrangements for the Attendance of Australian Defence Force Medical Officers at Post-mortem Investigations of Fatally Injured Personnel Following Service Aircraft Accidents*).

d. Liaise with the MO appointed to accompany the Duty NOTICAS Officer.

e. Ensure identification of deceased is completed satisfactorily.

f. Liaise with the forensic pathologist and/or forensic odontologist.

g. Review interim post-mortem report and arrange for a copy to be available to the ASIT as soon as possible. (This may be a slight problem as most forensic pathologists are reluctant to release interim reports for medicolegal reasons. Close liaison with the forensic pathologist will be required.) This is particularly critical if there is definite evidence to eliminate medical factors as causal to the accident.

Biological Screening Tests – Survivors

7. Immediately after an accident, sufficient blood and urine should be taken from survivors for the determinations of blood alcohol, glucose, carbon monoxide, haematocrit and haemoglobin, a drug screen and urinalysis. Some samples will be screened locally while other laboratory determinations will be made by a referral laboratory such as the Australian Government Analytical Laboratory (AGAL). From a purely safety perspective, a well-documented chain of custody need not necessarily be followed; however, if time constraints allow, this should be followed. Suspicious results must be repeated, and in the case of toxicology, results will need to be confirmed. This will require liaison, preferably with the chief laboratory toxicologist who may suggest using a different technique, such as gas chromatography/mass spectroscopy. Additional screening tests may be required by the ASIT as determined during the course of the investigation. Individual members involved may also request collection of additional blood or urine samples for independent analysis, often at the advice of their legal counsel.

8. As a quick reference, as soon as possible after an accident, collect from each of the aircrew (and anyone else who may have been a factor in the accident) at least:

a. four biochemistry specimen test tubes (10 ml);

b. two fluoride specimen test tubes (10 ml);

c. two edetate disodium (EDTA) specimen test tubes (5 or 10 ml); and

d. 60 ml urine.

9. Clean skin with a non-alcohol swab, or soap and water. DO NOT USE ALCOHOL.

10. The following screening tests should be obtained:

a. Routine biochemistry screen including liver function tests, lipids, urea and electrolytes.

b. Serum glucose, blood alcohol. The fluoride preservative arrests the enzymatic metabolism of ethanol and glucose.

c. Full blood count, carboxyhaemoglobin. The EDTA preservative is ideal for carbon monoxide analysis.

d. Complete urinalysis including microscopic examination (urine 20 ml).

e. Toxicology screen, including alcohol, drugs of abuse, medication, products of combustion (hydrogen cyanide, acrolein, hydrocarbons), and other toxins. The following specimens should be sent to AGAL or other reference laboratory:

(1) Two 10 ml biochemistry specimen test tubes.

(2) One 10 ml fluoride specimen test tube.

(3) One 5 or 10 ml EDTA test tube.

(4) One 20 ml urine sample.

11. Special additional tests such as heavy metal screen, cholinesterase, cardiac enzymes, Human Immunodeficiency Virus, Hepatitis B, Hepatitis C, or other laboratory tests as determined during the course of the investigation may be requested as well.

12. If, due to injuries or other limiting factors, not all the above specimens can be obtained from any person, a test tube of fluoride-preserved blood should be drawn. A limited range of toxicology tests can be performed on this specimen, including alcohol and carbon monoxide estimation and detection of a range of drugs of abuse. Urine, even if obtained many hours to days after the accident, may still provide important information on the use of a range of medications and substances.

13. Hold frozen locally for at least 90 days for backup use:

a. One biochemistry test tube.

b. One 20 ml urine sample.

14. In the event the SAVMO submits the spare frozen specimens, all tubes should be labelled with the individual's name and Service number. The specimens should be sent by courier to AGAL. If a courier is not available, the specimens could be posted as a 'Registered Mail' parcel. The specimens must be stored in both a primary watertight receptacle surrounded by shock-absorbent material, inside a secondary watertight receptacle. Australia Post publish a 'Dangerous and Prohibited Goods and Packing Post Guide' which outlines the details expected for transport of hazardous biological materials.

Other Diagnostic Studies to Order

15. The following diagnostic studies should also be ordered:

a. Electroencephalogram, plain radiographs, head CT, and/or MRI on all documented or suspected head injury survivors. The head CT needs to be considered within the first 48 hours for head injured patients in conjunction with treating clinicians.

b. Electrocardiograms for those over age 35.

c. Full spinal imaging on all accidents involving ejection, bailouts and aircraft crashes, whether or not back injury is suspected. Again, CT-scanning/MRI may need to be considered. Approximately 10 per cent of crewmen who eject experience compression fractures, usually of the lower thoracic and lumbar vertebrae. Bone scans should be performed in all crash survivors between two and four weeks after the accident to document occult compression fractures after consultation with a specialist orthopaedic surgeon and radiologist.

d. Appropriate radiological studies for the trauma incurred, or for any suspected illness (for example, sinusitis—sinus series) in consultation with treating clinician.

e. Total body imaging in consultation with the investigating forensic pathologist in autopsy cases, in and out of flight equipment, with emphasis on hands, feet, head and neck. Sometimes important clues and unexpected injuries are revealed, such as the presence of foreign bodies or projectiles which otherwise would have remained undetected. When x-raying clothing (helmet and boots)—remember to mark right from left and include scale.

SECTION 4

CHAPTER 3

THE ASIT AVIATION MEDICINE SPECIALIST

INTRODUCTION

1. Every ASIT involved in the investigation of a Class A event is required to have an Aviation Medicine Specialist – the Senior Aviation Medical Officer (SAVMO). The SAVMO may not be a trained aviation safety investigator. However, the individual appointed to this role must have a thorough understanding of investigative methods and processes and accident site hazards and procedures.

AT THE ACCIDENT SITE

Preparation

2. The SAVMO assigned to an ASIT will be required to respond quickly. The accident site could be on or close to a military base, in a remote location or overseas. The SAVMO should have appropriate personal and working kit to be able to operate in any of these locations for periods which may last from a few days up to a month or more. Vaccination books and official passports will be required in some cases. DFSB SI (OPS) 1-2 provides information on investigator readiness, preparation and training. (This SI can be viewed on the DFSB website.) SAVMOs who are likely to be assigned to an ASIT should conform with the requirements of DFSB SI (OPS) 1-2 as far as possible.

3. DFSB maintains a comprehensive crash kit which contains all the equipment required to support an accident investigation. One component of the crash kit is the SAVMO's equipment. A detailed listing of the contents of this kit is available in DFSB SI (OPS) 4-3A *DFSB Aviation Safety Investigator's Handbook* Part 1 Chapter 7 Annex I.

Safety

4. In all activities associated with accident investigation, the safety of the investigator is paramount; therefore, the SAVMO is to abide by the advice provided in the *DFSB Aviation Safety Investigator's Handbook*, AAP 6730.001—*Air Force Safety Manual* and AAP 6730.002—*Aviation Accident Work Health and Safety Manual.*

5. Aircraft accident sites can be extremely hazardous and potentially lethal environments. The site of an accident involving a third or fourth generation fighter aircraft, for example, potentially presents a broad spectrum of known hazardous materials and substances, including burnt advanced composite fibres, toxic chemicals and radioactive materials. Accidents resulting in fatalities or injuries will also present the threat of bloodborne pathogens. Other hazards might include site terrain, adverse weather, sharp metallic wreckage, unexploded ordnance and exposure to flora and fauna (snakes, spiders, feral animals and toxic vegetation). The *DFSB Aviation Safety Investigator's Handbook* provides guidance on typical accident site hazards, risk management processes and specific safety precautions associated with attendance at an aircraft accident site. Specialist members of an ASIT who lack site awareness training will be supervised by the Site Safety Officer and DFSB investigators.

Critical Incident Stress Management (CISM)

6. The site of an aircraft accident is usually a chaotic and stressful place. The personnel involved in the response to an accident may have witnessed extremely disturbing scenes or events which may result in extreme psychological trauma. CISM aims to lessen the impact of traumatic and distressing events on personnel to accelerate recovery from such events and to identify personnel who will require further or more intense management. All personnel involved in the accident response or subsequent investigation should be offered access to CISM resources.

SAVMO Role/Duties

7. The SAVMO's role is to undertake all the medical aspects of the investigation. This will involve spending a significant amount of time at the accident site gathering data and information (evidence) for subsequent analysis. The PM 184 *Medical Report on an Aircraft Incident or Accident* and its companion document, the PM 185 *Medical Officer's Incident and/or Accident Checklist* provide the necessary guidance on evidence to be gathered. The nature of aviation accident investigations is such that the SAVMO will be required to work closely with other members of the ASIT, in particular the human factors specialist.

8. Where the accident involves a fatality, the SAVMO must liaise with civil police, the coroner and disaster victim identification (DVI) personnel to ensure that the needs of the investigation process are met while complying with any coronial or legal requirements. Bodies of deceased personnel should be covered and left where they are for

the period required to take photographs or document their posture and relative position. Depending upon civil police requirements, it may not be possible to leave wreckage or human remains in-situ for a period of time required to complete an adequate aircraft accident investigation. Conversely, it may be illegal to move remains or take biological specimens until evaluated by the local coroner or approved by the civil police. In addition, the presence of scavenging animals or looters may force accomplishment of remains recovery before nightfall. Erection of temporary shelters to provide protection from environmental conditions such as harsh sunlight or heavy rainfall may be useful in preserving remains for further investigation.

9. Body parts and any identifying personal articles should be tagged and photographed to record the exact location and position prior to moving them. This is the responsibility of the civil police DVI personnel, often in conjunction with the Defence forensic pathologist and forensic odontologist attending in a civilian role. Assistance should be offered to civil police with location and tagging of body parts, as this will enhance the aircraft accident investigation.

10. As a rule, body fluids from fatalities should NOT be collected at the scene. The post-mortem examination is the proper time and place for the collection of body fluids for toxicology screens or other studies and will be done by the pathologist. Any special requirements should be discussed with the pathologist prior to commencement of the post-mortem examination. Furthermore, it may be illegal to take biological specimens until evaluated by the local coroner or approved by the civil police. Personal equipment or clothing should not be removed from the body without consultation with the forensic pathologist and before radiographs and photographs are taken and the autopsy performed.

11. Within Australia the SAVMO's role when dealing with fatalities and the required liaison with civilian authorities will likely be reasonably straightforward. The SAVMO will also be working with DVI personnel and forensic pathologists and odontologists. Where the accident occurs in an overseas location this may not necessarily occur. In the worst case, the SAVMO may be the only person at the accident site dealing with all the requirements for investigation and handling of human remains prior to their recovery to a site for autopsy.

12. Much of the evidence available to the SAVMO at the accident site will be perishable and it is important that this evidence is captured and preserved. Imagery recording, including video and still photography, is an essential mechanism of evidence capture and collection in use by investigators. Effective photography can be critical to the successful outcome of an accident investigation. Not only must photographs taken on site be carefully composed and executed in order to be useful, they must be appropriately controlled following capture in order to retain the information and to maintain the chain of evidence as part of the investigative process. The *DFSB Aviation Safety Investigator's Handbook* Part 2 Chapter 5 provides a great deal of detailed information on evidence preservation and photography.

13. An additional role for the SAVMO is to monitor on-site staff and team members for signs of environmental injuries and psychological wellbeing. The SAVMO should be prepared to render medical assistance for ASIT personnel who become injured or adversely affected by the situation. This could also include the provision of CISM support.

INVESTIGATION

14. Section 4 Chapter 1 Para 4 of this manual lists the duties of the SAVMO appointed to the ASIT. Many of these duties will be fulfilled in the compilation of the PM 184 *Medical Report on an Aircraft Incident or Accident.* The PM 185 *Medical Officer's Incident and/or Accident Checklist* provides detailed information to assist in compiling the PM 184. Further guidance on the conduct of the investigation is provided below.

Interviews

15. In the course of gathering evidence for the investigation the SAVMO will be required to conduct numerous interviews. Section 3 Chapter 9 Annex H of this manual and Part 2 Chapter 7 of the *DFSB Aviation Safety Investigator's Handbook* both provide useful information on the conduct of interviews.

72 Hour History

16. Analysis of the 72 hour history of each aircrew member and other persons who may have had an involvement in the accident is required to determine whether a state of sleep related fatigue existed, and whether it played a role in the human behaviour observed in the event. In analysing the potential for sleep related fatigue, it is the quantity and quality of sleep obtained that is of critical interest.

17. A detailed 72 hour history will also assist with potential identification of factors that may have contributed to adverse human performance (eg inadequate food intake, alcohol consumption, medication/drug use, stressful situations and significant events).

18. The following personnel should provide 72 hour and 14 day histories:

- **a.** all accident aircrew members,
- **b.** all involved maintenance personnel, and
- **c.** any individual suspected of playing a contributory role in the accident.

19. Instructions:

- **a.** Be as detailed as possible.
- **b.** Use one sheet of paper for each day's activities.
- **c.** Provide comments on any notable deviations from normal habit patterns.
- **d.** Start at wake-up times, and write bullet statements as to activities. Also, add comments as to emotional status, importance of events, or any explanatory comments that aid in understanding the meaning of the event to the subject person.
- **e.** Comment specifically on the amount of any alcohol consumed. Describe the beverage, eg beer or wine.
- **f.** Describe in detail all meals, portions, and time consumed.
- **g.** Describe any exercise/physical activity undertaken.
- **h.** Describe all duty-related activities.
- **i.** Describe all recreational or family activities. Include important family or personal telephone calls.
- **j.** Describe all health maintenance activities (including use of any medications) or health complaints.
- **k.** Comment on the quality of sleep each night, the time of going to bed, the time of falling asleep and time of awakening/getting out of bed. Mention any occurrences of waking during the night.

20. It is critical that the SAVMO obtains the 72 hour history as soon as possible after the event. Memories for these important events fade quickly, or are replaced by personal interpretations. In the case of fatalities, the SAVMO will need to obtain the 72 hour history from surviving family members, friends, and squadron associates. Consider reviewing telephone bills or mobile phone logs to assess the timing and destination of calls placed shortly before the accident.

14 Day History

21. The 14 day history is useful in determining habit patterns and addressing longer term fatigue issues. It may also identify factors that may have adversely affected human performance (eg stressful situations and life changing events).

22. As with the 72 hour histories, begin gathering this information as soon as possible. In the 14 day 'look back' history, document important events in the person's life. Consider trips and holidays, important career events, financial events (gains/losses), anniversary or social events (eg weddings), as well as work activities (eg deployments) and stressful/life changing events (relationship issues, death of friends or family). Try to describe the daily routine of the subject person, as well as any exceptions to this which may have occurred during the preceding two weeks.

Coronial Autopsy

23. Autopsies are required on all fatalities in aviation accidents. As part of the planning process, the local Defence MO should develop a working relationship with local civilian authorities such as the coroner and forensic pathologist who are likely to be involved in aviation autopsies. Pre-coordination should also be accomplished with radiology practices, local laboratories and dental services. Questions pertaining to jurisdiction and certification of death should be resolved ahead of time. In most cases, the local or State Coroner will have jurisdiction of the victim's body wherever the event occurs. They own the remains and are responsible for ascertaining and certifying the cause(s) of death. Do not remove bodies without their consent.

24. Jurisdiction for completion of autopsies rests with the civilian Coroner. It is critical to the accident investigation that the AVMO, Defence consultant aviation forensic pathologist and forensic odontologist observe or assist the pathologist in the autopsies to assist in correlation of the accident and post-mortem findings. Health Policy Directive (HPD) 302—*Arrangements for the Attendance of Australian Defence Force Medical Officers at Post-mortem Investigations of Fatally Injured Personnel Following Service Aircraft Accidents*, provides advice on agreed State arrangements for the post-mortem investigation of personnel killed in Service aircraft accidents. In accordance with this advice, permission will be sought for Defence medical personnel to attend the post-mortem as part of the aircraft accident investigation process. In some jurisdictions, the civilian and Defence forensic pathologist may be the

same person. Remember that AVMO observation and/or participation in the autopsy is purely at the discretion of the Coroner, so appropriate coordination is extremely critical.

25. There are two exceptions where the Coroner does not have jurisdiction:

a. Where the Minister for Defence, in accordance with the Defence Act 1903, deems it in the interest of national security that the accident not be investigated by civilian authorities.

b. In the case of an accident involving an aircraft of another country, the Defence Act provides the opportunity for the investigations to be solely conducted by military personnel from that country.

26. As the jurisdictions of the Coroner and associated legal requirements vary from State to State, SAVMOs should familiarise themselves with the State laws that apply to their place of practice. (MOs are encouraged to consult HPD 302, which deals with the details of State and Territory Coronial legislation.)

27. The SAVMO should assist the pathologist by providing all applicable medical and dental records for the deceased. Additionally, the SAVMO should be prepared to lead the post-mortem examination along appropriate lines to obtain required aeromedical information. Items of particular interest include evidence of pre-existing disease, toxicological factors, and patterns of injury.

Collection of Remains

28. Depending on the type and location of an accident, the SAVMO may be involved in the search and recovery of remains. Whilst this is the primary responsibility of the Disaster Victim Identification (DVI) Team, the SAVMO should be knowledgeable in these procedures and be able to provide guidance or assistance. Prompt collection of body tissue will preserve evidence and aid in the investigative effort, but as a rule should not be collected on the scene. The autopsy is the proper occasion for collecting specimens. On scene efforts should focus on the proper identification of bodies and fragments thereof.

29. DVI[1] is the term given to procedures for positively identifying deceased victims of a multiple casualty event. One of the greatest problems arising in any multiple casualty incident is the identification of victims to the satisfaction of the coroner. This problem is aggravated when the condition of victims is such that visual identification is unreliable. Positive identification is not only a legal requirement but is also a social responsibility on those persons charged with this task. DVI also forms an important part of the investigation into the accident. The identity of victims and their position prior to the accident will assist in establishing an overall picture of the accident, which, in turn, may aid in determining the cause.

30. Before removal, all remains must be marked with a stake, tagged, and photographed where found, in accordance with the relevant State DVI procedures. Because personal life support and escape equipment are intimate with the remains, carefully photograph and examine these items, also noting type and condition, before removal.

31. In many aviation accidents, there is extensive fragmentation of remains. Where individual tagging of remains is not possible because of extreme fragmentation, the remains are to be collected, bagged and tagged on a sector grid basis using a unique DVI reference number for that sector.

Toxicology

32. The forensic pathologist will routinely retrieve a range of toxicology specimens in all aviation fatalities. Where possible, blood and urine specimens similar to those taken in survivors will be taken, as well as vitreous humour, bile, stomach contents, liver and lung. In many cases, it will not be possible to take some or most of these specimens, and tissue such as skeletal muscle, bone marrow and fat may need to be analysed instead. The specimens will then be forwarded to the State's Analytical Laboratory for detection of a range of poisons, drugs and other substances. If permission is obtained from the Coroner, samples will also be retrieved by the Defence forensic pathologist, who will forward these samples to the Australian Government Analytical Laboratory to ensure uniformity in testing of personnel in air crashes.

Criteria for Identifying Remains

33. Acceptance of identification of remains is dependent on the coroner, but DVI procedures are generally as follows:

a. For **positive identification** of remains, fingerprints, footprints, dental comparisons and DNA comparisons are required.

[1] Reference: *NSW Disaster Victim Identification Procedures Manual*, February 1998

b. For **presumptive identification** of remains, personal effects, physical features (scars, tattoos, anthropometry, radiography), association with or exclusion from known facts, and/or the flight manifest can be utilised.

c. Two or more types of presumptive identification are required when positive means of identification are not available.

d. Remember—dental information is the most uniformly accessible and reliable method of identification.

Release of Remains

34. Following the autopsy, the remains will be released by the Coroner to the next of kin. In cases of mass fatalities, there may be a lengthy delay between death and release of bodies to ensure correct identification of all remains. The coroner or forensic pathologist may be able to provide an estimate of the length of time the investigations will take prior to release of the bodies.

Autopsy Conclusions

35. The autopsy of an aviation accident victim should allow the ASIT SAVMO to answer the following series of questions:

a. Who died?

b. What was the cause of death (the disease or injury(ies) that resulted in death) and what were the contributing factors (if any)?

c. What was the manner of death (the circumstances under which the death occurred, ie homicide, suicide, accidental, natural, undetermined or unclassified)?

d. What was the nature and sequence of traumatic events?

e. What specific interactions between victim and aircraft structures or components resulted in fatal injuries?

f. Was the crash survivable and if the victims survived the decelerative forces of the crash, why did they fail to escape from the lethal post-crash environment?

g. To what feature of the accident or of the aircraft can the escape of the survivors be attributed?

h. What role, if any, did the victims play in the crash sequence? (Who was flying? Was the pilot incapacitated? Were there physiological or medical contributors to the accident?)

i. Would any modification of the aircraft or of its equipment have improved the chances of survival of those killed, or reduced the severity of injury to the survivors?

j. Would the incorporation of modifications have any detrimental effects?

Investigation of Aviation Life Support Equipment

36. An engineering investigation will be conducted by an appropriate field authority on aviation life support equipment used in an aircraft accident.

37. **Recovered Helmets.** Upon recovery, all helmets will be subject to detailed examination if there is/are:

a. Damage to the helmet or attachments.

b. Failure of the visor.

c. Oxygen mask separation from the helmet (include recovered oxygen mask components).

d. Helmet lost on ejection but recovered.

e. Neck injuries thought to be directly related to the helmet.

f. Facial injuries.

g. Skull fractures.

h. Unconsciousness.

i. Fatal injuries.

38. If one or more of these characteristics applies, the helmet(s) should be evaluated by a qualified life support equipment specialist. The Royal Australian Air Force (RAAF) Institute of Aviation Medicine should be consulted to

obtain the appropriate referral authority to evaluate this equipment. In the case of fatalities, the helmet may only be forwarded after consultation with the investigating civilian police and the relevant coroner.

39. As a general rule, all other safety equipment (including but not confined to harnesses, secumar, G-suit and so on) should also be examined by a qualified life support equipment specialist.

ACCIDENT ANALYSIS

Crash Survival

40. Surviving an aviation accident generally involves four factors:

a. tolerable deceleration forces,

b. a survivable compartment,

c. adequate restraint, and

d. a non-lethal post-crash environment.

41. Using known velocities, stopping distances, ground and airframe deformation, gravity constants, etc, the deceleration forces on an aircraft can be calculated. The generated numbers should then be viewed from the perspective of the crew and passengers and their survival. However, the G-forces imposed on the airframe may have only limited similarity to the forces imposed on the crew member.

42. The acronym 'CREEP' is helpful in organising the important aspects of crash survivability.

C = container

R = restraints

E = environment

E = energy absorption

P = post-crash factors

Container—did the airframe maintain integrity and preserve an adequate volume of living space and prevent penetration by objects?

Restraints—were they worn correctly, and in good repair? Did they prevent or contribute to injury? Did they fail?

Environment—were there any features of the accident environment which affected the ability to withstand crash forces or make a rapid egress? Did in-flight incapacitation occur due to combustion products from fires involving electrical insulation or other materials?

Energy absorption—did the airframe and seat absorb enough of the impact energy?

Post crash factors—did a post-crash fire, toxic fumes, communication, or inadequate training etc, affect survival?

Injury Analysis

43. Document injuries carefully and correlate them with the circumstances of the accident. This information is essential to making any modifications that will prevent similar injuries in the future. Among the key questions are:

a. Exactly when did the injury occur?

b. What was the nature of the force that produced the injury?

c. Is the injury the result of accident forces or an artefact of the post-crash environment?

d. Did the injury occur before or after death, or did it perhaps even exist before the accident?

44. Injury patterns of the hand and feet may provide some evidence of who was controlling the aircraft at impact (but may also be seen in other victims of the accident and are therefore not definitely indicative of who was in control of the aircraft). Fractures of the carpal, metacarpal, tarsal, and metatarsal bones, with associated lacerations of the palms and soles, are classic in those with primary aircraft control. Tibial shaft and talar neck fractures also tend to occur in the individual in primary control of the aircraft.

45. Injuries are analysed in terms of the type of injury:

a. decelerative;

b. impact;

c. intrusive;

d. thermal; and/or

e. other environmental (e.g. immersion, hypothermia)

46. All injuries must be described on Form PM 184—*Medical Report on an Aircraft Incident or Accident* according to location, diagnosis and probable mechanism of injury. Injury incapacitation times (ie days grounded, time of unconsciousness) must also be recorded. Keep this in mind as the examination proceeds.

47. The following is a table of injury patterns with the associated 'G' forces necessary to cause them. Keep in mind that these are laboratory derived values.

Table 3–1 Injury Patterns Associated with Varying 'G' Forces

Pulmonary contusion	25 G
Nose fracture	30 G
Vertebral body compression (dependent on body position)	20-30G
Fracture disarticulation and/or subluxation of C1 on C2	20-40G
Mandible fracture	40G
Maxilla fracture	50G
Aorta intimal tear (distal-Gx, proximal-Gz)	50G
Aorta transection	80-100G
Pelvic fracture	100-200G
Vertebral body transection	100-200G
Total body fragmentation	>350G
Concussion	60G over .02 sec 100G over .005 sec 180G over .002 sec

48. Human tolerances to abrupt deceleration depend on the direction, magnitude, duration and rate of onset of the forces. The manner in which the occupant's body is supported during the deceleration is critical. If the calculated crash forces on the airframe exceed the human tolerance limits by a factor of two or more, survivability is unlikely. If the limits are exceeded by a factor of 1.5, survivability is doubtful. If the limits are exceeded by a factor of 1.25 or less, survivability can be dependent on specific 'CREEP' factors (see paragraphs 40 to 42). If the limits are not exceeded, survivability is expected, although individual variations and CREEP factors remain. When the crash forces are not clearly in the x, y, or z axis, calculate the total force and direction expressed as angles to the x, y, and z axes (vector sum). Also, calculate the component vectors on the axes.

Table 3–2 Human Whole Body Impact Tolerance Limits

Direction of impact	Load limit over time
+ Gz	25 G over 0.1 sec
- Gz	15 G over 0.1 sec
+ Gx	45 G over 0.1 sec 83 G over 0.04 sec
- Gx (full restraint)	45 G over 0.1 sec 25 G over 0.2 sec
- Gx (lap belt)	13 G over 0.002 sec (muscle strain) 27 G over 0.002 sec (injured bladder)
+/- Gy	11.5 to 20 G over 0.1 sec

49. Other members of the ASIT can provide crash data helpful in estimating the following magnitudes and directions of crash forces:

a. initial and final velocities of the aircraft;

b. vertical stopping distance, including depth of gouges in the earth, depth of water entry before stop, depth of damage to the underside of the aircraft or extent of compression of energy-attenuation devices;

c. horizontal stopping distances, including length of gouges in the earth, length of airframe compression in the horizontal plane, backward displacement of each wing, empennage surfaces, and engine/fuselage; or

d. actual stopping distance after water entry.

INTERPRETATION OF SCREENING TESTS

50. Laboratory studies may reveal that underlying disease contributed to the accident. Recommended laboratory tests include full blood count, carboxyhaemoglobin (COHb), blood alcohol, blood glucose, urinalysis, and a drug screen. These tests may detect conditions of potential significance such as anaemia, infection, carbon monoxide (CO) inhalation, hypoglycaemia, dehydration, and diabetes however, caution should be applied in the interpretation of these, particularly full blood count, blood glucose and urinalysis as the results can be affected by the post-mortem interval and degree of preservation of the remains. Embalming invalidates most toxicological studies. Suspicious results should be repeated.

Carbon Monoxide Level

51. Blood CO levels are determined by measurement of COHb, which is normally less than three per cent in non-smokers, and less than 10 per cent in smokers (the two pack-a-day smoker will have a baseline COHb of 8 to 9 per cent). Increased altitude and increased COHb reduces inspired oxygen tension and amplifies the impact of CO inhalation. Levels higher than those stated above indicate that the individual was very likely exposed to products of combustion, either before or after the accident. Automobile exhaust systems, wood-burning stoves, and other sources of combustion can also cause elevated levels. Peripheral whole blood is the best specimen for analysis, but any tissue which contains a considerable amount of blood, such as spleen, liver or lung, can be used. If possible, squeeze the blood out of these organs and have the blood analysed. In the absence of blood, skeletal muscle can be analysed to detect the presence of carboxymyoglobin. There may be additional indicators of inhalational injury from the post-mortem examination.

Table 3–3 Carbon Monoxide Level Interpretations

Findings	Most likely means that
CO elevated, instantaneous fatal injury	CO was inhaled prior to impact, indicating an in-flight fire or other source of CO.
CO normal, instantaneous fatal injury	CO not an accident factor.
CO elevated, no instantaneous fatal injury	If no post-crash fire, then CO breathed in-flight. If post-crash fire, then CO breathed after impact (although this does not rule out in-flight inhalation of CO prior to fire).
CO normal, no instantaneous fatal injury	CO not an accident factor.

Ethanol Concentration

52. Survivors. The interpretation of detectable levels of alcohol in the blood or urine of survivors is relatively straightforward. In most States and Territories, a blood alcohol level in excess of 0.05 g/100 ml for private vehicle drivers and in excess of 0.02 g/100 ml for public or heavy vehicle drivers is considered to be legal intoxication. In the case of aircrew, Australian legislation does not define the blood alcohol concentration cut-off, although it can be stated from road traffic data that subtle impairment commences above a concentration of 0.02 g/100 ml. The amount of alcohol metabolised per unit time is variable, but a generally accepted average figure is about 10 to 15 grams of alcohol ingested is metabolised each hour in an average male.

Table 3–4 Ethanol Level Interpretations

Blood	Clinical state
0.01–0.05 g/100 ml	No apparent influence.
0.03–0.12 g/100 ml	Mild euphoria, sociability, talkativeness, increased self confidence; decreased inhibitions, diminution of attention, judgment, and control. Loss of efficiency in finer performance tests.
0.09–0.25 g/100 ml	Emotional instability, decreased inhibitions, loss of critical judgment, impairment of memory and comprehension, decreased sensory response, increased reaction time, some muscular incoordination.
0.18–0.30 g/100 ml	Disorientation, mental confusion, dizziness, exaggerated emotional states, disturbance of sensation and of perception of colour, form, motion, dimensions; decreased pain sense, impaired balance, muscular incoordination, staggering gait, slurred speech.
0.27–0.40 g/100 ml	Apathy, general inertia, greatly decreased response to stimuli; marked muscular incoordination, inability to stand or walk; vomiting, incontinence of urine and feces, impaired consciousness, sleep or stupor.

53. Fatalities. With post-mortem specimens, always consider whether the levels are valid, or whether they are due to post-mortem decomposition or fuel contamination. The site of sampling in the body can also artefactually raise the blood alcohol concentration, especially in the setting of severe trauma. For example, blood obtained from the chest cavity or abdomen can be contaminated with stomach contents and fermentation products (eg alcohol) from the bowel. The ideal blood sampling site at autopsy is peripherally, typically from the femoral vein.

54. Alcohol is usually analysed by gas chromatography, which is the standard for volatile substance analyses. In aircraft accidents, fatalities frequently do not have residual blood or urine available for sampling due to fragmentation and multi-system trauma. For this reason, tissue homogenate extracts from various organs can also be used, but the interpretation of the results can be problematic. Probably the best tissue to use in this situation is skeletal muscle from a relatively well-protected area such as the thigh. Frequently the tissues are contaminated by fuel or are in an advanced stage of decomposition. In both circumstances, volatiles including ethanol are likely to be present. Consider the following when interpreting ethanol assays:

a. the condition of the tissues, and the length of time from the accident to the time of collection;

b. the entire chromatogram, which may contain several volatiles;

c. the distribution of the volatiles in several tissues;

d. the specimen container used;

e. the 72 hour history and witness statements; and

f. the medical officer's input, in conjunction with the forensic pathologist.

55. Alcohol concentrations due to micro-organism metabolism have been reported as high as 0.20 g/100 ml. However, tissue alcohol levels above 0.06 g/100 ml can rarely be attributed simply to decomposition. The presence of higher alcohols such as butanol and propanol as well as the presence of acetaldehyde with ethanol is considered good evidence for post-mortem decomposition.

56. If alcohol is found in urine or vitreous obtained post-mortem, the ingestion of alcohol before death is strongly suggested. Drowning or burning usually does not affect the concentration of alcohol in tissues.

Hydrogen Cyanide

57. **0.5mg/dL.** Levels over 0.5 mg/dL can be incapacitating. Cyanide is a respiratory inhibitor and causes tissue anoxia at the cellular level by inactivating cellular enzymes. Elevated cyanide levels may indicate inhalation of soot and combustion products pre-mortem. This highly toxic gas evolves with the burning of plastics, rubber, natural fibres such as wool, electrical insulation and polyurethane sound-attenuating and decorative panels.

ASIT REPORTS

58. Section 3 Chapter 9 paragraph 38 of this manual provides an outline of the various reports which must be completed during the investigation of an accident. The final report is known as the Aviation Accident Investigation Report (AAIR).

59. From the beginning of an investigation all members of the ASIT must be cognisant of the requirement to produce the final report. Report writing is the most difficult and least rewarding part of the investigation process. It often follows considerable exhaustive field work and is completed quite often under intense time pressure. The report will be heavily scrutinised and the safety benefits obtained and the reputation of DFSB (and possibly Defence) will be affected by the quality of the report.

60. The aim of the final report is to explain what happened and why, and to recommend what should be done to prevent recurrence. Thus, each finding should follow logically from the evidence and analysis and each recommendation should have a logical basis in each finding. In the end, the most important part of the report is the recommendations. The recommendations must be logical, feasible and demonstrably linked to preventing a recurrence.

61. The report writing process must be well planned in advance and have adequate resources allocated to it. All investigation team members should contribute to the report and agree with the report findings and recommendations. Any dissenting views must be recorded. The report is to be completed IAW the format detailed in Section 3 Chapter 9 Annex K of this manual.

62. The AVMO will be required to provide the text for the 'medical and pathological information' and 'aeromedical factors' within the factual information section of the report. The PM 184 will be the source for much of this information. An analysis of the aeromedical factual information must also be included in the AAIR.

Use of Form PM 184

NOTE

- The PM 184 should not speculate on the cause(s) of the accident and should be consistent with the content of the AAIR.

63. Form PM 184 was designed to be used for all aircraft incidents which may involve human/aeromedical factors and for aircraft accidents. The form consists of a main section which reports data relating to the whole incident/accident and five annexes relating to specific aspects of the incident/accident. These annexes are:

a. Annex A—Medical Examination and Personal Details.

b. Annex B—Human and Environmental Factors.

c. Annex C—Ingress Ejection and Parachuting Details.

d. Annex D—Life Support Equipment and Survival Details.

e. Annex E—Initial Examination of Deceased and Autopsy Report.

64. For any particular accident it is probable that only some of the above annexes will need to be completed. Annexes which are not used should be removed from the folder before distribution. For all sections of the form and annexes requiring narrative description, as much detail as possible should be included. It is important that Form PM 184 be as complete and thorough as possible.

65. Form PM 184 including annexes is collated as a single set. Copies must be prepared and distributed as follows:

a. CO AVMED

b. Specialist Medical Adviser – Airworthiness, HQ FORCOMD

c. SMA AvMed – Navy

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SECTION 4

CHAPTER 4

AEROMEDICAL EVENT INVESTIGATION

1. If aeromedical factors are involved in an aviation safety event an AVMO should examine relevant personnel and provide medical input for the ASR to the initiating unit. Aeromedical factors include physiological and toxicological factors:

a. **Physiological Factors.** Physiological factors include, but are not limited to, hypoxia, decompression sickness/dysbarism, hyperventilation, acceleration, fatigue, hangover, circadian dysrhythmia, disorientation/vertigo, visual illusions, vibration, glare, and thermal stress.

b. **Toxicological Factors.** Toxicological factors include, but are not limited to, food poisoning, alcohol, smoking, drugs (includes prescription, 'over the counter' and 'recreational' substances), CO_2 poisoning, smoke, fumes/gases and oxygen contamination.

2. Investigations into safety events involving hypoxia and/or oxygen contamination should use the checklist in Annex H to Section 3 Chapter 8 of this manual.

3. In addition to the requirement to provide information for the ASR the AVMO should complete a Form PM 220 and distribute as follows:

a. CO AVMED

b. Specialist Medical Adviser – Airworthiness, HQ FORCOMD

c. SMA AvMed – Navy

4. When a PM 220 has been raised it should be included in the 'References' section of the ASR and noted in the narrative.

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GLOSSARY

This Glossary contains terms that are, in most cases, specific to this manual. Other Defence Aviation terms can be found in AAP 8000.011—*Defence Aviation Safety Regulations.*

AIRSAFE Program

The RAN AIRSAFE Program, operated under the direction of CN, enables the management of flying safety policy affecting the Fleet Air Arm.

Appointing Authority

The command appointment that appoints an investigating officer, Aviation Safety Investigation Team or Board of Inquiry to investigate an aviation safety event.

ASR Appointing Authority

Command appointment that appoints an investigating officer to investigate an aviation safety event. In the first instance, the ASR Appointing Authority is the originating squadron/unit commanding officer/officer commanding (CO/OC), ATS flight commander, senior maintenance manager (SMM) or squadron detachment commander. Depending on the classification of the event, the Appointing Authority may be from higher within the command chain (e.g. in the event of a Class A or B event).

Aviation Accident

An event that:

a. did affect the safety or airworthiness of the Aviation System, or safety of third parties; and

b. system defences were inadequate/absent to limit the severity of the event resulting in a critical/catastrophic consequence to safety or airworthiness.

Aviation Safety Investigation Team

A team of personnel, led by a qualified aviation safety investigator, appointed to investigate a Class A or B event.

Aviation Safety Audit

An audit aimed at ensuring compliance with the Defence ASMS, operational and technical orders, regulations, instructions, doctrine, guidance and publications concerning aviation safety against a set standard.

Aviation Safety Committee (ASC)

A management tool that brings people together to assist commanders in the management of their Aviation Safety Management System (ASMS).

Aviation Safety Management System (ASMS)

A systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies, procedures and plans. Aviation safety is progressed when the ASMS is coupled with the positive attitudes, beliefs, values and practices of the personnel within an organisation.

Aviation Safety Event

An aviation safety event is defined as any event where an aviation system (including the human element) fails to perform in the expected manner and, adversely affects, or could adversely affect, the safety or airworthiness of an aviation system or third party.

Aviation Safety Report (ASR)

A report submitted via the Aviation Safety Reporting Tool in Sentinel to notify required agencies of all Defence Aviation safety events, including operations, Air Traffic Control (ATC) / air defence, technical and ground based activities.

Aviation Safety Officer (ASO)

A member appointed by the relevant aviation commander, to be responsible for supervising and managing all aspects of the commander's Aviation Safety Management System.

Aviation Safety Standdown

A temporary cessation of normal duties that contributes to the closed-loop continuous improvement cycle of the ASMS by enabling commanders to update and refresh all personnel on topical and important safety issues. There is no set program, format or structure for a safety standdown - commanders tailor the standdown to their unique organisational structure, requirements and most important safety issues.

Aviation Safety Survey

A survey aimed at identifying hazards, and improving the safety culture and effectiveness of the organisation's ASMS. Ultimately the aim is to reduce the number of aviation safety occurrences.

Contractor/Sub-contractor

A company, firm, organisation or any person, other than a Defence employee, contracted to provide goods and services to the Defence Organisation.

Critical/Catastrophic Consequence to Safety

Fatal injury of any person (safety consequence), and/or Category 5 damage (i.e. unrepairable, missing, or inaccessible for recovery) to an Aviation System (capability consequence).

Generative Safety Culture

The ultimate state where safety performance is maximised and safety behaviour is fully integrated into the management system as well as the conduct, values and attitudes of all members of the organisation.

Hazard Report

A report used in the Aviation Safety Reporting Tool in Sentinel to report any identified aviation hazard, which has the potential to, or has caused an aviation safety occurrence.

Hazard Tracking Authority (HTA)

An appointment or appointments–made by aviation Force Element Group (FEG) commanders–responsible for tracking actions and recommendations from FEG aviation safety reports to completion.

Human Factors

The multi-disciplinary science that applies knowledge about the capabilities and limitations of human performance to all aspects of the design, operation, and maintenance of products and systems. It considers the effects of physical, psychological, and environmental factors on human performance in different task environments, including the role of human operators in complex systems.

Immediate Safety Report

Reports to notify, as soon as possible, Class A and B aviation safety events including those events which have immediate implications for either safety of flight, public safety or possible media exposure.

Major Consequence to Safety

Serious injury or illness (safety consequence), and/or Category 4 damage (i.e. repairable in more than 14 days) to the Aviation System (capability consequence).

On-Board Recording (OBR)

A recording is an OBR if it consists of (or consists mainly of) sounds or images, or sounds and images, of persons in the control area of an aircraft – control area includes all crew stations. In some cases recordings made on personal devices carried by personnel on board an aircraft can be deemed to be OBR.

On-Board Recording Information

An on-board recording (OBR) or any part of an OBR, or a copy or transcript of the whole or any part of an OBR, or any information obtained from an OBR or any part of an OBR.

Residual Risk

Risk remaining after risk treatment.

Risk

The effect of uncertainty on objectives (AS/NZS ISO 31000:2009 – Risk Management—Principles).

Safety

The state in which risks associated with aviation activities related to, or in direct support of, the operation of aircraft are eliminated or otherwise minimised so far as is reasonably practicable.

Safety Climate

A sub-set of safety culture and a measure of employee perceptions of the organisation's safety policies, practices and procedures.

Safety Culture

The product of individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's safety management systems.

System Tolerance

The inherent ability of the Aviation System to compensate for inadequate/absent defences.

Workplace Safety Training

Also known as 'tool box talks' is a communication and training activity to complement formal aviation safety standdowns. It involves a mix of informal presentations and discussion around key themes or local safety issues.

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LIST OF ABBREVIATIONS

Abbreviation	Definition
AAIR	Aviation Accident Investigation Report
AASO	Assistant Aviation Safety Officer
AASPO	Army Aviation Systems Program Office
ACAUST	Air Commander Australia
ACFS	Aircrew Currency Flying Scheme
ACPA–ADF	Airworthiness Coordination and Policy Agency
ADF	Australian Defence Force
ADFAADS	Australian Defence Force Activity Analysis Database System
ADFP	Australian Defence Force Publication
ADGE	Air Defence Ground Environment
AEB	Aviation Executive Board
AEC	Airfield Emergency Committee
AEO	Authorised Engineering Organisation
AEP	Airfield Emergency Plan
AHRB	Aviation Hazard Review Board
ALSLMU	Aeronautical Life Support Logistics Management Unit
AMO	Authorised Maintenance Organisation
ANZSASI	Australia and New Zealand Societies of Air Safety Investigators
APCSWG	Asia Pacific Cabin Safety Working Group
ARFF	Aircraft Rescue and Firefighting
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
AsA	Airservices Australia
ASC	Aviation Safety Committee
ASI	Aviation Safety Investigator
ASIC	Air and Space Interoperability Council

Abbreviation	Definition
ASIT	Aviation Safety Investigation Team
ASMS	Aviation Safety Management System
ASO	Aviation Safety Officer
ASR	Aviation Safety Report
ASRT	Aviation Safety Review Team
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATS	Air Traffic services (AsA or Defence ATC)
ATSB	Australian Transport Safety Bureau
AVMED	Aviation Medicine
AVRM	Aviation Risk Management
AwB	Airworthiness Board
AWC	Air Warfare Centre
BASC	Base Aviation Safety Committee
BASO	Base Aviation Safety Officer
BOI	Board of Inquiry
BT	Bow Tie
CAF	Chief of Air Force
CAM	Cockpit Area Microphone
CAR	Corrective Action Request
CASA	Civil Aviation Safety Authority
CASO	Command Aviation Safety Officer
CDF	Chief of the Defence Force
CDR	Crash Data Recorder

Abbreviation	Definition
CDR	Commander
CFIT	Controlled Flight Into Terrain
CMEASO	Command Maintenance and Engineering Aviation Safety Officer
CO	Commanding Officer
COI	Commission of Inquiry
COMAUSFLT	Commander Australian Fleet
COMD FORCOMD	Commander Forces Command
CONFIR	Confidential Report
CPI	Crash Position Indicator
CRM	Crew Resource Management
C-SHELL	Culture-Software-Hardware-Environment-Liveware/Crew-Liveware/Other Personnel
CSWG	Cabin Safety Working Group
CVR	Cockpit Voice Recorder
DACPA	Director Airworthiness Coordination and Policy Agency
DASM	Defence Aviation Safety Manual
DCA	Deputy Chief of Army
DCAF	Deputy Chief of Air Force
DCN	Deputy Chief of Navy
DFSB	Defence Flight safety Bureau
DDSI	Deputy Director Safety Investigation
Defence AA	Defence Aviation Authority
DEFWEB	Defence Intranet
DETCDR	Detachment Commander
DGADFLS	Director-General ADF Legal Services
DI	Defence Instruction

Abbreviation	Definition
DMAAP	Defence Major Aviation Accident Plan
DMO	Defence Materiel Organisation
DSPPR	Directorate of Strategic Personnel Planning and Research
DSTG	Defence Science and Technology Group
ECC	Emergency Coordination Centre
EMA	Emergency Management Australia
FAASC	Fleet Air Arm Safety Cell
FASO	Fleet Aviation Safety Officer
FC	Fire Controller
FDR	Flight Data Recorder
FEG	Force Element Group
FEGCDR	Force Element Group Commander
FOC	Foreign Object Control
FOD	Foreign Object Damage
FSMS	Flight Senior Maintenance Sailor
GASO	Group Aviation Safety Officer
GPWS	Ground Proximity Warning System
GSE	Ground Support Equipment
HF	Human Factors
HFACS	Human Factors Analysis Classification System
HRO	High Reliability Organisation
HSO	Health Specialist Officer

Abbreviation	Definition
HTA	Hazard Tracking Authority
HUMS	Health and Usage Monitoring System
ICAO	International Civil Aviation Organisation
IMC	Instrument Meteorological Conditions
ISASI	International Society of Air Safety Investigators
ISC	Incident Site Commander
MAO	Military Air Operator
MASO	Maintenance Aviation Safety Officer
MATS	Manual of Air Traffic Services
MOU	Memorandum of Understanding
MOSW	Ministry of Silly Walks
MRP	Mission Risk Profile
MSDRS	Maintenance Signal Data Recording System
NVD	Night Vision Device
OC	Officer Commanding
OIC	Officer-in-Charge
OPHAZ	Operational Hazard Report
OSLO	On Site Liaison Officer
PMKeyS	Personnel Management Key Solution
PPE	Personal Protective Equipment

Abbreviation	Definition
RAeS	Royal Aeronautical Society
RASC	Regiment Aviation Safety Committee
RASO	Regiment Aviation Safety Officer
RM	Risk Management
RMP	Risk Management Plan
RODUM	Report of Defective or Unsatisfactory Materiel
ROT	Rule of Three
RTE	Record of Training and Employment
SASC	Station Aviation Safety Committee
SATCO	Senior Air Traffic Control Officer
SFARP	So Far As is Reasonably Practicable
SI	Standing Instruction
SIAM	Systemic Incident Analysis Model
SITREP	Situation Report
SLO	Safety Liaison Officer
SME	Subject Matter Expert
SMM	Senior Maintenance Manager
SMO	Senior Medical Officer
SMS	Safety Management System
SOFA	Status of Forces Agreement
SOP	Standard Operating Procedure
SPO	Systems Program Office
TCAS	Traffic Collision Avoidance System
TSI	Transport Safety Investigation

Abbreviation	Definition
UASC	Unit Aviation Safety Committee
UASO	Unit Aviation Safety Officer
UEP	Unit Emergency Plan
VMC	Visual Meteorological Conditions
WASC	Wing Aviation Safety Committee
WASO	Wing Aviation Safety Officer
WHS	Work Health and Safety

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AD 878
Revised 2 Aug 2016

Department of Defence

Aviation Safety Occurrence and Hazard Report

- In accordance with *DASM Section 3, Chapter 8*.

Organisation

Service	Command	FEG	Wing or Regiment	Unit

Details

Reference number *(DAHRTS generated)*	Classification	Keyword level 1	Keyword level 2
Hazard title		Number of aircraft involved	Number of persons involved
Hazard narrative			

☐ Parachute incident report?	☐ Physiological Incident report - Hypobaric	Telephone notification to: ☐ DDAAFS ☐ ATSB

Time and location of hazard

Hazard date	Hazard time *(Local)*	Hazard time zone	
Hazard location		Bearing	Distance *(Nautical miles)*
Location details			

Environmental conditions

Light conditions	Meteorological conditions	Environmental factors
Weather		

Aircraft involved

First aircraft

Aircraft type	Tail number	Callsign

Speed *(KIAS)*	Altitude *(ft AMSL)*	Flight path	Flight phase

Last departure point	Intended landing point	Mission type

Mission

- ☐ NVD aided
- ☐ NVG search lights on
- ☐ Navigation lights on
- ☐ Helmet mounted device
- ☐ Engine related mission abort
- ☐ Fuel dump
- ☐ Landing lights on
- ☐ External NVG lighting on
- ☐ Strobe/anti-coll lights on
- ☐ Engine in flight shut down

Fuel dump details

Second aircraft

Aircraft type	Tail number	Callsign

Speed *(KIAS)*	Altitude *(ft AMSL)*	Flight path	Flight phase

Last departure point	Intended landing point	Mission type

Mission

- ☐ NVD aided
- ☐ NVG search lights on
- ☐ Navigation lights on
- ☐ Helmet mounted device
- ☐ Engine related mission abort
- ☐ Fuel dump
- ☐ Landing lights on
- ☐ External NVG lighting on
- ☐ Strobe/anti-coll lights on
- ☐ Engine in flight shut down

Fuel dump details

Third aircraft

Aircraft type	Tail number	Callsign

Speed *(KIAS)*	Altitude *(ft AMSL)*	Flight path	Flight phase

Last departure point	Intended landing point	Mission type

Mission

- ☐ NVD aided
- ☐ NVG search lights on
- ☐ Navigation lights on
- ☐ Helmet mounted device
- ☐ Engine related mission abort
- ☐ Fuel dump
- ☐ Landing lights on
- ☐ External NVG lighting on
- ☐ Strobe/anti-coll lights on
- ☐ Engine in flight shut down

Fuel dump details

People involved

Person 1 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 2 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 3 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 4 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

People involved *(Continued)*

Person 5 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 6 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 7 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

Person 8 details

Employee ID	Position	Qualification	Other	Trade category

Flight Authorising Officer ☐ Yes ☐ No

Associated aircraft					

WHS Sentinel report

☐ WHS Sentinel report

WHS Sentinel report number

ESIR

Details

Investigation

Investigator details

Appointment	Rank or title	Family name	Given name(s)	Phone number

Analysis

ID number	Title

Analysis

Findings

ID number	Title

Finding

ID number	Title

Finding

Contributing factors

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Investigation *(Continued)*

Investigator details

Appointment	Rank or title	Family name	Given name(s)	Phone number

Analysis

ID number	Title

Analysis

Findings

ID number	Title

Finding

ID number	Title

Finding

Contributing factors

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Investigation *(Continued)*

Investigator details

Appointment	Rank or title	Family name	Given name(s)	Phone number

Analysis

ID number	Title

Analysis

Findings

ID number	Title

Finding

ID number	Title

Finding

Contributing factors

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Contributing factor type	Level 1	Level 2
Level 3	Priority	Other

Investigation *(Continued)*

Defences

Defence type	Level 1	Level 2	Other

Defence type	Level 1	Level 2	Other

Risk management

Risk management strategies applied *(Insert what formal aviation risk management strategies were applied to the mission before the mission commenced and indicate whether these strategies were effective or not)*

Risk management comments *(If the strategies were deficient, insert a comment on how they were deficient and what measures could be taken to improve the management of the hazard. Additionally, comment on what action is being taken to modify or update current risk management initiatives to more effectively manage the hazard)*

Unit actions

Assigned to details

Organisation or unit			Due date
Rank or title	Family name	Given name(s)	Phone number
ID number	Title		
Unit action			
Response			

Assigned to details

Organisation or unit			Due date
Rank or title	Family name	Given name(s)	Phone number
ID number	Title		
Unit action			
Response			

Unit actions *(Continued)*

Assigned to details

Organisation or unit			Due date
Rank or title	Family name	Given name(s)	Phone number
ID number	Title		
Unit action			
Response			

Recommendations

Organisation or Unit			Due date
Rank or title	Family name	Given name(s)	Phone number
ID number	Title		
Recommendation			

Organisation or Unit			Due date
Rank or title	Family name	Given name(s)	Phone number
ID number	Title		
Recommendation			

Damage

Details

System identifier details

Level 1	Level 2
Component details	

References

Reference type
Description

Supervisor review

Organisation or Unit	Rank or title	Family name	Given name(s)	Phone number

Agencies for notification

- ☐ AVMED
- ☐ AESSO ALSE
- ☐ Maintenance
- ☐ Air Defence
- ☐ EOAS
- ☐ Joint Operations
- ☐ FASO
- ☐ GTESPO

Comments

CO/OC review

Organisation or Unit	Rank or title	Family name	Given name(s)	Phone number

Comments

Do you wish to include investigation details with ASOR release?

☐ Yes ☐ No

Is this report to be released via discon?

☐ Yes ☐ No

Department of Defence

Aviation Safety Occurrence and Hazard Report

Instructions for completion

This form has been designed to record Aviation Safety Occurrence Report (ASOR) data or Operational Hazard (OPHAZ) data, and to be easily transferred into the Defence Aviation Hazard Report and Tracking System (DAHRTS).

It is to be filled out while deployed to remote locations, which have little or no connectivity with the Defence Restricted Network (DRN). On completion of the form it will be emailed to the ADF DAHRTS Manager.

The AD 878 captures all the information that is held within a DAHRTS report, but the AD 878 is limited in the number of fields available eg aircraft is limited to 3, people involved is limited to 8, analysis is limited to 3 and findings is limited to 6.

If more fields are required for entering information, attach a Word document detailing which field(s) and what content needs to be entered. The DAHRTS Manager (DM) carrying out the upload will manually add these comments into DAHRTS.

Using this form

When filling out the form, start at page one and use the TAB key to move through each field. The form will question and prompt the user for compulsory information.

Hover the mouse over a particular field to give information on what's required in that field.

As with any ASOR, the Defence Aviation Safety Manual (DASM) is to be used when filling out the AD 878.

Processing this form

Drafter - Enter initial report details then email the report onto the supervisor.

Supervisor - Review report as per the DASM. Appoint an investigator if required, then forward report onto the CO/OC or Delegate.

CO/OC - Review report as per the DASM. Once the report has been approved by the CO/OC or Delegate, forward the report via email to the DM, to be loaded into the DAHRTS database.

Loading the AD 878 to DAHRTS

Current process - When the report is received by email, the DM will open the form and check that all relevant fields have been completed. Once completion has been confirmed, the DM will manually cut and paste data from the AD 878 to the DAHRTS database.

Future process - The AD 878 will have an automatic upload feature to the DAHRTS database. When the report is received by email, the DM will open the form and check that all relevant fields have been completed. Once completion has been confirmed, the DM will use the 'Submit data' button, found on this page, to upload the report to DAHRTS.

The DM will receive an email confirming the successful upload and will be given a DAHRTS generated report number. The DAHRTS number is to be added to the AD 878.

The DM is then required to log onto DAHRTS, open the uploaded report and complete the following tasks:

- Select the investigator *(If required)*;
- Identify the responsible people and appoint them for Actions or Recommendations *(If required)*;
- Approve report at Drafter Data Entry and select the supervisor;
- Approve supervisor review and select the CO/OC;
- Approve CO/OC review and release the ASOR from DAHRTS; and
- Once a successful release has been confirmed an email will be sent to the Drafter, Supervisor and CO/OC to advise the report status eg ASOR completed, SASOR action required.

Australian Government
Department of Defence

AE 527
Revised 26 Oct 16

Sentinel Event Report - Non-DPN (DRN) Users

Reporting a new WHS event for Non-DPN users

Fields marked with * are mandatory, and must be completed before signing or submission.

Defence Policy

Defence people are required to submit Defence WHS Events in accordance with Defence policy. All Work Health and Safety (WHS) Events related to employment in Defence, or as a result of a Defence undertaking, are to be reported using Sentinel. This includes WHS Events for all Defence employees, cadets and third parties *(contractors and the general public)*.

Legislation

The Work Health and Safety (WHS) Branch collects data on WHS Events under the Work Health and Safety Act 2011 and the Australian Radiation and Protection and Nuclear Safety Act 1998 (ARPANSA).
Some Events require additional notification to the regulators, Comcare and ARPANSA.

Comcare Notifiable Events

Under Part 3 of the Work Health and Safety Act 2011 Defence has a duty to notify the regulator of defined notifiable events that have arisen out of Defence directed/controlled activities immediately after becoming aware that the event has occurred. Notification in the first instance must be by phone - 1300 366 979. Seek advice from the Comcare contact regarding site preservation and submission of written notification of the event.

If the event has been identified as a notifiable to Comcare the event will be automatically submitted once the supervisor has completed the required supporting information from within the event.

Mandatory Defence WHS Event Reporting Timeframes

The Defence WHS Event Reporting Timeframes will assist you to determine the mandatory reporting timeframes applicable to your WHS Event.

WHS Exemptions for warlike and non-warlike operations

CDF has declared that Defence is exempt from the requirement to notify Comcare and the requirement to preserve an Event site for Comcare investigative purposes, relating to events that occur on 'warlike' or 'non warlike' operations, as determined by CJOPS in relevant operational orders. All WHS Events, including those that occur on operations, must still be reported to Defence for performance improvement and management purposes. The ADF is still required to meet its obligation under DI(G) OPS 13-15 relating to initial action and preservation of an Event site.

Security

Sentinel as a system, is approved to store material at the rating of Unclassified and For-Official-Use-Only. User access is granted subject to the conditions detailed in the Defence Secret and Restricted Network System User Acceptable Usage Standard Operating Procedures for more information on your Security obligations. Information or images contained in Sentinel must not exceed this security classification, as Notifiable Event information will be sent outside of the Defence Protected Network to the appropriate regulator.

Privacy

Privacy Act 1988 imposes obligations on the Department of Defence in relation to the collection,storage, access and alteration, use and disclosure of personal information.

The personal information collected through Sentinel is required for the assessment or the investigation stages of a WHS Events in accordance with the Work Health and Safety Act 2011.

Use of Sentinel requires that you provide personal data for use in the assessment of the investigation of a WHS Event. Defence may also be required by legislation to provide WHS Event data to external agencies such as Comcare, DVA and ARPANSA.

The provision of WHS Event data to external agencies is subject to adherence to the Privacy Act 1988, and information requests will be assessed on an individual basis.

Refer to the Defence privacy website for information about the Information Privacy Principles and the application of the Privacy Act in Defence. The Privacy Act 1988 and the Defence Security Manual also provide further information.

Be aware of the Public Interest Disclosures Act 2013 (PID Act) for further information see the Defence Public Interest Disclosure Scheme (Defence PID Scheme)

WHS Report Completion

The Supervisor of the person involved, or reporting the event, is responsible for ensuring that all relevant sections of the WHS Event report are completed within the prescribed timeframes.

The role of Supervisor is assigned to the person who was supervising the Casualty/Casualties as at the time of the event and/or was in charge of the Defence work area at the time of the event.

General public or contractors

Defence employees *(ADF and APS)* are also to complete the AD 088 - *Comcover Notification Record*,where an incident involves a member of the general public or a contractor. For further information please refer to the Defence Insurance Office website or phone 1800 990 900. The AD 088 can be found on the Web Forms system.

Compensation claims

Completion of this form is not an admission of liability or claim for compensation; however a copy of the completed form will assist in the compensation determination process. Compensation claim forms for military personnel and cadets are obtained from the Department of Veterans' Affairs (DVA) on 1300 550 461, and for APS employees from the Defence Service Centre on 1800 000 677. Claims for compensation are determined by DVA *(ADF)* and Comcare *(APS)*.

Signals

This form must be completed, even if a DISCON signal *(eg FATALCAS or NOTICAS)* has been raised.

Initial assessment

Did the event occur while on duty doing Defence work? *

◯ Yes ◯ No

Did the event occur while deployed on a declared Defence operation? *
(An ADF member posted, assigned or attached for duty to: a UN force; a foreign/multinational force; or the ADF outside Australia on declared warlike and non-warlike operations.)

◯ Yes ◯ No

Was the person involved a visitor to Defence property? *
(A visitor is any person who visits/accesses Defence workplaces but is not on duty or does not have a DRN account.)

◯ Yes ◯ No

Did the event occur during ADF organised sports? *

◯ Yes ◯ No

Did the event involve workplace bullying/harassment? *

◯ Yes ◯ No