

OFFICIAL



**Australian Government**  
**Civil Aviation Safety Authority**

**PRINCIPLE**

# **(OPS.138) Aerial work operations**

May 2024

OFFICIAL



### Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Inside front cover artwork: James Baban.

© Civil Aviation Safety Authority

All material presented in this Guidance document is provided under a Creative Commons Attribution 4.0 International licence, with the exception of the Commonwealth Coat of Arms (the terms of use for the Coat of Arms are available from the [It's an Honour website](#)). The details of the relevant licence conditions are available on the Creative Commons website, as is the full legal code for the CC BY 4.0 license.



Attribution

Material obtained from this document is to be attributed to CASA as:

© Civil Aviation Safety Authority 2023.

# Contents

<b>Terminology</b>	<b>6</b>
Acronyms and abbreviations	6
Definitions	7
Reference to regulations	7
<b>1. Assessment scope</b>	<b>8</b>
1.1 Assessment of an initial application	8
1.2 Assessment of a significant change application	8
1.3 Aerial work operations outside the Australian territory	9
1.4 Assessment worksheet user instructions	9
1.5 AWC project management	9
1.5.1 Project manager	10
1.5.2 Project team	10
1.5.3 Project team guidelines	11
1.6 Onsite inspections and verification	12
1.6.1 Work health and safety	12
1.7 Demonstration flight	12
1.7.1 Decision to conduct a demonstration flight	12
1.7.2 Demonstration flight notification	13
1.7.3 Assessment of the demonstration flight	13
1.7.4 Post demonstration flight	13
<b>2. Applicant</b>	<b>14</b>
2.1 General	14
2.1.1 Fitness and propriety	14
<b>3. Aircraft operations</b>	<b>15</b>
3.1 Organisation	15
3.1.1 Organisational structure	15
3.1.2 Chain of command	15
3.1.3 Key personnel vacancy	16
3.1.4 Key personnel absence	16
3.1.5 Familiarisation training	17
3.1.6 Safety management system	17
3.1.7 Personnel fatigue management	17
3.2 Key personnel	17
3.2.1 Chief executive officer (CEO)	17
3.2.2 Head of operations (HOO)	17
3.2.3 Head of training and checking (HOTC)	18
3.2.4 Safety manager (SM)	18
3.3 Operations manual	18
3.3.1 Managing continuing airworthiness	18
3.3.2 Reference library	18
3.3.3 Dangerous goods manual	19
3.3.4 Prescribed single engine aircraft operations	19
3.4 Management of change	20
3.4.1 Significant change	20

3.4.2	Non-significant change	20
3.4.3	Communication of changes to operators' personnel	21
3.4.4	Key personnel changes	21
3.4.5	Risk assessment	21
3.5	Records & documents	21
3.5.1	Personnel records	21
3.5.2	Operational and flight related documents	21
3.6	General flight limitations	23
3.6.1	Operations in foreign airspace and on the high seas	23
3.6.2	Foreign registered aircraft	23
3.6.3	Permitted categories of aircraft	24
3.6.4	Dangerous goods	24
3.7	Operational procedures	25
3.7.1	Flight preparation	25
3.7.2	Flight planning	26
3.7.3	Flight rules	26
3.7.4	Fuel requirements	27
3.7.5	Carriage of aerial work passengers	29
3.7.6	Instruments, indicators, equipment, and systems	32
3.7.7	External load operators	34
3.7.8	Dispensing operations	35
3.8	Miscellaneous	36
3.8.1	Aerial work operator risk assessments	36
3.8.2	Seatbelts and other restraint devices	36
3.8.3	Aircraft not certified for flight in icing conditions	37
3.8.4	Aircraft free from frost, ice, or snow	37
3.8.5	Polar operations	38
3.9	Performance	38
3.9.1	Large aeroplanes	38
3.9.2	Engine inoperative – multi-engine aeroplane	40
3.9.3	Rotorcraft with OEI accountability	40
3.9.4	Other aircraft	41
3.10	Weight & balance	41
3.10.1	Aircraft loading procedures	42
3.10.2	Weight and balance documents	42
3.11	Flight crew	43
3.11.1	Assignment of a flight crew member to a duty	43
3.11.2	Qualification and minimum experience for PIC	43
3.12	Crew members other than flight crew members	44
3.12.1	Air crew members and task specialists crew members	44
3.12.2	Task specialist operations	45
3.12.3	Possession and discharge of firearms	45
3.13	Minimum equipment list (MEL)	46
<b>4.</b>	<b>Training and checking system</b>	<b>47</b>
<hr/>		
4.1	General	47
4.1.1	Suitable training and checking system	47
4.1.2	Training and checking system approved under regulation 61.040	47
4.1.3	How is training and checking conducted	48

4.1.4	Personnel training and checking records	49
4.1.5	Supervision during training and checking	50
4.1.6	Assessment of competence	50
4.1.7	Remedial training	51
4.1.8	Contracting training and checking	51
4.2	Flight crew	52
4.2.1	Flight crew – training and checking requirements	52
4.2.2	Pilot in command training	54
4.3	Air crew members	54
4.4	Task specialists	56
4.4.1	Required training and checking	56
4.4.2	Specific training requirements for task specialist operations	56
4.4.3	Firearms training requirements	56
4.4.4	Firearms training – external	57
4.4.5	Refresher training – animal culling	57
<b>5.</b>	<b>Revision history</b>	<b>58</b>

---

# Terminology

## Acronyms and abbreviations

Table 1. List of acronyms and abbreviations

Acronym/abbreviation	Description
138PC	138 proficiency check
AC	advisory circular
ACAS RA	airborne collision avoidance system resolution advisory
AFM	aircraft flight manual
AIP	Aeronautical Information Publication
ATC	air traffic control
ATS	air traffic services
ATSB	Australian Transport Safety Bureau
AWI	airworthiness inspector
AWC	aerial work certificate
CAO	Civil Aviation Orders
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
C-EFB	cabin electronic flight bag
CEO	chief executive officer
DGI	dangerous goods inspector
EFB	electronic flight bag
FCOM	flight crew operating manual
FCM	flight crew member
FOI	flying operations inspector
FSTD	flight simulator training device
HF/NTS	human factors and non-technical skills
HOO	head of operations
HOTC	head of training and checking
IFR	instrument flight rules

Acronym/abbreviation	Description
IMC	Instrument meteorological conditions
IPC	instrument proficiency check
MEL	minimum equipment list
MOC	management of change
MOS	manual of standards
MTOW	maximum take-off weight
OEI	one-engine inoperative speed
OEM	Original Equipment Manufacturer
OPC	operator proficiency check
PIC	pilot in command
POH	pilot operating handbook
SMS	safety management system
SOM	sample operations manual
NAA	national aviation authority
NAIPS	National Aeronautical Information Processing System
VFR	visual flight rules

## Definitions

**Table 2. List of definitions**

Term	Definition
aerial work operation	has the meaning given by regulation 138.010
aerial work operator	has the meaning given by Part 1 of the CASR dictionary
aerial work passenger	has the meaning given by Part 1 of the CASR dictionary
COMAT	Company materials which include dangerous goods of the operator – such as aircraft parts (e.g. batteries, chemical oxygen generators oxygen cylinders etc.)
task specialist	has the meaning given by regulation 138.015

## Reference to regulations

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this Principle are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

# 1. Assessment scope

## 1.1 Assessment of an initial application

Inspectors use this protocol document suite to assess an application for, or transition to, an aerial work certificate (AWC) under *Part 138—Aerial work operations*. The assessment will also include relevant regulations in *Part 91—General operating and flight rules*.

Regulation 11.055 states that if an application is submitted for an authorisation in accordance with these regulations, CASA may grant the authorisation if the applicant meets the criteria specified in the regulations.

Some applications may involve an AWC across multiple operational Parts, for example Part 138 and Part 135. In this case, the inspector does not need to complete the whole worksheet for each operational Part. For example, the requirements for the carriage of passengers under Part 135 will meet those required by Part 138.

**Note:** Compliance with the Part 135 regulations should meet or exceed those required by Part 138 regulations.

The worksheets for Parts 138 and 135 follow the same assessment pathway. The inspector can choose which worksheet to use as the primary, and only complete the required sections of the secondary worksheet where differences occur.

A multi-part Part 138 and Part 135 operator may choose to conduct their operations in accordance with the higher standards applicable to Part 135. In this example, an inspector will complete the assessment using the Worksheet (OPS.135) and note in the assessment scope that this includes the Part 138 operation. In which case the inspector should confirm the applicant's intention to have their Part 138 operation assessed as a Part 135 operation at the pre application meeting.

Part 138 aerial work operations can vary from a simple aerial work mustering operation in an R22 through to firebombing in a complex, multicrew, large air transport type aircraft. For this reason, assessment activities may vary considerably based on the proposed aerial work operations, including:

- desktop assessments of the documentation provided
- site inspection of facilities
- assessment of key personnel
- a proving flight where required.

CASA has produced 2 sample operations manual (SOM) templates to assist operators in developing their operations manual:

- [Part 138 Sample Operations Manual \(Mustering\)](#)
- [\(OPS.138\) Aerial work operations \(Parts 133, 135, 138\)](#)

When assessing an operations manual which has been based on the SOM, inspectors must ensure that the manual covers all the aerial work operations proposed in the application. An applicant's use of the SOM template significantly reduces the assessment time required by the inspector.

Before the issue of an AWC can be recommended, the inspector will verify the application meets the requirements for the proposed operation.

## 1.2 Assessment of a significant change application

Inspectors will also use this protocol suite to assess a significant change or an approval that is not covered by its own specific protocol, such as addition of an aircraft. In this instance, the inspector will define the scope of the assessment in the *Assessment summary* tab of the worksheet (OPS.138). Only those sections of the worksheet that address the significant change need be completed.



## 1.3 Aerial work operations outside the Australian territory

A Part 138 AWC permits the conduct of aerial work activities outside Australian territory. However, this does not supplant any specific regulatory requirements and authorisations of a foreign country (national aviation authority [NAA]) when an Australian operator is operating within that country's territory and areas of aviation safety regulatory responsibility. Those operations would require the approval of the foreign NAA.

**Note:** To be clear, an AWC holder will need to gain authorisation from a foreign NAA for the conduct of aerial work operations in their territory.

### Example

If an operator was contracted to operate an aerial work activity on behalf of a foreign country, for example firebombing operations in Turkey, the operator would need approval from the foreign NAA to conduct those operations. In this case the operator would need to transit to and from the foreign country under Part 91 of CASR, and then conduct the aerial work operations under the foreign NAA approvals.

For further information refer to section 3.6.1 of this principle.

## 1.4 Assessment worksheet user instructions

An AWC application will require assessment by both a flying operations inspector (FOI) and an airworthiness inspector (AWI). A project manager will be appointed to manage the worksheet and ensure all tasks are completed.

This Principle provides guidance to the inspectors when using the associated [Worksheet \(OPS.138\) - Aerial work operations](#). The worksheet provides inspectors with a regulation-based tool for recording the outcomes of the assessment.

The worksheet is set out as follows:

- User instructions
- Assessment summary
- Approval data sheet
- Assessment worksheets
  - Applicant
  - Aircraft operations
  - Training & checking system.
- Additional assess
- Rev. history.

Some of the worksheet areas will point to another protocol suite to cover that topic. Once the inspector has completed that assessment the results can be recorded in the relevant section of the worksheet (OPS.138).

In this principle, chapters 2–4 provide specific guidance that aligns to the associated sections (tabs) in the assessment worksheets.

## 1.5 AWC project management

Most AWC applications will be assessed by both an FOI and an AWI forming the project team. In this case, one of the inspectors will be appointed as the project manager. Depending on the aircraft and aerial work

operations proposed, the project team may need to consult with other technical disciplines during the assessment process.

CASA assessment of an AWC application must be treated as a project. It means CASA must have:

- a formal and structured method of managing the certification activities
- activities that have specifically defined outputs that are to be delivered according to a set schedule agreed to by CASA and the applicant
- a clear definition of roles and responsibilities of the resources involved.

It is important that the roles and responsibilities of both CASA and the applicant are clearly understood. It is not the role of the CASA project manager to manage the applicant's project.

### 1.5.1 Project manager

The project manager is responsible for managing the overall assessment process, coordinating the project team members and ensuring that sufficient resources will be available for CASA to meet the project plan (formerly known as schedule of events). When the project manager is satisfied that the operator can meet the requirements of Part 138 to issue an AWC, the project manager will make a recommendation to the national manager.

The project manager must:

- chair the pre-application and formal application meetings (if required)
- coordinate the creation of the task lists and hours for the estimate
- monitor the progress of work of all team members against projected delivery timeframes and availability of resources
- monitor progress of work of all team members against the estimated cost of work and ensure any projected or actual increase in cost to the applicant, above what was provided in the original estimate, is communicated to the applicant
- ensure the communication protocol enables a free flow of information between CASA and the applicant, including regular meetings with the applicant
- arbitrate in any dispute between CASA and the applicant
- provide a formal point of contact between CASA and the applicant
- keep the certificate team manager informed on the progress of the project
- maintain records of all formal meetings
- following the document evaluation and inspection phases, review the recommendations of the project team, and complete the assessment summary and approval data sheet located in Worksheet (OPS.138) – Aerial work operations.

### 1.5.2 Project team

#### Flying operations inspector (FOI)

If conducting an inflight assessment from a control seat, the FOI must be listed on the national operations register (NOR) and:

- be qualified under Part 61 for the aircraft type
- meet recent experience requirements.

The FOI will conduct the flight assessment in accordance with the requirements contained in the [Flying Qualification & Training Handbook](#).

If an FOI cannot meet the above requirements and there is no other person qualified, an FOI who has experience on an aircraft type which is substantially similar can be used for the assessment. If there is no FOI that has 'substantially similar' experience, the project manager will consult the national manager to determine who is the most appropriate FOI to conduct the flight assessment.

## Airworthiness inspector (AWI)

The AWI must be familiar with the aircraft types that the applicant proposes for the aerial work operations.

Where the applicant requires minimum equipment lists (MELs), system of maintenance, approved maintenance plan (AMP) or reliability programs approved by CASA:

- the AWI must assess those approvals in accordance with the applicable protocol suites
- the AWI must have training or experience on the actual aircraft type or a similar type to carry out those assessments
- prior to carrying out these assessments, the AWI must have undertaken CASA training for these types of assessments.

If an AWI cannot meet the above requirements and there is no other person qualified, an AWI who has experience on an aircraft type which is substantially similar can be used for the assessment. If there is no AWI that has 'substantially similar' experience, the project manager will consult the national manager to determine who is the most appropriate AWI to conduct the assessment.

## Dangerous goods inspectors (DGI)

Dangerous goods inspectors (DGIs) must be engaged when an application is received to add the consignment and carriage of dangerous goods by air. Applications for carriage of dangerous goods by the operator or COMAT, being company materials such as aircraft spare parts (e.g. aircraft batteries, chemical oxygen generators, oxygen cylinders etc.), also require assessment by a DGI.

Where the operator does not intend to consign or carry dangerous goods, or if the level of dangerous goods requested for the proposed operation is unclear, DGIs are available to assist the project manager in making an initial determination.

## Other inspectors

The project manager will determine the need for other disciplines to assess the application. Other disciplines which may need to be involved are:

- cabin safety
- ground operations
- aerodromes
- safety management system
- alcohol and other drugs.

### 1.5.3 Project team guidelines

It is in the best interest of CASA and the applicant to ensure that the assessment of the AWC application is conducted smoothly and expediently. The following must be observed:

- the project team and the applicant must maintain ongoing contact to keep abreast of any changes that impact the project
- inadequacies must be documented in CASA records and communicated to the applicant at the earliest possible stage
- the applicant must inform CASA of any changes to the schedule of events, addressing deficiencies or ready for the verification and testing phase. CASA must remind the applicant that schedule changes can affect completion of necessary reviews and result in delays
- much of the communication between CASA and the applicant will be informal and verbal. Project team members must ensure that any commitments or deficiencies are notified and confirmed in writing in a timely manner. The project manager must be notified of these actions
- the project manager must keep the project team members informed of negotiations and significant developments.

- disputes must be arbitrated expeditiously – where an agreement cannot be reached between CASA and the applicant, the matter, along with recommendations, must be documented and referred initially to the national manager.

## 1.6 Onsite inspections and verification

The requirement for an onsite inspection will depend on the nature and complexity of the system being assessed. To ensure a system is suitable, the inspector may need to interview staff, observe a process or inspect facilities. Inspectors will use [Protocol suite \(OPS.26\) Checklists](#) for onsite inspections.

### 1.6.1 Work health and safety

Inspectors conducting an industry onsite visit must assess potential work health and safety (WHS) risks for the site and take steps to mitigate identified risks. If clarification is required on the site WHS risks or mitigations, confirm with site contacts prior to the visit. In addition, inspectors must receive a work health and safety briefing/induction to the location and confirm emergency procedures and access to first aid treatment. Identified risks must be documented on your worksheet along with the steps taken to mitigate them. For a list of identified potential onsite WHS risks and the controls that are part of CASA's WHS management system refer to [WHS Checklist for 3rd party workplaces](#) and consider which risks are relevant to the site being visited. Ensure you have appropriate personal protective equipment (PPE) where required.

## 1.7 Demonstration flight

The purpose of a demonstration flight is to ensure the applicant can conduct the proposed aerial work operation safely. The demonstration flight would include such things as:

- planning the aerial work activity
- compiling and managing the operational risks assessment and pre-flight risk review for the aerial work activity
- aerial work zone risk assessments (if applicable)
- conduct of the aerial work activity.

A demonstration of the proposed aerial work activity would normally be the last part of an assessment to occur before a recommendation is made to a delegate to issue a new AWC or add a new aerial work activity to an existing AWC.

Note: A demonstration flight is not to test the competency of the flight crew which is managed under Part 61.

A demonstration flight differs from a proving flight in that the inspectors will normally observe the proposed aerial work activity from the ground. For example, an AWC applicant may be required to demonstrate an external load operation by picking up and then setting down a thing.

A demonstration flights need not be conducted for each separate authorisation on an AWC. Proof that the AWC applicant's organisation is suitable may be reasonably accomplished by inspecting appropriate samples of the proposed operations.

If the AWC applicant cannot successfully demonstrate their ability to conduct the aerial work operation through a demonstration flight, the demonstration flight will need to be repeated.

The requirement for demonstration flights and what form a demonstration flight must take are at the discretion of CASA.

### 1.7.1 Decision to conduct a demonstration flight

The project manager should take into account the following as to whether a demonstration flight is required:

- first issue of an AWC for Part 138 operations
- AWC variation upgrading in type of power plant from turboprop to jet engine operations

- introduction of aerial work passenger operations
- introduction of an additional aerial work activity that is significantly different to that currently conducted.

## 1.7.2 Demonstration flight notification

If CASA determines that a demonstration flight is required the project manager will decide, after consultation with the project team, if the AWC applicant is ready. The demonstration flight must be conducted in accordance with the procedures outlined in the applicant's operations manual, therefore, any outstanding issues in relation to the operations manual must be resolved to CASA's satisfaction prior to the conduct of the demonstration flight.

CASA must provide written notice of the requirement for a demonstration flight the notice will contain:

- proposed date for the conduct of the demonstration flight
- objectives of the demonstration flight
- process CASA will use to conduct the demonstration flight
- safety considerations and conditions that must be observed during the demonstration flight
- means of assessment including the use of test scenarios.

After receiving the notice, the AWC applicant must provide a detailed plan for the conduct of the proposed demonstration flight.

## 1.7.3 Assessment of the demonstration flight

At the completion of the demonstration flight, the project team (FOI) will meet to decide whether further demonstration flights are required and the need for, and extent, of corrective action required by the AWC applicant.

The project team must agree on the result and rate the AWC applicant against one of the outcomes listed below.

- a. The project team finds deficiencies in the AWC applicant's compliance with operations manual processes and procedures or regulatory requirements that do not demonstrate present and suitable (not compliant). If the project manager determines the deficiencies are such that on-ground testing would not be appropriate to verify the AWC applicant has satisfactorily addressed the deficiencies, then the applicant will be deemed to have failed the demonstration flight and a further demonstration flight will be necessary.
- b. The project team finds deficiencies in the AWC applicant's compliance with operations manual processes and procedures or regulatory requirements that demonstrate procedures are present but not suitable (not compliant). If the CASA project manager determines a ground exercise can verify the outcome of remedial action, additional demonstration flights may not be required. The AWC applicant will rectify the deficiencies and CASA will verify the deficiencies have been addressed satisfactorily before the AWC is issued.
- c. The demonstration flight demonstrated that the operator's procedures are both present and suitable and therefore compliant. Some deficiencies are to be expected during the demonstration flight and all deficiencies will require rectification. The project team will recommend the delegate issue the AWC.

## 1.7.4 Post demonstration flight

The project team will meet with the AWC applicant to provide a debriefing on the outcome of the demonstration flight. The debriefing should allow the project team to deliver their findings against the measure of present and suitable. CASA and the applicant should agree on the corrective action required to address any deficiencies. If required, the project team will discuss the time of verification activities to ensure corrective actions have addressed the deficiencies.

The applicant should be given an opportunity to provide feedback on the conduct of the demonstration flight and clarify any concerns they may have with the process.

# 2. Applicant

## 2.1 General

The application form requires the applicant to make a statement about their history. The history should include any accidents or incidents or CASA enforcement action that occurred within the previous 10 years.

The concept of a 'fit and proper' person is a fundamental one in many professions, jurisdictions and organisations as it is used to determine a person's honesty, integrity and reputation in order to confirm that they are fit and proper for the role they are undertaking.

Subregulations 138.040(3) and 11.055(4) describe the matters CASA may consider in deciding whether a person is a fit and proper person.

### 2.1.1 Fitness and propriety

CASA must be satisfied that each of the proposed key personnel are fit and proper persons to be appointed to the position.

In assessing fitness and propriety, CASA may take into account a number of matters including the following:

- the nominee's record of compliance with regulatory requirements (in Australia or elsewhere) relating to aviation safety and other transport safety
- the applicant's demonstrated attitude towards compliance with regulatory requirements (in Australia or elsewhere) relating to aviation safety and other transport safety
- the applicant's experience (if any) in aviation
- the applicant's knowledge of the regulatory requirements applicable to civil aviation in Australia
- the applicant's history (if any) of serious behavioural problems
- any conviction (other than a spent conviction, within the meaning of Part VIIC of the Crimes Act 1914) of the applicant (in Australia or elsewhere) for a transport safety offence
- any evidence held by CASA that the applicant has contravened:
  - the Act or these Regulations
  - a law of another country relating to aviation safety
  - another law (of Australia or of another country) relating to transport safety.
- any other matter relating to the fitness of the applicant to hold the authorisation.

If any matter is identified that raises concerns as to whether the nominee is a fit and proper person, the inspector must request a peer review by their manager and Legal, International, and Regulatory Affairs (LIRA) before proceeding with any action that would cancel or refuse the application.

# 3. Aircraft operations

## 3.1 Organisation

### 3.1.1 Organisational structure

Before a recommendation can be made for the issue of an AWC, inspectors must verify that the AWC applicant is capable of satisfying the applicable matters referred to in Part 138 aerial work operations.

The size and scope of the aerial work operations will determine the required management structure. For example, a small mustering operation may consist of a single person who both manages and conducts the aerial work operations. For an aerial work operator who require a safety management system and a training and checking system operating large transport aircraft kinds, a management structure, essential to the achievement of safe aerial work operations, will display the following organisational structure and features:

- the CEO of the organisation has appropriate experience to conduct or carry out AWC operations safely
- the duties and responsibilities of management or supervisory positions are clearly defined with lines of communication and areas of responsibility clearly established
- the number and nature of management or supervisory positions is appropriate to the size and complexity of the organisation
- the reporting lines for sub-organisations lead to the respective head of that organisation
- the number of managerial positions must be such that effective control and responsibility is clearly seen to rest with particular individuals
- flight and duty times of crewmembers holding management or supervisory positions should be reviewed to ensure that there is an appropriate balance between flying duties and managerial duties.

The inspector should consider the potential impact on any person holding a managerial position who may be involved with any other legal entity and the impact that involvement may have on their ability to manage the AWC effectively.

Division 138.B.4 recognises that effective management of the operation can continue for relatively short but manageable periods during the vacancy of, or the inability of key personnel to carry out their responsibilities. The regulations recognise the unique circumstances associated with aerial work operations, such as:

- remote operations
- specific repetitive tasks during set timeframes such as mustering
- a simple organisational model of some aerial work only operations.

The intent of the regulation is to give the operator time to:

- complete a task already commenced
- continue operations until the key personnel is able again to carry out their responsibilities
- fill the key personnel vacancy.

### 3.1.2 Chain of command

If the organisational structure involves more than 1 individual, the structure must demonstrate the organisational chain of command. The chain of command provides the reporting structure of the organisation and must be appropriate to ensure that the activities can be conducted safely.

The applicant's CEO should be positioned at the pinnacle of the organisational hierarchy, demonstrating the overall responsibility and accountability of the position.

The applicant should demonstrate that clearly defined reporting and communication lines exist between key personnel, management, supervisors and other personnel.

To ensure the SM, where required, is not subject to undue influence, the organisational structure should provide that the SM reports either directly to the CEO, or to senior management with a formal direct line of communication with the CEO. The SM should remain independent from operational departments.

To ensure that each managerial position has a suitable span of control, the applicant's organisational structure should demonstrate that the number of managerial positions is appropriate to the size and scope of the proposed operations.

For the chain of command to be effective, the delegation of responsibility and accountability should rest with personnel holding qualifications and experience that are relevant to the position.

### 3.1.3 Key personnel vacancy

Paragraph 138.050(1)(c) places a condition on an AWC that each key personnel vacancy must be notified to CASA and filled within the period specified in their operations manual that is, a key personnel position can be vacant and aerial work operations may continue under Part 138. This is different to Parts 119, 141 and 142 where, if a key personnel position is vacant, they must cease operations. In deciding whether the proposed period is suitable the inspector should consider the following:

- regulation 138.070
  - the size nature and complexity of the aerial work operation
  - the ability of the aerial work operator to effectively manage aerial work operations.
- regulation 138.075
  - when the operator becomes aware that the key personnel cannot carry out their responsibilities, the reporting requirements.

In addition to the above the inspector should consider critical timelines such as rostering, proficiency checks etc. For this reason, it would be difficult for the operator to comply with subregulation 138.070(1) if the period proposed in their operations manual was longer than 7 days.

#### Example

An operator whose safety manager (SM) resigned their employment, and who does not have another person authorised to carry out the responsibilities, would be required to inform CASA within 24 hours of the person resigning. In this case aerial work operations may continue for a period with the SM position vacant. However, if the HOO for a complex aerial work operation involving large transport type aircraft left their employment, the inspector should consider whether the aerial work operator can meet their obligations to maintain an organisational structure that can effectively manages the aerial work operations.

### 3.1.4 Key personnel absence

Unlike section 3.1.3 of this principle, this section deals with an absence of key personnel that is not a vacancy.

The operations manual should include a process to ensure all key personnel positions are filled within a suitable time frame. Larger operators may provide for alternate key personnel authorised to carry out the responsibilities of the substantive key personnel when they are absent or unable to do so. For a person to be authorised to carry out the key personnel responsibilities, they must be approved as a significant change under regulation 138.064. Use [Protocol suite OPS.10 Key personnel assessment](#).

The operations manual should detail the process to be followed to notify CASA when key personnel are absent for longer than 35<sup>1</sup> days the timing of which depends on whether there is an authorised alternate available to take-over the responsibilities.

---

<sup>1</sup> Refer to Part 2 of CASA exemption EX86/21



If the operator is required to have a TCS, the inspector should ensure that the operator has a process in place to that prevents the CEO and head of training and checking (HOTC) or HOO and HOTC holding the same position for no more than 7 days in unforeseen circumstances. To be unforeseen the inspector should consider the circumstances which lead to the absence. To be suitable the operator's definition of an unforeseen circumstance should indicate that it was unforeseeable and beyond the operator control.

If the operator is required to have a safety management system (SMS), the inspector should ensure that the operator has a process in place to that prevents the CEO and SM or HOO and SM holding the same position for no more than 7 days in unforeseen circumstances. To be unforeseen the inspector should consider the circumstances which lead to the absence. To be suitable the operator's definition of an unforeseen circumstance should indicate that it was unforeseeable and beyond the operator control.

An approval under regulation 138.025 must meet the requirements in the [Operations protocol framework](#).

### 3.1.5 Familiarisation training

An aerial work operator must ensure that, before a person appointed as any of the operator's key personnel begins to carry out the responsibilities of the position, the person has completed any training that is necessary to familiarise the person with the responsibilities. An operator must describe the conduct of this training in their operations manual, including details of the training syllabus and how records of achievement are documented. To be suitable the training should include such matters as:

- outline of the regulations
- organisational structure
- safety management system if required
- training and checking system if required
- operation's manual structure
- type of aerial work operations conducted.

### 3.1.6 Safety management system

Use [Protocol suite \(OPS.08\) Safety management system assessment](#).

### 3.1.7 Personnel fatigue management

Part 138 aerial work operations must comply with section 48.1 of the Civil Aviation Orders (CAO). The operations manual should detail the process for tracking crew rosters and actual flight times. In addition, the operations manual should include information on crew fatigue and actions crew should take if they become fatigued or unfit for duty.

Note: Further guidance can be found on the CASA website including a sample operations manual.

Use [CAO 48.1 Instrument 2019 Appendices 1-6 - Technical Assessor Handbook](#) and [CAO 48.1 Instrument 2019 Appendices 1-6 - Technical Assessor Worksheet](#).

## 3.2 Key personnel

### 3.2.1 Chief executive officer (CEO)

Use [Protocol suite \(OPS.10\) - Key personnel assessment](#).

### 3.2.2 Head of operations (HOO)

Use [Protocol suite \(OPS.10\) - Key personnel assessment](#).

### 3.2.3 Head of training and checking (HOTC)

Use [Protocol suite \(OPS.10\) - Key personnel assessment](#).

### 3.2.4 Safety manager (SM)

Use [Protocol suite \(OPS.10\) - Key personnel assessment](#).

## 3.3 Operations manual

An operations manual is a document, or set of documents, which describes how an operator will conduct its operations safely. It sets out, both for CASA and for operator personnel involved in the operation, how to comply with all applicable legislative requirements and manage the safety of the operation, as well as details of each plan, process, procedure, program and system implemented.

If structured as a set of documents, the operations manual might include a principal/primary document which contains all the common information applicable to operator activities. Separate manuals can then be established for specific aspects of certain activities, and the associated systems and procedures applicable to those activities. These separate manuals form part of the operator operations manual.

In constructing the operations manual content, the operator should refer specifically to the list of items in the regulation to ensure completeness of the operations manual.

The operations manual does not need to include Part 91 General operating and flight rules that are intrinsic to the operation of an aircraft and may rely on the Australian Aeronautical Information Publication (AIP).

#### Example

Regulation 91.265 prescribes the pilot in command (PIC) obligations for minimum height rules for populous areas and public gatherings, the operations manual would not need to include specific instructions to the PIC. However, if the operator chooses to place additional obligations on its flight crew that exceeds the Part 91 requirements the operations manual will contain those instructions.

To be suitable, the operations manual must be managed under a document control system that allows personnel to readily identify the current version. When assessing the content of the operations manual the inspector should ensure that the quality, readability and usability is fit for purpose.

CASA has provided a SOM to assist operators develop their procedures. Inspectors must ensure that the use of the SOM is in accordance with the scope of the SOM.

### 3.3.1 Managing continuing airworthiness

Most aerial work operators will manage continuing airworthiness under Part 4, Part 4A and Part 4B of the *Civil Aviation Regulations 1988* (CAR). Use [Protocol suite \(OPS.13\) Managing continuing airworthiness](#) for the assessment.

A registered operator may also elect that Part 42 applies to their aircraft for their aerial work operations. Use [CASR Subpart 42.G \(CAMO\) Technical Assessor Handbook](#) and the associated worksheet for the assessment.

### 3.3.2 Reference library

The operations manual must include a reference library in accordance with regulation 138.195. An important part of the reference library is access to up-to-date information. Operators may choose to use an electronic flight bag (EFB) to provide their reference library. There are commercial products that will keep these documents up to date or the operator may develop their own EFB program. In either case the operations manual must explain how the reference library will be maintained.

### 3.3.3 Dangerous goods manual

Part 92 of CASR applies to the consignment and carriage of dangerous goods by air. If the operator intends to carry dangerous goods in cargo, regulation 92.055 prescribes the requirement for an operator to provide a detailed dangerous goods manual. If the operator intends to carry general cargo, regulation 92.070 prescribes that the operator must have procedures to obtain a signed statement from the person who consigns the cargo either describing the contents of the cargo or stating that the cargo does not contain any dangerous goods.

The dangerous goods manual (or section within the operations manual) forms part of the operations manual under regulation 138.155. Regulation 92.055 does not require the dangerous goods manual to be a standalone document, the operator may choose to meet the requirements of the regulation as a chapter to a broader operations manual.

For operations involving the carriage of dangerous goods as cargo, in the mail, as replacement items for company materials (COMAT) or dangerous goods of the operator, the assessment must be conducted by a DGI using *Protocol (OPS.28) Consignment and carriage of dangerous goods by air* (under development). Until Protocol (OPS.28) is published, the DGI will continue to use the following documentation:

- [Form 1441 – Dangerous goods manual evaluation checklist](#)
- [Form 1444 – Acceptance of dangerous goods checklist](#)
- [Checklist \(OPS.26\) Dangerous goods - RAMP inspection](#)

For operations not involving the carriage of dangerous goods cargo, the inspector should use [Form 1441 – Dangerous goods manual evaluation checklist](#) to assess the dangerous goods component of the operations manual.

Note: The project manager may request a review and assessment of the dangerous goods manual (or section within the operations manual) if unsure about the complexity of the proposed cargo operation.

Where the operator does not intend to consign and carry dangerous goods by air, the operations manual will still require instructions to address:

- general exceptions listed in ICAO Doc 9284 1;1.1.5
- exceptions for dangerous goods of the operator listed in ICAO Doc 9284 1; 2.2 or
- activities performed under regulations 91.170, 92.185 and 92.195, as they relate to aerial work operations.

If the operator intends to carry non-dangerous goods 'general' cargo and/or the limited dangerous goods permitted for carriage by passengers or crew, the operator must still provide certain information within their operations manual. See section 3.6.4 of this principle for further information.

For dangerous goods that are permitted to be carried by passengers or crew, see section 3.6.4 of this principle for further information regarding the assessment required for this section of the operations manual.

### 3.3.4 Prescribed single engine aircraft operations

For PSEA assessment use [Protocol \(OPS.03\) - PSEA Assessment](#).

## 3.4 Management of change

Operators who are engaged across multiple CASR Parts can construct a management of change (MOC) process that is applicable to all of their operations.

### Example

An operator may have sections of their company that hold authorisations under Parts 42, 119, 138, 142 and 145. If preferred by the operator, they could construct an MOC process that is common to all of their operations regardless of the CASR Part under consideration.

### 3.4.1 Significant change

The operations manual must detail a process for the identification of a significant change. To be suitable, if an operator uses their own definition of what constitutes 'significant change', the inspector must be satisfied that the operator's definition is not less restrictive than the regulation.

Paragraph 138.155(1)(h) requires that the operator's operations manual includes '*details of each plan, process, procedure, program and system implemented by the operator to safely conduct and manage their Australian air transport operations in compliance with the civil aviation legislation*'. To address this requirement, the operator's documentation should detail how an application will be made to CASA, and who within the organisation is authorised to make such an application.

Except for key personnel changes under subregulation 138.062(2) and (3), a significant change cannot be implemented until CASA has approved the change. The operator must have a process for ensuring a significant change will not be implemented until CASA approval is received.

### 3.4.2 Non-significant change

By having a process that identifies significant changes, the operator will by default identify all other changes as non-significant changes. A common mistake is that operators may only consider the prescriptive components for the definition of significant change under subregulation 138.012(a) and automatically classify all other changes as non-significant. To be suitable, the inspector must confirm the operator's management of change process adequately covers the requirements for the definition of significant change in subregulations 138.012(c) and (d).

Although the regulations require the operator to notify CASA of a non-significant change, they do not specify the timing of that notification. To be suitable, the inspector should confirm that the operator has developed a process to ensure CASA is notified at the same time as the operators' personnel. However, in some circumstances, the method of communication to the operators' personnel may not coincide with the notification to CASA – due to the methods used.

### Examples

Some operators may use their rostering and scheduling system to communicate non-significant changes to their operations manual, whereas CASA requires an operator to provide notification via the non-significant change form (CASA-04-5819).

Operators may choose to align their operations manual amendments to coincide with the AIRAC cycle or, in the case of large operations manuals, an amendment cycle, and in the interim use an 'operational notice' (however named) to communicate a non-significant change. The associated section of the operations manual would then be amended in accordance with the cycle.

Situations may require operators to make an immediate change to procedures via an 'operational notice' to address a risk in a timely manner. To be suitable, the inspector should confirm that an operational notice forms part of the operations manual.

### 3.4.3 Communication of changes to operators' personnel

The method of notification to operators' personnel should be such that the operator is sure that the communication is reaching the intended audience in a timely and effective manner. Some operators will rely on e-mail systems, while others may use a more formal system that records whether each individual has read and acknowledged the information. To be suitable, it should be clear how and when the change will be communicated.

### 3.4.4 Key personnel changes

The regulations provide a means for operators to enact changes to key personnel in certain circumstances, without having received CASA approval prior to implementation of the change. To be suitable, the person appointed must have been previously authorised to carry out the responsibilities of the position. This relief cannot be used for other significant changes. If an operator elects to set a policy requiring CASA approval for all significant changes prior to implementation, this is also considered suitable. See section 3.1.3 and 3.1.4 of this principle for further information.

### 3.4.5 Risk assessment

The MOC process, and associated risk assessment process, are required to be integrated with the operator's SMS. Any assessment of the SMS aspects should be conducted with reference to [Protocol suite \(OPS.08\) Safety management systems assessment](#).

## 3.5 Records & documents

The following material is to be read in conjunction with the Part 138 AMC/GM. Some operators may have legislative exemption from the requirements of certain CASRs. The current register of exemptions should be checked in determining the presence of these requirements.

### 3.5.1 Personnel records

The operator must maintain visibility of flight crew licence and medical records to ensure flight crew hold a valid licence and medical certificate when they conduct operations. The size and nature of the operation will dictate the method used, with possibilities ranging from a simple paper filing system through to an electronic data base.

To assess suitability the inspector should consider the number of:

- flight crew
- operating bases where flight crew are domiciled
- different qualifications that need to be tracked.
- The operator may choose to track all crew qualifications in addition to flight crew licences and medicals in one system. Other qualifications may include, but are not limited to:
  - dangerous goods training if required
  - recurrent training and checking.

To assess the suitability of the system the inspector should be satisfied that the system will provide alerts to the person responsible for rostering to prevent an air crew being assigned for duties when a qualification has expired.

### 3.5.2 Operational and flight related documents

The operator must include certain information within their operations manual about operational and flight related documents. The method for dealing with each item will vary with the size and complexity of the operation. The inspector should consider the following information when assessing suitability.

The operations manual should list items of general documentation provided to flight crew to undertake their duties. The operator must also employ a system of management for these documents. The size and complexity of the operation will dictate the method. It may vary from a simple paper filing system to an

electronic system with a dedicated information manager. The operations manual should describe how information is distributed to crew.

The operations manual should contain a statement that flight crew must follow mandatory procedures published or limitations in the aircraft flight manual (AFM), or FCOM that forms part of the operations manual. In the case of a transport category rotorcraft, specific provisions within Part 138, (subregulation 138.210(3) and sections 8.02 and 8.03 of the Part 138 MOS) describe circumstances when the PIC need not comply with the requirements or limitations of the AFM in relation to an operation inside the avoid area of the HV envelope. The operator is responsible for publishing any approved variations from the manufacturer's procedures. The statement should remind crew of a requirement to adhere to all legislation and operating manuals.

For the operation of rotorcraft where the avoid area of the HV envelope is not a limitation in the AFM the operator should have an operational policy covering how the risks of such operations are to be managed and minimised by their flight crew during, for example, confined area operations, winching or sling load operations and other operations where exposure to the avoid area is necessary to complete the task.

The operations manual must include instructions for the provision of aircraft checklists to the flight crew members. Depending on the size and complexity of the operation, this may vary from provision of hard copy documents and amendments through to the use of electronic devices whereby amendments are pushed to crew. For complex operations, the operations manual should describe how the flight crew use of the checklist and when. For multicrew operations the checklist normally involves a **challenge and response** process, whereas single pilot operations may be a **read and do** process with specific memory items where needed.

The checklist will be aircraft specific and must include all the items in the AFM and may also include operator specific requirements. Original Equipment Manufacturer (OEM) checklists may be in the form of a quick reference handbook (QRH) or part of the pilot operating handbook (POH). Some OEMs will provide 'expanded checklists' with additional detail explaining each checklist item. To be suitable the checklist must be easy to use and for multicrew operations define who completes the action. Checklists normally consist of:

- normal operations
- emergency operations
- abnormal operations.

Note: AFM/POH for smaller aircraft may not address abnormal procedures. In this case the normal and emergency procedures are required to be included in the checklist.

Checklists should be regularly reviewed against AFM or supplements and any changes made IAW the operator's management of change process.

Operators must include procedures for maintaining and ensuring accessibility to the documents prescribed. A suitable method may be via hard copy or the use of electronic devices and will vary with the complexity and nature of the operation. The operations manual may also include a statement that flight crew members share mutual responsibility for ensuring the presence of certain documents.

### 3.5.2.1 Defect reporting

The operations manual must detail a process of reporting the aircraft defects listed, including the generic item, a defect in the aircraft. To be suitable, it should include how their air crews notify all relevant parties of the defects. The size and complexity of the operator will dictate this process. For example, it may involve use of the aircraft communication system while airborne followed by entering a record in the maintenance log/release, or it may be via use of the maintenance log/release only at the completion of a flight.

Note: For other provisions dealing with aircraft defects, see Part 42 and regulation 37 of CAR.

### 3.5.2.2 Incident reporting

The operations manual must contain procedures for air crews to report incidents that endanger the safe operation of the operator's aircraft. This also includes incidents that endanger or could endanger the safety of people or property associated with the operation of their aircraft. The process will depend upon the size of the operation, and the complexity of their Safety Management System (if any). It should address how these reports are escalated to ensure follow up action is completed. A suitable operations manual should also include a list of Immediately Reportable Matters and Routine Reportable Matters from the Transport Safety Investigation Regulations 2003 to ensure crew follow reporting obligations.

## 3.6 General flight limitations

### 3.6.1 Operations in foreign airspace and on the high seas

If an aerial work operator conducts operations in an Australian aircraft outside Australian territory its operations manual must provide instructions for PICs to operate their aircraft in accordance with the rules of the foreign country airspace. A suitable operations manual may include those rules, or it may refer PICs to foreign regulation documents such as the foreign NAA's AIP.

Australian aircraft operated over the high seas must be operated in accordance with ICAO Annex 2 of the Chicago Convention – Rules of the air. The ICAO rules of the air are applied to operations outside the 12-mile territorial limit where they are in addition to or consistent with Australian legislation. If there is inconsistency, the ICAO rules have priority (regulation 91.015).

Annex 2 makes provision for an operator who holds a permission from an appropriate authority to not comply with certain rules of the air. For example, an aerial work operator may not need to comply with the VFR minimum height rules in chapter 4 of annex 2, if authorised to conduct the activity under Part 138.

Note: This relief would not be allowable when operating a foreign registered aircraft. (See definition of appropriate authority for annex 2)

If an aerial work operator conducts operations over the high seas the operations manual must include detailed instructions for flight crew to comply with ICAO Annex 2. A suitable operations manual may include those rules, or it may refer PICs to source documents published by third party providers (such as Jeppesen or LIDO).

### 3.6.2 Foreign registered aircraft

If an operator intends using foreign registered aircraft for aerial work operations in Australia, the operations manual must include procedures to ensure the foreign registered aircraft is not used for more than 90 days in any rolling 12-month period unless the operator holds an approval for the aircraft under regulation 138.025. It is not acceptable that the operator reach the 90-day limit, not operate the aircraft for some time and then recommence another 90 day period inside the original 12-month period. The 12-month period commences from the first day of operations. The underlying intent of this regulation is to provide for the short-term use of a foreign registered aircraft during circumstances such as the operator's Australian registered aircraft undergoing maintenance such as repairs, or where the operator due to seasonal factors, needs to add additional capability to their fleet such as firebombing aircraft for the peak fire season.

Paragraph 138.200(1)(b) provides the ability for CASA to issue an approval under regulation 138.025 for a period longer than 90 days.

If the operator is considering a long-term use of the aircraft, that is, not related to seasonal activities, before considering an application for approval the inspector should confirm that the operator is unable to either:

- place the foreign registered aircraft or aircraft on the Australian Part 47 register, thus placing the airworthiness of the aircraft under solely Australian oversight
- arrange for Australia and the State of registry to enter into an article 83 bis agreement whereby Australia and the State of registry would agree to transfer regulatory responsibility to ensure the safe operation and maintenance of the aircraft, for example by agreeing to treat the aircraft as if it were an Australian aircraft. Please note there may be a significant lead in time for such an agreement to be entered into.

For operations that require a 138.025 approval, such an approval should only be issued on the basis of an agreement between CASA and the state of registry that sets out the areas of responsibility of the parties in relation to the supervision of flight operations, maintenance and airworthiness of the aircraft. The 138.025 approval and the agreement between the state of registration should expire at the same time.

To ensure the operator maintains each foreign registered aircraft in accordance with the foreign country's laws, to be suitable operations manual must include:

- a system that manages the maintenance and continuing airworthiness applicable to the laws of the foreign country in which the aircraft is registered
- appoint a maintenance controller to control the maintenance of the aircraft
- how scheduled and unscheduled maintenance will be controlled
- where the maintenance will be carried out
- how compliance with the airworthiness requirements of the foreign country will be complied with, including any airworthiness directives and service bulletins.

Refer to [Protocol suite \(OPS.13\) Managing continuing airworthiness](#) for more information.

### 3.6.3 Permitted categories of aircraft

The inspector should confirm that the aircraft proposed to be used by the operator are type certified in the normal, commuter, transport, restricted or utility category. Further restrictions apply if the operator carries aerial work passengers refer to [Protocol suite \(OPS.19\) Aerial work passengers](#) for more information.

### 3.6.4 Dangerous goods

Note: regulations 92.020, 92.025, 92.030, and 92.035 make it a requirement for operators and persons to follow the Technical Instructions for the safe transport of dangerous goods by air (ICAO Doc 9284. For this section the relevant reference are Doc 9284 TI Part 7.

Where an operator does not intend to carry dangerous goods consigned as cargo, the operations manual must provide guidance as to what is permitted to be carried on the aircraft. This may include the carriage of certain items that are 'excepted' from complying with all of the requirements of ICAO Doc 9284 – such as the exceptions for dangerous goods of the operator, or the general exceptions.

Consult a DGI to assist with the review of any dangerous goods exceptions detailed in the operations manual.

#### Exceptions for dangerous goods of the operator

There are a number of exceptions for dangerous goods of the operator (more commonly known as company materials/COMAT), refer ICAO Doc 9284 1;2.2. They include:

- articles and substances which would otherwise be classified as dangerous goods but are required to be aboard the aircraft in accordance with pertinent airworthiness requirements and operating regulations, or are authorised by the State of the operator to meet special requirements
- aerosols, alcoholic beverages, perfumes, colognes, liquefied gas lighters (excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure) and portable electronic devices containing lithium metal or lithium ion cells or batteries (provided that the batteries meet the provisions of item 1 in Table 8.1 of ICAO Doc 9284) that are carried aboard an aircraft by the operator for use or sale on the aircraft during the flight, or series of flights
- dry ice intended for use in food and beverage service aboard the aircraft
- alcohol-based hand sanitizers and cleaning products that are carried aboard an aircraft by the operator for use on the aircraft during the flight, or series of flights, for the purposes of passenger and crew hygiene
- electronic devices (such as EFBs), PEDs and credit card readers containing lithium metal or lithium ion cells or batteries, as well as spare lithium batteries for such devices, that are carried aboard an aircraft



by the operator for use on the aircraft during the flight, or series of flights (provided that the batteries meet the provisions of item 1 in Table 8.1 of ICAO Doc 9284). Spare lithium batteries must be individually protected to prevent short circuits when not in use. Conditions for the carriage and use of these electronic devices, and for the carriage of spare batteries, must be provided in the operations manual and/or other appropriate manuals that will enable flight crew, cabin crew and other employees to carry out the functions for which they are responsible

Unless CASA approves otherwise, articles and substances intended as replacements to any of the above must be transported in accordance with ICAO Doc 9284. An operator must be authorised to carry dangerous goods as cargo to transport any replacement items of dangerous goods of the operator or COMAT. See section 3.3.3 of this principle for further information.

## General exceptions

In accordance with ICAO Doc 9284 1;1.1.5, there are some general exceptions for dangerous goods that may apply to aerial work operations and therefore carried under specific circumstances provided that the operator meets certain criteria. The specific circumstances that dangerous goods may be carried under the general exceptions are when the dangerous goods are required for the propulsion of the means of transport or the operation of its specialized equipment during transport (e.g. refrigeration units) or that are required in accordance with the operating regulations (e.g. fire extinguishers as per ICAO Doc 9284 1;2.2).

Where the operation or activity requires positioning of the dangerous goods to and/or from the location of intended use, the dangerous goods may be carried on a flight (if it is impracticable to load or unload the dangerous goods immediately before or after the flight). However, the following additional conditions should be detailed within the dangerous goods manual:

- The dangerous goods:
  - must be capable of withstanding the normal conditions of air transport (i.e. not listed as forbidden for air transport in Table 3-1 of ICAO Doc 9284 or, in the instance of excess baggage, the dangerous goods are permitted in accordance with ICAO Doc 9284 8;1.1.2 and Table 8-1)
  - must be appropriately identified (e.g. by marking or labelling)
  - may only be carried with the approval of the operator
  - must be inspected for damage or leakage prior to loading
  - are loaded under the supervision of the operator
  - must be stowed and secured in the aircraft in a manner that will prevent any movement in flight which would change their orientation
  - loading, and the location of, is notified to the PIC (including procedures in the event of a crew change, to ensure that the loading information is passed on to the next crew)
  - are handled by personnel with appropriate task specific training and commensurate with the functions for which they are responsible.
- Instructions to be taken in the event of an emergency, detailing actions provided to personnel.
- Requirement to report any accidents or incidents to CASA (in line with the dangerous goods reporting requirements within CASR 92.065).

## 3.7 Operational procedures

### 3.7.1 Flight preparation

#### 3.7.1.1 Weather assessment

The operations manual must detail the procedures an operator uses to obtain weather assessments for flight planning. Chapter 7 of the Part 91 Manual of Standards (MOS) prescribes the specific information required for planning. The size and complexity of the operation will dictate how an operator meets this requirement. Suitable methods may vary from the use of National Aeronautical Information Processing System (NAIPS) through to the employment of specialists within a dispatch department liaising with international meteorological information providers.

An operator may choose to delegate the weather assessment process to a person other than the flight crew. In this case, the operations manual must also include a requirement for a PIC to validate the information prior to take-off.

Subsection 91.7.03 of the Part 91 MOS specifies requirements for the PIC in the event an authorised weather forecast cannot be obtained prior to a flight's departure. The operator's operations manual must clarify PIC actions under these circumstances.

### **3.7.1.2 Alternate aerodromes**

Chapter 8 of the Part 91 MOS prescribes requirements relating to flight preparation and alternate aerodromes. The alternate aerodrome requirements can be divided essentially into requirements for:

- weather
- navigation
- aerodrome lighting.

The operations manual must describe how the operator meets the requirements with regard to each of these sections of Chapter 8 of the Part 91 MOS. This should include publishing the alternate minima as set out in the table at paragraph 8.08(1) of the Part 91 MOS.

### **3.7.2 Flight planning**

The suitability of the information provided in the operations manual will depend on the size, nature and scale of aerial work operations. A noncomplex operation such as aerial mustering may rely on information provided in the Part 91 MOS and AIP to fulfil this requirement, whereas a complex aerial work operation, involving large transport aircraft may utilise computerised flight planning systems provided by a third party.

The operations manual should detail the system the operator uses to provide the flight planning information to the PIC and any person involved with the dispatch and operational control of a flight. The size and complexity of the operation may determine the method an operator chooses to meet the requirement. Operators may choose to use NAIPS or contract a third party to provide dispatch information. The operator may choose to use an off the shelf system such as OZRWYS or AVPLAN to meet their obligations. In this case the operations manual will provide instructions on the use of such systems, including a process to manage system failures.

### **3.7.3 Flight rules**

In this section the guidance to the inspector covers all types of aerial work operations. The inspector needs to review this section considering the scope of aerial work activities proposed. Many of the area may not be relevant to the operator.

An operator may rely on the AIP to ensure flight crew comply with the requirements of airspace listed in the Chapter 11 of the Part 91 MOS. Some operators may provide additional instructions to flight crew or impose additional operating restrictions on their aircraft during Part 138 aerial work operations within specific airspace.

A suitable operations manual should also contain a statement authorising PICs to deviate from a clearance where aircraft and/or occupant safety is compromised by the clearance and include subsequent follow up actions.

#### **3.7.3.1 Minimum height rules and lowest safe altitudes**

For an aerial work operator engaged in an aerial work operation the minimum height rule under Part 91 do not apply provided the operations are conducted in accordance with the Part 138 MOS. Further restrictions apply if the operator carries aerial work passengers refer to section 3.7.5.4 of this principle.

The operations manual must provide instructions to the PIC when operations below the minimum height can be conducted and what procedures must support the operations. To be suitable the operations manual will prescribe when and how the aerial work operations are conducted including any risk assessment.

When an aircraft is in transit to or from an aerial work operation the PIC must comply with Part 91 minimum height rules. It is not expected the operator repeat the information provided in the Part 91 regulations or AIP, but rather, how they comply on certain routes.

### Example

For a multi-engine aircraft, when considering the minimum height, the operator must consider the one-engine inoperative speed (OEI) service ceiling for the prevailing conditions to determine that the particular route is suitable for the flight.

### 3.7.3.2 Low visibility operations

Use [Protocol suite \(OPS.12\) Low visibility operations](#) for the assessment.

The operations manual must include instructions for the PIC regarding an IFR approach ban as described in section 91.16 of the Part 91 MOS. To determine present and suitable, an inspector should ensure the operator includes the following:

- the definition of an IFR approach ban
- approach ban procedures the PIC must follow.

### 3.7.4 Fuel requirements

An operations manual must include procedures to ensure its aircraft are only refuelled with the approved type of fuel (e.g. JetA, JetA1, AVGAS 100 and AVGAS 100LL) and not with any fuel that is prohibited for use by the manufacturer. It must also include procedures to ensure that its aircraft is not loaded with contaminated or degraded fuel. If required, for example polar operations, the procedures should take into account different fuel freezing temperatures and procedures to manage fuel temperatures in flight. If fuel checks are conducted by a person other than the PIC then the procedure must include how the person advises the PIC that fuel checks have been completed.

#### 3.7.4.1 Procedures for refuelling

An operations manual must include procedures to ensure aircraft are fuelled safely. Aircraft refuelling may be conducted from either:

- a fixed refuelling station and bowser
- a refuelling tanker
- fuel drums.

The instructions should ensure that the requirements of regulations 91.470 through to 91.490 are met.

Where fuelling operations are conducted from drums the operations manual will include instructions to ensure the firefighting equipment required by regulation 91.475 is available at the location. Specific instructions must include how to position the drum and ensure that there are no fire hazards.

An operator may fuel an aircraft while non-air crews are boarding, onboard, or disembarking. The operations manual must include both normal and emergency communication procedures associated with the aircraft fuelling air crews and ground handling personnel are to follow. To be suitable, an inspector should ensure the procedures are appropriate for maintaining the safety of all persons onboard and in the vicinity of the aircraft, along with the aircraft itself. The operations manual must also include procedures to meet regulation 91.515, regarding detection of fuel vapour in an aircraft during fuelling. To be suitable, the procedures must include more than a directive to cease fuelling. They should address:

- communication with ground handling personnel
- actions required of ground personnel
- cessation and removal of ground handling equipment near the aircraft
- disembarkation of non-air crews onboard
- operation of an auxiliary power unit, if fitted

- communication with ATC and aerodrome fire services in the event of a fire risk.

Finally, the operations manual must include a policy for the operation of low-risk electronic devices in accordance with paragraph 138.302(1)(c). This may vary from prohibiting the use of such devices through to an appropriate method of communicating to persons in the cabin the types of devices the operator permits and when their operation must cease.

### 3.7.4.2 HOT refuelling

The AFM must not prohibit HOT refuelling. Before authorising the hot fuelling of an aircraft, the operator must develop procedures to ensure that the fuelling can be carried out safely. To be considered suitable procedures should include:

- the operational circumstances in which hot refuelling can take place
- how the refuelling will be conducted considering the aircraft position in relation to the refuelling point
- any specific requirements in the aircraft's flight manual or equivalent data
- any requirements of the aerodrome operator
- procedures for communication between the PIC and the person refuelling the aircraft.

### 3.7.4.3 Fuel monitoring

Regulation 138.285 requires the operations manual to include fuel monitoring procedures required by subregulation 91.455(1). Chapter 19 of the Part 91 MOS specifies acceptable methods an operator can use for fuel consumption data to calculate the fuel load for a flight. An inspector must determine that the operations manual uses these sources. To be suitable, the operations manual should also include a statement that if manufacturer data as presented in the AFM is used, then the data must be used exactly as per manufacturer instructions.

An operations manual must include a policy that complies with subregulation 91.455(1) and the Chapter 19 of the Part 91 MOS in calculating the fuel load for a flight and monitoring the fuel remaining while airborne. Section 19.02 of the Part 91 MOS prescribes the definitions and requirements of components and considerations for fuel carriage. An operator must address each of the following:

- the amount of fuel that must be carried onboard an aircraft for a flight
- procedures for monitoring the amount of fuel onboard the aircraft during a flight
- procedures to be considered in determining whether an aircraft has sufficient fuel to complete a flight to the destination safely with the required reserve amount remaining
- procedures to be followed when the fuel reaches certain specified amounts in flight
- the regulatory requirement for a PIC to adhere to the approved operator fuel policy.

A suitable operations manual should also include components such as, but not limited to:

- definitions of phases of a flight
- definitions of types of alternate aerodromes and their effective minima when used as a take-off or destination alternate aerodrome
- definitions of each component of the fuel requirements
- an indication of how the fuel consumption data is obtained, including climb, cruise and holding data
- details of any in-flight replanning calculations and procedures the operator uses
- details of any special planning procedures that an operator uses.

To be suitable, the inspector must ensure that an operator's procedures are appropriate for the nature of their operation. The inspector should check that the procedures account for each of the requirements prescribed in the Chapter 19 of the Part 91 MOS. The inspector must ensure that the overall procedures are in accordance with all regulatory requirements.

The operator may apply for operational variations (OVs) to the Part 91 MOS fuel requirements. The section 19.07 of the Part 91 MOS prescribes when OVs are permissible. They must include evidence of documented

in-service experience, or a permissible safety risk assessment, as part of the submission when applying for an OV. The inspector must ensure that the OV will maintain or improve the level of safety of the Part 91 MOS requirements.

**Note:** Each of the FOR Parts that contain fuel instructions are slightly different. If an operator operates under multiple Parts, the operations manual will need to be assessed to ensure the fuel determination procedures meet each Part, or the most restrictive section of any relevant Part.

### 3.7.5 Carriage of aerial work passengers

An aerial work passenger (AWP) may only be carried if the operator can describe how the carriage is linked to an aerial work function that is to be performed by the aircraft. Additional information is available in AC 138-01 Part 138 Core concepts and GM 138.305.

If the operator uses their own definition of what constitutes an 'aerial work passenger', to be suitable, the inspector must be satisfied that the operator's definition is not less restrictive than the MOS. Section 11.06(1) of the Part 138 MOS specifically limits the carriage of aerial work passengers to those who meet the definition as described in section 2.02 of the same document, which prescribes the classes of persons that meet the definition of an aerial work passenger.

While it is not mandatory for the operator to define which classes that they will carry, the operator's statement on when a passenger may be carried is required to align with the definition and classes as described in the MOS. Subparagraph 2.02(a)(ii) of the Part 138 MOS specifies that the operations manual must describe why the person is present. If the operator describes the specific classes of person that they will carry, this will assist in understanding which parts of their operations manual will require modification to cater for the carriage of an AWP.

Regardless of whether the operator is required to have a Training and Checking system under regulation 138.125. Where an operator specifies that they will carry AWP, the Part 138 MOS specifies elements to be included in both the conversion training and the Part 138 proficiency check. Additional information is available in AC 138-02 Training and checking systems.

#### 3.7.5.1 Certified in the normal, commuter or transport category

If the operator conducts operations in aircraft that are not in the normal, commuter or transport category, the operator must have a process in place to ensure passengers are not carried in an aircraft that do not meet the requirements.

##### **Example**

Some aircraft, when configured with external equipment such as booms used for dispensing operations, may change category from the normal category to that of the restricted category.

**Note:** In AMC/GM Aerial work operations, entry 138.205 provides explanatory information around the use of 'categories' of aircraft applicable to aerial work operations. In assessing this aspect, inspectors should remain cognisant that the term 'category' in this circumstance refers to the definition in the CASR dictionary and as used in Part 21 of CASR. Part 61 of CASR specifically defines 'category' for a different purpose and the terms are not interchangeable for this purpose.

#### 3.7.5.2 Safety procedures and risk assessments

Regulation 138.305 and the associated MOS provisions describe what must occur for the operator to remain compliant with the regulations when carrying an aerial work passenger. Section 11.06 of the Part 138 MOS stipulates that the applicable procedures to ensure compliance must be detailed in the operations manual. Unlike the air transport parts, regulation 91.565 remains applicable to this Part-138 activity and,

correspondingly, the method by which an operator expects their crew to conduct the Passenger Safety briefing will need to be described in the manual.

If the operations manual simply states that AWP will not be on or near the aircraft during fuelling operations, this would be an appropriate procedure to demonstrate compliance with the regulatory requirements. If the operator wishes to permit AWP to enter, remain on board or leave the aircraft during fuelling operations, the inspector will need to conduct a more in-depth review to confirm that the operator has provided appropriate measures to address the passenger safety aspects. Additional information is also available in AC 91-19 Passenger safety information and AMC/GM Aerial work operations, under entry 138.302.

All Part 138 operators (including those that do not require SMS) are required to conduct a risk assessment of their aerial work operations under regulation 138.305. Section 13.02 of the Part 138 MOS requires the operator's risk assessments to include consideration for the carriage of an AWP. The inspector should confirm that the risk assessments have included this consideration. For those operators with an SMS, any assessment of this component may need to refer to [Protocol \(OPS.08\) Approval of Safety Management Systems](#). See section 3.8.4 of this Principle for more information on risk assessments.

Regardless of whether the operator is required to have a Training and Checking system under regulation 138.125. Where an operator specifies that they will carry AWP, the Part 138 MOS specifies elements to be included in both the conversion training and the Part 138 proficiency check. Additional information is available in AC 138-02 Training and checking systems.

### **3.7.5.3 Conducting positioning flight with an AWP**

The definition of a positioning flight is described in the Part 138 MOS Section 1.04. Whilst it is not mandatory that the operator specifically address positioning flights in the AWP procedures, the inspector should review whether the operator has addressed this aspect as it will contribute to the assessment of whether all parts of the passenger carrying activity have been addressed. A positioning flight with no AWP can be conducted in a manner that is compliant with the regulations but should the operator elect to carry an AWP then the same procedures may no longer be compliant with the regulatory requirements. For example, this may be evident when topics such as the certification category of the aircraft and the minimum height rules for positioning flights are reviewed. One possible solution is that the operator may set a policy that all positioning flights are conducted in such a way that would in all circumstances meet the requirements applicable to those required when an AWP is carried.

### **3.7.5.4 Minimum height rules when AWP carried**

Part 138 provides the ability for an operator to conduct low flying associated with an aerial work operation in circumstances that Part 91 on its own would not permit, provided that the aerial work task requires the low-flying activity. Where the carriage of an AWP is conducted, the MOS places considerations on the operator to provide for the safety of the AWP. When assessing these procedures, the inspector will need to consider these regulatory requirements in two phases. Firstly, the considerations for a positioning flight must be considered and secondly the considerations for where the operator decides that it is necessary to conduct a low flying activity while carrying an AWP.

For the positioning flight aspect, Part 138 permits carriage of an AWP while conducting a positioning flight, provided it will be associated with a prior or subsequent aerial work operation. In this circumstance, the operator would not normally conduct a low flying activity. Section 11.06 of the Part 138 MOS requires that the operator's procedures ensure that they do not contravene the Part 91 requirements applicable to altitude selection while carrying a passenger. There are many ways that the operator may meet this requirement and the inspector should consider if the operator procedures have met the requirements of the respective regulations.

Where the operator has procedures that broadly align with what would be expected of an air transport operator for the selection of cruising levels, it is likely that their procedures will meet the regulatory requirements.

For those operators that specify the need to conduct an aerial work activity while carrying an AWP and a need for this flying to occur at a level lower than that normally permitted by Part 91, the inspector will need to review the applicable procedures. The Part 138 MOS does not prevent an operator from conducting low flying with AWP when this is conducted in Day VFR conditions; however, this will also need to be considered part of the operator's risk assessment. If this activity is proposed for other conditions, such as night or IFR, additional review will be required as the Part 138 MOS will, in some circumstances, prohibit this activity.

### 3.7.5.5 Carriage of 1 to 9 aerial work passengers in IFR flights

Where an operator elects to carry AWP in IFR flight, the Part 138 MOS stipulates that the operator can only do this in the aircraft specified. For use of a rotorcraft, the MOS requires the aircraft to meet the OEI accountability requirements except as described in section 11.02(2) of the Part 138 MOS. To address the worksheet requirement for procedures the inspector will need to consider the nature and complexity of the operator being assessed. For an operator that only has aircraft in their fleet that meet the requirements of this MOS section, the operator does not need to add anything additional to their manual. However, an operator may have some aircraft in its fleet that do not meet the requirements of this MOS section. In this case the inspector should look for an operator procedure in the operations manual which clarifies which aircraft are permitted to carry AWP.

For a rotorcraft operator it is common that they will not need to consider OIE accountability except in the circumstances where they are carrying an AWP. Accordingly, it should be clear in the operations manual that the operator has considered this and ensures that this requirement is complied with 5 Refer also to Chapter 13 of the Part 138 MOS

### 3.7.5.6 Carriage of 1 or 2 aerial work passengers in VFR flights at night

The assessing inspector should review the Part 138 MOS requirements to confirm that the proposed aircraft will be compliant. For both single-engine aeroplanes and rotorcraft, the MOS places restrictions on when these may be used. To address the worksheet requirement for procedures the inspector will need to consider the nature and complexity of the operator being assessed.

The inspector should apply the same review methodology as described in Section 2.3 of this principle document. 1.1 - June 2022 Principle (OPS.19) Aerial Work Passengers Page 10 CASA-03-5786

### 3.7.5.7 Carriage of 3 to 9 aerial work passengers in VFR flights at night

The assessing inspector should review the Part 138 MOS requirements to confirm that the proposed aircraft will be compliant. For both single-engine aeroplanes and rotorcraft, the MOS places restrictions on when these may be used.

For the conduct of this activity, the MOS places a requirement that the flight crew must hold an authorisation to pilot the aircraft under the IFR. This requirement is aligned with the Part-135 requirements for carriage of a passenger in night VFR operation. To hold an authorisation to pilot the aircraft under the IFR, the pilot must hold the licence, ratings and proficiency checks that would allow them to fly the flight under the IFR at the time that the NVFR flight occurs.

The worksheet asks whether the aeroplane operator has a procedure or process to ensure that each pilot is authorised under Part 61. There are many ways that an operator may meet this requirement. The operator could simply write a policy that directs all pilots to hold the required Part 61 recency and authorisation. Other operators may establish a system that tracks and maintains the records of individual pilot recency/currency. In all cases the operator and its key personnel are responsible for ensuring compliance with the operations manual and for ensuring that the operator complies with the civil aviation legislation. To meet the requirements of paragraph 138.155(1)(h) the operations manual should describe how this will occur.

### 3.7.5.8 Carriage of 10 or more aerial work passengers

Inspectors should exercise caution with inadvertently interchanging terminology in Part 138 particularly with the use of ESO and Emergency service operation. Care should be taken to NOT abbreviate emergency service operation as ESO.

The term 'emergency service operation' is defined in the CASR dictionary. The term 'ESO' is defined in section 1.04 of the Part 138 MOS and it means an 'aerial work operation' that is part of an emergency service operation. Importantly, the term 'emergency service operation' can refer to something that does not involve any aerial work function as it is not an ESO. Accordingly, inspectors should be aware of how these terms are used when they consider the requirements of Part 138.

When considering this Part-138 MOS requirement, it is important to note that the carriage of 10 or more AWP is only permitted where it involves a person who has been rescued in the course of an ESO.

### 3.7.5.9 Carriage of restricted persons

The regulation requires all operators, as a minimum, to include a statement in their operations manual as to whether they will carry restricted persons. Additional information is also available in section 5.7 of the AMC/GM Aerial work operations, under entry 138.320.

## 3.7.6 Instruments, indicators, equipment, and systems

### 3.7.6.1 Equipment - general

Aircraft engaged in aerial work operations are required to comply with the requirements of Part 91 subpart K and Chapter 26 of the Part 91 MOS for equipment requirements. Subpart 138.K and Chapter 22 of the Part 138 MOS prescribes the serviceability and additional equipment requirements for an aircraft operating under Part 138. The requirements include that all the equipment is serviceable unless operations are permitted under an MEL or permissible unserviceability (PU).

To be suitable the operations manual will include the airworthiness requirements for prescribed equipment usually through their approved maintenance plan or system of maintenance. Use [Protocol suite \(OPS.13\) Managing continuing airworthiness](#) for the assessment.

The inspector must be satisfied the aircraft is fitted with the required equipment and the operator's operations manual ensures the aircraft meets the requirements prior to flight.

### 3.7.6.2 Flight data recorder

If the aircraft is required to be fitted with a flight data recorder, the operations manual must include guidance for operator personnel or contractors to make the instructions for the preservation of a flight data recorder or combination recorder fitted to the operator's aircraft and when requested made available for the Australian Transport Safety Bureau (ATSB).

The operations manual must include guidance on the requirements under regulation 91.650 regarding flight data and voice recorder information. To be present and suitable, the operations manual should include:

- information about ATSB reportable matters
- when recordings must be preserved
- the duration recordings must be preserved, when required
- when recordings are not required to be preserved
- guidance on the preservation of recordings as opposed to the recorders
- a directive that air crews and other personnel are prohibited from switching off or erasing flight data recorders or cockpit voice recorders.

### 3.7.6.3 Navigation authorisation

Use [Protocol suite \(OPS.04\) Navigation authorisation](#) to complete the assessment.

Use [Protocol suite \(OPS.07\) NAT HLA Flight Operations](#) to complete the assessment

### 3.7.6.4 Head-up display, enhanced vision system, synthetic vision system, NVIS

The operator must include procedures within the operations manual for the use of such equipment whether or not the operator utilises an operational credit for flight crew to use the equipment.

To meet present and suitable requirements, the inspector should determine that the operations manual includes the following:

- instructions or other detailed information explaining the operation of the equipment
- specific operator procedures for the use of the equipment
- procedures to be followed in the event the equipment is unserviceable prior to commencement of a flight or becomes inoperative during a flight.



Operator procedures for aircraft dispatch without an item of the equipment may be contained in the approved operator aircraft MEL. Suitable procedures will depend on the complexity of the operation, along with the nature of the flying an operator undertakes.

Note: The operator will need to meet Chapter 12 of the Part 138 MOS for NVIS operations. Also see section 3.7.6.6 of this principle.

### 3.7.6.5 Lifesaving and survival equipment

Regulation 138.345 applies to operators who must carry life rafts onboard their aircraft in accordance with Subpart 138.K. An operations manual must include a list of the minimum life-saving equipment carried on the aircraft for each life raft.

Regulation 138.345 and Section 22.08 of the Part 138 MOS prescribe when survival equipment must be carried on flights:

- within or over remote areas as defined in Division 15 of Chapter 26 of the Part 91 MOS
- over water, where life rafts must be carried in accordance with Subpart 138.K.

An operator who conducts flights in either or both of the above areas must include the following in their operations manual:

- a list of the minimum life-saving equipment carried on the aircraft for each life raft
- procedures for determining survival equipment appropriate for sustaining life in the area of operation
- for operators whose aircraft must carry life rafts, procedures for determining the pyrotechnic signalling devices required to ensure distress signals set out in Rules of the Air annex of the Chicago Convention can be made.

To be suitable, an inspector must determine that life-saving equipment and survival equipment is appropriate to the nature and location of the operation, and that any requirements for pyrotechnic devices are met.

### 3.7.6.6 Operations using NVIS

Reserved

### 3.7.6.7 Requirements for the equipment carried

Parts 91 and 138 MOS prescribe requirements relating to equipment that must be fitted to or carried on an aircraft. The equipment must comply with, or be approved under, Part 21. An operator's operations manual must include details of the procedures it uses to ensure the specified equipment meets this requirement. To meet suitable, an inspector should determine that the operator's procedures are appropriate for the complexity of its operation, and the type of aircraft operated. The procedures should also account for any contracted maintenance and engineering services that the operator is approved to use.

Inspectors should also note:

- paragraph 22.03(2) of the Part 138 MOS includes a list of equipment exempted from the requirements
- paragraph 22.03(3) of the Part 138 MOS provides that before a foreign-registered aircraft begins a flight, the equipment fitted to, or carried on, the aircraft must have approval from the NAA of its State of registration
- paragraph 22.03(4) of the Part 138 MOS provides additional details about equipment that is fitted to an aircraft but is not required under section 22.02 of the Part 138 MOS.

If any equipment must be fitted to or carried on an aircraft for a pilot's manual or visual use in or from the cockpit, the operations manual must include procedures to ensure it is visible to and usable by the pilot, from the pilot's seat in the aircraft. To be suitable, an inspector should determine that the operator's procedures are appropriate for the nature of the operation, and the type of aircrafts operated. This may require a physical inspection of the aircraft.

Any emergency equipment that must be fitted to or carried on the aircraft for a flight must be easily accessible for immediate use in the event of an emergency. To be suitable, an inspector should determine

that the operator's procedures are appropriate for the complexity of the operation, and the types of aircrafts operated. This may require a physical inspection of the aircraft.

An operator must have procedures within its operations manual to ensure any equipment required to be fitted to an aircraft under Chapter 22 of the Part 138 MOS (for a flight) is operative, unless:

- allowed by a section 22.05 of the Part 138 MOS
- the equipment
  - is inoperative because of a defect that has been approved as a permitted unserviceability
  - is fitted or carried in accordance with a permitted unserviceability.

Equipment contained in a MEL approved by regulation 91.935 cannot be unserviceable for a period of time longer than that prescribed for the equipment in the Part 138 MOS.

### 3.7.7 External load operators

Definitions for the different classes of external load can be found in Division 2 of Chapter 1 of the Part 138 MOS.

In considering the operations manual content for an operator conducting an external load operation, the operations manual should contain detailed external load instructions, procedures and requirements. Depending on the aerial work activity to be suitable the operations manual should address the following:

- specifications and descriptions of the external load equipment that must be used for the operation
- instructions on installing and checking the serviceability of the external load equipment on the aircraft
- normal and emergency procedures for the operation, including, procedures for normal and emergency external load picking up and dropping
- the minimum experience requirements for relevant flight crew member (FCMs)
- the training requirements and competency checking procedures for relevant FCMs
- instructions for ground personnel (if any) involved in the operation
- a description of the operational routes permitted for operations, including minimum heights and distances from persons, populous areas, public gatherings, buildings and other structures, and vessels
- a description of any operational restrictions (if any) with which FCMs must comply during the operation
- the operator's risk assessment procedures.
- PIC briefing to air crews.

External loads conducted at night must be either an ESO operation or hold an approval under regulation 138.025. In considering the approval the inspector will need to confirm the operations manual addresses the risk associate with night operations.

#### 3.7.7.1 External loads – class D

As a high-risk activity inspectors need to ensure the operations manual includes a comprehensive operational, risk management and training procedures for the specific tasks that they conduct.

**Note:** Regulation 138.500 requires the PIC of an external load operation that involves a Class D external load in the form of a person suspended from a belly hook to have specific qualifications and experience, as outlined in section 23.08 of the Part 138 MOS.

### Slings load or platform

Division 1 of Chapter 15 of the Part 138 MOS covers carrying a person on a sling load and carrying a person on a platform attached to the aircraft, such as the platforms used to conduct power line maintenance from an aircraft. Only air crew and task specialists can be carried on a belly hook (sling) or platform. The inspector must confirm that the crew have an effective means of communication, normally via radio communication

although in some circumstances hand communications may be acceptable. The inspector should consider hand signals as suitable only in the event of a radiocommunication system failure. The operations manual will need to include the procedures in the event of a radio communications failure including the requirement to confirm the emergency hand signals with the crew prior to commencing operations. The inspector will need to review procedures to confirm the communication via hand signals are adequate.

To be suitable the operations manual should also include instructions to the PIC when such operations should not be conducted such as:

- Strong winds
- Low cloud or visibility
- Strong thermal or standing wave activity.

## Rappelling

Rappelling is a highly specialised task and, as such, may only be conducted by ESO personnel in an ESO, or training for an ESO. An operator must have detailed procedures in their operations manual for such operations and associated training and competency assessment for flight crew, aircrew and task specialist crew members. These procedures must include specific risk assessment and management procedures. It is also expected that the HOO (or another nominated senior pilot) will have extensive experience in conducting rappelling operations, as well as the ability to impart this knowledge to other pilots and the rappelling crew. Operators should also have a senior air crew experienced in rappelling operations.

## Hover exit/entry

This operation refers to the entry and exit from an aircraft when hovering. The inspector will need to confirm that the operations manual includes procedures, training, competency assessment and risk assessments for task specialists, aircrew and aerial work passengers who enter or exit an aircraft in the hover.

Operations involving hover exit onto or off of a raised platform, such as a powerline transmission tower, are more specialised. As such, they require further specific procedures, training, and risk assessment. As these operations also require specialised safety harnesses with a means of safely attaching to the tower before releasing from the aircraft, with quick releases and break-away connectors, the procedures for use and the standards for these will also need to be included in the operator's operations manual.

To be suitable the inspector should consider the following matters are addressed by the operations manual the operations manual:

- specifications and descriptions of the equipment that must be used for the operation
- instructions on installing and checking the serviceability of the equipment on the aircraft
- normal and emergency procedures for the operation of equipment
- the minimum experience requirements for relevant FCMs
- the training requirements and competency checking procedures for relevant FCMs
- instructions for ground personnel (if any) involved in the operation
- a description of the operational routes permitted for operations, including minimum heights and distances from persons, populous areas, public gatherings, buildings and other structures, and vessels (if any)
- a description of any operational restrictions (if any) with which FCMs must comply during the operation
- the operator's risk assessment procedures.

### 3.7.8 Dispensing operations

A dispensing operation means the dropping or releasing any substance or object from an aircraft in flight including training for such an operation. Part 138 AWC differs from a Part 137 AOC in that an aerial work operation can occur in an aeroplane or rotorcraft irrespective of the size of the aircraft.

To be suitable the inspector should consider the following matters are addressed by the operations manual the operations manual:

- specifications and descriptions of the dispensing equipment that must be used for the operation

- instructions on installing and checking the serviceability of the dispensing equipment on the aircraft
- normal and emergency procedures for the operation of dispensing equipment
- the minimum experience requirements for relevant FCMs
- the training requirements and competency checking procedures for relevant FCMs
- instructions for ground personnel (if any) involved in the operation
- a description of the operational routes permitted for operations, including minimum heights and distances from persons, populous areas, public gatherings, buildings and other structures, and vessels
- a description of any operational restrictions (if any) with which FCMs must comply during the operation
- the operator's risk assessment procedures.

## 3.8 Miscellaneous

### 3.8.1 Aerial work operator risk assessments

Chapter 13 of the Part 138 MOS prescribes the requirements for an AWC holder to have a process in their operations manual for the conduct of a risk assessment prior to the conduct of aerial work operations.

Risk assessments are scalable according to the nature, size, and complexity of the operation. The operations manual must detail how a risk assessment is performed to determine the magnitude of risk and to establish whether measures are needed to contain it within defined limits. The operator must maintain a risk register and records of risk assessments performed for each type of aerial work operation. The operations manual must include a process to analyse identified hazards and how effective the mitigations strategies were.

Risk assessment should inform mitigating actions that help limit risks to an acceptable or tolerable level. It is based on the evaluation of the following criteria:

- the severity/consequences of a hazard
- the likelihood of its occurrence
- tolerability of its effects.

The processes employed by an operator in conducting an aerial work zone risk assessment (AWZ-RA) will be identical to any risk assessment and mitigation process.

The significant difference between routine aerial work operations and operations over an AWZ is that due to the potential presence of persons and infrastructure under the proposed area of operations, the enhanced risk assessment ('RA') requirements of section 1.05 and Division 2 of Chapter 13 of the Part 138 MOS are triggered. This is due to the expanded risk envelope generated by operations in close proximity to persons or infrastructure that may be harmed as a result of a mishap or an emergency situation, if they were to occur. This expanded risk envelope requires a wider focus by the operator on risk assessment and mitigation. In addition, the details of the RA processes are required to be retained and must be approved under regulation 138.025.

To be suitable the operations manual should ensure that personnel are trained on the operator's risk assessment processes for the various aerial work tasks that are being conducted.

### 3.8.2 Seatbelts and other restraint devices

Chapter 14 of the Part 138 MOS prescribes the requirements for seatbelts and restraint equipment for both aerial work passengers and aircrew which must be included in the operations manual.

An operations manual must include instructions for air crews to ensure that any seat on the aircraft that is to be occupied by a person has a seatbelt, safety harness or restraint strap. To be suitable, the operations manual should include procedures for air crews to check on the presence and serviceability of the seatbelt, safety harness or restraint strap during a pre-flight inspection. The procedures should be appropriate to the nature of the operation.

The operations manual must include procedures to ensure the PIC issues safety directions for aerial work passengers before taxiing, take-off or landing to ensure they have:

- their seatbelt or shoulder harness fastened
- their seat back upright or in a designated position permitted by the AFM
- attachments such as tray tables or footrests stowed, or in a designated position permitted by the AFM.

Depending on the nature of the aerial work operations procedures may need to include aerial work passengers being rescued during a SAR operation or persons exiting or entering the aircraft via a rope ladder attached to an aircraft. A suitable operations manual will describe what training is required by air crews and how these operations are conducted safely.

### 3.8.3 Aircraft not certified for flight in icing conditions

Regulation 91.710 applies to operators of aircraft that are not type certified for flight in icing conditions. An operations manual should include information about the type certification of its aircraft for flight in icing conditions. To be present and suitable, the operations manual must contain statements prohibiting PICs of those aircraft types from:

- beginning a flight into known or suspected (forecast) icing conditions
- flying into icing conditions during the flight and not, as soon as practicable, altering the flight path to avoid the icing conditions.

**Note:** Some MELs may include operational procedures prohibiting flight in icing conditions by aircrafts that are type-certificated for flight in icing conditions.

### 3.8.4 Aircraft free from frost, ice, or snow

An operations manual must contain procedures to ensure PICs do not commence flight in an aircraft unless it is free from frost, ice or snow. This is referred to as the 'clean aircraft' concept. To be present and suitable, the operations manual should include a statement prohibiting PICs from take-off unless the aircraft meets the 'clean aircraft' concept, an explanation of the 'clean aircraft' concept, and information about when formation of frost and ice on aircraft surfaces may occur. It must also include any aircraft manufacturer instructions about commencing flight with frost, ice or snow on the aircraft surfaces, noting that these procedures may differ from, and override, the requirements of subregulation 91.705(1) and (2). See subregulation 91.705(3).

**Note:** Subregulation 91.705(2) allows for frost, ice or snow on the top of the fuselage, unless the aircraft has rear mounted engines, or the presence of the frost, ice or snow presents a hazard to flight.

Regulation 91.705 precludes a PIC from commencing flight in an aircraft unless it is free from frost, ice or snow, unless they are in compliance with AFM instructions. Regulation 138.275 clarifies requirements to ensure an aircraft is free of frost or icing prior to flight. An operations manual must contain procedures for ensuring PICs inspect an aircraft for contamination prior to flight if frost or icing conditions exist. To be suitable, the operations manual should include one of the following:

- A statement precluding aircraft operations when ground icing is present, (unless in accordance with AFM instructions), along with advice for PICs on understanding the conditions that may lead to icing conditions precluding commencement of a flight.
- Appropriate procedures for the operator's personnel to carry out ground de-icing and/or ground anti-icing of the aircraft before flight when required. The procedures should account for all regions where the operator conducts its operations.

An operations manual must also include procedures for the use of any anti-ice or de-ice systems fitted to the aircraft. A suitable operations manual may have these procedures included as part of the airplane flight manual or FCOM, or they may be included separately within another part of the operations manual.

If the operator has a program to conduct de-icing/anti-icing the inspector must use [Protocol suite \(OPS.22\) De-icing/anti-icing program](#) for the assessment of the operations manual.

Note: ICAO Doc 9640 Manual of Aircraft Ground De-icing/Anti-icing operations contains additional guidance.

### 3.8.5 Polar operations

Note: Polar region means north of 78°N or south of 60°S.

Regulation 138.290 applies to operators who intend operating flights in the polar region. To be suitable, the inspector must determine that the operator's operations manual includes information on each of the following:

- Procedures for monitoring and resolving fuel freezing issues. Suitable procedures may involve reference to the manufacturer's airplane flight manual or FCOM, or they may be constructed by the operations department. The procedures must be appropriate for the type of aircrafts operated, and the complexity of the operation.
- Procedures to ensure the crew has communication capability within the polar region. The procedures must be appropriate for the aircraft types so that contact with ATS is maintained. It should also involve consideration of the type of operational control undertaken by the operator.
- The operator must include details of specific training in its operations manual that flight crew must undertake prior to conducting operations in the polar regions. An inspector should determine that the procedures are appropriate for the complexity of the operation, including the polar region of intended operation, and the types of aircraft operated.
- Procedures to mitigate risks to both crew and passengers from cosmic radiation associated with solar flare activity. Suitable procedures should include how the operator determines the occurrence of these periods.
- Procedures for the carriage of at least 2 cold weather anti-exposure suits during times of the year when extreme cold weather conditions are expected at any of the potential alternate aerodromes an operator may use while transiting the polar region. Suitable procedures will depend upon the complexity of the operation, and the alternate aerodromes the operator chooses to nominate.

## 3.9 Performance

Subpart 138.F and chapter 18 of the Part 138 MOS prescribes the requirements for aircraft performance. The performance requirements for Part 138 have been divided into large aeroplanes, rotorcraft and other aircraft.

### 3.9.1 Large aeroplanes

Large aeroplanes under Part 138 are defined as either:

- a propeller-driven, multi-engine aeroplane with an MTOW of more than 5,700 kg
- a jet-driven, multi-engine aeroplane with an MTOW of more than 2,722 kg.

Chapter 18 division 1 of the Part 138 MOS states that the prescribed the requirements relating to take-off and landing performance for a large aeroplane must meet to comply with Chapter 9 of the Part 121 MOS. The following assessment guidance is from section 3.9 of [Principle \(OPS.121\) - Australian air transport operations - larger aeroplanes](#).

### Performance data

Regulation 121.390(1) states that the performance data in the flight manual instructions of a Part 121 aeroplane must comply with Annex 8 to the Chicago Convention, which describes the airworthiness standards required of an aeroplane. An operations manual must clarify that PICs are required to use the performance data in the flight manual instructions to make any calculations relating to the aeroplane's

performance in flight. However, an operator may apply for approval under regulation 121.010 to use performance data other than that set out in the aeroplane flight manual instructions. If this approval is held, an operations manual must clarify this, including the specifics of the approval.

## Take-off performance

Regulation 121.395 applies to the take-off performance and enroute performance requirements for larger air transport aeroplanes. Division 1 of Chapter 9 of the Part 121 MOS and Division 1A of Chapter 9 of the Part 121 MOS describe the requirements an aeroplane must meet to comply with regulation 121.395. An operator must ensure that the performance data provided to its flight crew to conduct the take-off performance calculations meets all the requirements. If the performance data from the AFM instructions is used (as approved under Part 21), then the data will meet the requirements of the Division 1 and 1A of Chapter 9 of the Part 121 MOS. To be suitable, an operations manual should include a statement to the effect that the PIC must only use the performance data from the AFM instructions for take-off calculations.

If an operator intends using take-off data from another source, it must hold approval under regulation 121.010 to use that performance data. In that case, a suitable operations manual must clarify that the operator has the approval to use the data, and specify exactly the data that can be used and when it is applicable for use.

Paragraph 121.395(2)(c) specifically applies to the route flown by an aeroplane. Subsections 9.08 and 121.9.08K of the Part 121 MOS describe the requirements an aeroplane must meet to comply with paragraph 121.395(2)(c). An operator must verify that analyses of the routes it intends flying confirm its aeroplane type(s) can comply with each of the requirements of Subsections 9.08 and 121.9.08K of the Part 121 MOS. This may include:

- development of 'escape route' procedures from flight plan tracks to suitable enroute alternate aerodromes
- consideration of performance navigation specification of the aeroplane and its ability to maintain tracking with RNP2 capability or better
- fuel jettison to meet the performance requirements, whilst ensuring the aeroplane can meet fuel reserve requirements at a suitable enroute alternate aerodrome
- the additional requirements of Subsections 9.08(5), (6), and (7) of the Part 121 MOS for 3 and 4 engine aeroplanes.

An operator's operations manual must verify that the routes chosen for its flights meet the conditions of the Subsections 9.08 and 121.9.08K of the Part 121 MOS. To be suitable, an operations manual should include a statement to the effect that the PIC must follow the published operator procedures in enroute flight if the aeroplane experiences an engine failure.

Paragraph 121.395(2)(d) refers to landing performance which must be taken into consideration when calculating the take-off performance. The Division 1 of Chapter 9 of the Part 121 MOS, which is made for regulation 121.395, contains no information about landing performance requirements. However, the Division 2 of Chapter 9 of the Part 121 MOS, which is made for regulation 121.420, prescribes the requirements for landing performance.

Notes: Annex 6 Part 1, Operation of Aircraft, contains additional guidance.  
ICAO Doc 10064 Aeroplane Performance Manual contains additional guidance.

## Landing performance

Regulation 121.420 applies to the landing performance requirements for large air transport aeroplanes. The Division 2 of Chapter 9 of the Part 121 MOS describes the requirements an aeroplane must meet to comply with regulation 121.420. An operator must ensure that the performance data it provides to the flight crew to conduct the landing performance calculations meets all of these requirements. If the performance data from the AFM instructions is used (as approved under Part 21), then the data will meet the requirements of the Division 2 of Chapter 9 of the Part 121 MOS.

The operator and PIC must consider each of the following:

- pre-flight requirements for dry runways
- pre-flight requirements for wet or contaminated runways
- planned missed approach climb requirements
- in-flight requirements for landing performance.

The operations manual must provide relevant information about each of the above items to the flight crew. To meet suitable, an inspector must determine that the information provided clearly distinguishes the difference between pre-flight landing distance calculation requirements, and the in-flight landing distance calculation requirements. The operations manual should also clarify that the PIC must only use the performance data from the AFM instructions for landing calculations.

If an operator intends using landing data from another source, it must hold approval under regulation 121.010 to use that performance data. In that case, a suitable operations manual must clarify that the operator has the approval to use the data, and specify exactly the data that can be used and when it is applicable for use.

Notes: Regulation 121.425 will be repealed.  
Annex 6 Part 1, Operation of Aircraft, contains additional guidance.  
ICAO Doc 10064 Aeroplane Performance Manual contains additional guidance.

### 3.9.2 Engine inoperative – multi-engine aeroplane

Subregulations 121.430 (1) and (2) apply to aeroplanes that continue flight after suffering an engine failure during take-off. An operator must include procedures and instructions to PICs within its operations manual that ensure its aeroplanes will clear all obstacles within a flight path from take-off through to landing at either the departure aerodrome, or a take-off alternate aerodrome. This may be in the form of tailored one engine inoperative departure routings, via take-off weight restrictions imposed at specific aerodromes, or a combination of both. An operator may include information obtained from third party contractors within its operations manual.

Subregulation 121.430(3) applies to 3 and 4 engine aeroplanes. The operations manual must include additional procedures and instructions for PICs in the event 2 engines fail during take-off and the aeroplane continues flight. Again, these may be specific departure routings for 2 engines inoperative, take-off weight restrictions, or a combination of both.

Note: ICAO Doc 10064 Aeroplane Performance Manual contains additional guidance.

### 3.9.3 Rotorcraft with OEI accountability

In some circumstances, the Part 138 rules require a rotorcraft to have one-engine inoperative (OEI) accountability. OEI accountability is used to mitigate the risk of an aerial work operation in the following circumstance:

- flight below 1 500 ft above sea level in IMC or at night
- an IFR flight involving an emergency service operation, search and rescue (SAR) auto hover using transition mode capability over the sea
- a flight over populous areas or public gatherings
- IFR or VFR flights at night or over water involving the carriage of aerial work passengers
- class D external load winching operations.

Refer to section 3.4 of *AC 138-01 Rotorcraft Performance* for guidance.

If a rotorcraft aerial work operator is required to operate with OEI accountability, the type of OEI accountability they have elected to use from within the definition needs to be described in the operations manual.



Note: This may vary for different operational situations and may include both single engine and multi engine OEI accountability for operators of single and multiengine fleets.

Additionally, the operator will also need to consider, via their training and checking procedures, how this is trained and how crews are found competent to conduct OEI accountability operations for the specific operational circumstances where it is required as a risk mitigator by the Part 138 MOS.

### 3.9.4 Other aircraft

Division 3 of Chapter 18 of the Part 138 MOS states that the prescribed the requirements relating to take-off and landing performance for other aircraft that don't fit into sections 3.9.1 or 3.9.3 of this principle. Inspectors should refer to Chapters 24 and 25 of the Part 91 MOS.

#### Aeroplanes

The following assessment guidance is from section 3.9 of [Principle \(OPS.135\) - Australian air transport operations - smaller aeroplanes](#).

An operator must ensure that the performance data provided to its flight crew to conduct the take-off performance calculations meets all the requirements and comes from an approved source. If the performance data from the AFM instructions is used (as approved under Part 21), then the data will meet the requirements of an approved source.

The operations manual must include instructions to the PIC for the calculation of the maximum take-off weight based on the lesser of:

- the maximum permitted take-off weight
- the performance limited take-off weight.

The PIC must take into account the following:

- the take-off distance available
- the pressure altitude and temperature
- the gradient of the runway in the direction of the take-off
- the wind direction, speed and characteristics
- the take-off and enroute weather forecast
- the obstacles in the vicinity of the take-off flight path.

#### Rotorcraft

Refer to AC 133-01 Performance class operations for guidance on the assessment of operations where an operator has elected to use performance class concepts in their operations.

## 3.10 Weight & balance

This section describes the requirements for operators from a small aircraft to a large air transport aircraft. The inspector will need to determine suitability based on the scope of the aerial work operation. For example, a R22 conducting mustering operations may have a standard weight and balance card that covers all configurations and weights, whereas a B747 firebombing aircraft will require a more complex weight and balance system that accounts for a significant weight and centre of gravity change after the dispensing operation.

An operator must include instructions and procedures within the operations manual to ensure that its aircraft are loaded in accordance with its weight and balance limits. The instructions and procedures must be available to all personnel involved with the loading of the aircraft, including any contracted parties, along with the PIC. To meet suitable, an inspector should determine the operations manual specifies that an aircraft must be loaded in accordance with its approved loading systems and any other applicable regulatory

requirements. It will also involve having appropriate flight crew procedures to ensure that flight of an aircraft does not commence with incorrect load and trim data entered into its computer systems.

An operations manual must also include instructions and procedures for the PIC to ensure the aircraft is maintained within weight and balance limits throughout the flight. This may include instructions for conducting fuel transfer requirements in accordance with manufacturer checklist procedures.

### 3.10.1 Aircraft loading procedures

Regulation 138.450 specifies the requirements for loading an aircraft. The operations manual should address each of the following:

- Procedures to determine the weight of:
  - crew members
  - aerial work passengers (if applicable)
  - aerial work cargo including task specific equipment
  - fuel.
- Procedures to ensure an aircraft is loaded:
  - within its weight and balance limits
  - in accordance with the loading instructions for the flight prepared by the PIC or a person responsible for planning the loading
  - under the supervision of the PIC or a person responsible for supervising the loading
  - in a manner that will account for changes in longitudinal and lateral centre of gravity position due to the movement of crew members, or for winching or dispensing operations where the load position or amount will change during the flight.
- Procedures for confirming weight and balance documents are prepared and correctly completed for those aircraft which are required to have weight and balance documents by section 23.03 of the Part 138 MOS.

An operator should include in its operations manual methods of calculating the weight of fuel loaded on an aircraft. These may be via either:

- reference to the actual fuel density
- reference to a standard density value.

To be suitable, the procedures should include using the density of the fuel and the volume loaded, compared with the fuel load sensed by the aircraft. The procedures should offer methods of resolving any discrepancies between the calculated weights.

### 3.10.2 Weight and balance documents

Chapter 21 of the Part 138 MOS prescribes what weight and balance documents are required. It's important to note that weight and balance documents are not required for aircraft below 5700kgs MTOW or if the aircraft is above 5700kgs MTOW it can be demonstrated that it is impossible for the aircraft to be loaded in a manner that would cause it to fall outside its centre of gravity envelope during aerial work operations.

For an aircraft that does not meet the above requirements, an operations manual must include procedures to ensure that a PIC is provided with this information. It must also have procedures to ensure that the person responsible for loading the aircraft certifies the load and distribution are in accordance with the documents provided to the PIC, and the PIC (or co-pilot) certifies that they accept the aircraft has been loaded as specified in accordance with the weight and balance documents. To be suitable the weight and balance documents must contain information that identifies it with a specific flight on a specific date time. Each edition of the document should be identified so that the PIC can ensure they have the latest version. The operator must make provision for the weight and balance documents to be kept for at least 3 months after the flight.

## 3.11 Flight crew

### 3.11.1 Assignment of a flight crew member to a duty

The operator must develop a process to ensure that before a flight commences all flight crew members are appropriately qualified. Depending on the size scope and complexity of the operation, this process may be as simple as a manual tracking tool such as a white board detailing each flight crew member qualification through to an automated software based rostering system and qualification tracking system that ensures flight crew members are qualified for a flight.

Qualified for a flight has a number of specific requirements:

- for an Australian registered aircraft - be authorised to pilot the aircraft during the flight under Part 61
- if the aircraft is a foreign registered aircraft—be authorised to pilot the aircraft during the flight by the aircraft's State of registry
- be assessed by the operator as competent to perform the duties assigned to the person for the flight in accordance with the operator's operations manual
- have the experience required by the operator's operations manual (if any) for the flight; and
- the pilot has the minimum qualifications and experience (if any) prescribed by the Part 138 Manual of Standards for the flight.

The operator's operations manual must ensure each of these items (as applicable to their operation) are addressed in the process for assignment to duty (refer section 3.11.2 of this principle).

For a manual tracking system to be suitable the inspector should consider the number of flight crew employed and number of different activities conducted. The inspector should consider 10 flight crew across a simple operation not involving multiple approvals as suitable for a manual tracking tool.

In the case of complex operators with more than 10 flight crew or multiple types there are a number of software programs designed to Manage flight crew rostering available on the market. To be considered suitable the inspector should ensure the software:

- has been tailored to the operators' requirements
- has the ability to flag a flight crew member approaching and or exceeding a defined qualification or recency requirement
- has the ability to prevent an unqualified flight crew member being rostered for a duty.

In either case the inspector needs to understand the system in place to ensure compliance.

The inspector will need to confirm that the operations manual includes a procedure to assign the PIC for each flight. In single pilot operations this can be a simple statement that the assigned/rostered flight crew member for a flight is the PIC. For multi-crew or training flight operations the operator's process will need to have a process of identifying the assigned pilot who is PIC.

Subregulation 138.475(1) states that an operator commits an offence if the requirements of subregulation 138.475(2) for an aircraft for a flight that is an aerial work operation are not met. In addition to the previously outlined requirements, the flight crew member must also meet the training and checking competency requirement prescribed in subregulation 138.485(1)(a) and (b). This will require the duties assigned to the person for the flight to be described in the operator's operations manual.

For the purposes of subregulation 138.475(3), Chapter 23 of the Part 138 MOS details the requirements for flight crew member training and checking, whether or not the training and checking system of regulation 138.125 is required.

The operator's processes for chapter 23 will also need to be assessed whilst reviewing the compliance requirements of the operations manual in regard to flight crew member qualification and competency.

### 3.11.2 Qualification and minimum experience for PIC

An operations manual must contain a process for determining compliance with the Part 61 requirements for a particular aerial work operation. There should be a list of items for a particular flight or operation. This list should include, but is not limited to, the following matters:

- PPL, CPL or ATPL for the aircraft category (refer to regulation 138.475)
- class or type rating
- flight review appropriate to the aircraft class or type in the type of operation contemplated
- low-level rating and flight review
- sling, winch, or mustering endorsement on a low-level rating
- aerial application rating with appropriate endorsements and proficiency check
- instrument rating and proficiency check
- NVIS rating and proficiency check
- night VFR rating and flight review
- any recency requirements for the above matters.

The inspector must ensure the operations manual includes the minimum experience requirements for the PIC as follows.

### **Class D external load operations**

- 1,000 hours total aircraft flight time
- 50 hours on the particular aircraft type to be used in the operation
- 100 hours in vertical reference operations
- successfully completed an approved training program for proficiency in sling load operations requiring the carriage of persons (relevant proficiency)
- a certificate of relevant proficiency issued by an approved person.

### **Marine pilot transfer**

Chapter 23 of the Part 138 MOS does not prescribe a number of hours or number of supervised operations required for the PIC to conduct marine pilot transfer operations. The inspector will need to consider the complexity of the operation to determine whether the information provided in the operations manual is suitable.

## **3.12 Crew members other than flight crew members**

### **3.12.1 Air crew members and task specialists crew members**

Certain aerial work operations require the carriage of air crew members and/or task specialist crew members. If these crew members are required, the operations manual must provide instructions as to their training and competency assessment requirements and crew co-operation and communication processed for when they must be carried.

Air crew members are an intricate part of the crew for a flight, with specific duties relating to the safety of the operation of the aircraft, or the safety of the use of the aircraft. (Refer Part 1 of the CASR dictionary). As such if an operator's operation includes the use of air crew members their operation's manual processes must have detailed the procedures and instructions for the use of air crew members in their operations.

The operator must develop a process to ensure that before a flight commences air crew members when required to be carried, are appropriately qualified and competent. (Refer section 24 of the Part 138 MOS). It also should be remembered some operators will use specially trained front seat air crew members which form part of the minimum NVIS crew of the aircraft. If the operator uses a mix of air crew member roles the operator's systems must ensure the correct aircrew are assigned the aircraft for flight in this regard.

Note: Paragraph 4.02(1)(d) of the Part 138 MOS requires an operation for the purposes of training and checking air crew members under Chapter 24 of the MOS to do so under a regulation 138.125 training and checking system.

Task specialists are a crew member for a flight:

- who carries out a function for the flight relating to the aerial work operation; and
- who is not a flight crew member or an air crew member for the flight.

Unlike air crew members task specialists may not be carried on all of the operator's operations. Regardless of this they must, when required to be carried, be appropriately qualified, trained, and competent. (Refer section 25 of the Part 138 MOS).

Depending on the size scope and complexity of the operation, a system which monitors this process may be as simple as a manual tracking tool such as a white board detailing each air crew qualification through to an automated software based rostering system and qualification tracking system that ensures air crew members and task specialists are qualified for a flight.

For a manual tracking system to be suitable, the inspector should consider the number of air crew members and task specialists employed and number of different activities conducted. The inspector should consider 10 personnel across a simple operation not involving multiple approvals as suitable for a manual tracking tool.

In the case of complex operators with more than 10 personnel in these roles or multiple types there are a number of software programs designed to manage air crews rostering available on the market. To be considered suitable the inspector should ensure the software:

- has been tailored to the operators' requirements
- can flag an air crew member or task specialist approaching and or exceeding a defined qualification or recency requirement
- can prevent an unqualified air crew being rostered for a duty.

In either case the inspector needs to understand the system in place to ensure compliance and must also note for very simple operations a very simple system will meet Part 138's requirements.

### 3.12.2 Task specialist operations

In considering the operations manual content for an operator conducting a task specialist operation, the operations manual should contain detailed instructions, procedures, and requirements.

To be suitable their operations manual should include:

- specifications and descriptions of any equipment that must be used for the operation
- instructions on installing and checking the serviceability of any equipment on the aircraft
- normal and emergency procedures for the operation and associated equipment
- the minimum experience requirements for relevant FCMs
- the training requirements and competency checking procedures for relevant FCMs
- instructions for ground personnel (if any) involved in the operation
- a description of the permitted operational routes for operations, including minimum heights and distances from persons, populous areas, public gatherings, buildings and other structures, and vessels
- a description of any operational restrictions (if any) with which FCMs must comply during the operation
- the operator's risk assessment procedures.

### 3.12.3 Possession and discharge of firearms

Division 3 of Chapter 17 of the Part 138 MOS applies to all operators that conduct aerial work operations, regardless of whether the operator holds an AWC. However, operators without an AWC will not have an

approved operations manual; accordingly, they will be unable to conduct the required training for any personnel. To ensure compliance with the regulatory requirements, a limited AWK operator will therefore need to send their shooters to an accredited aerial platform shooting training organisation, or an AWC holder approved to conduct such training, and use an organisation approved to conduct the relevant AWK pilot training to train pilots involved in these activities.

To assess the operations manual as suitable the inspector should consider the following matters:

- live ammunition (when not loaded in the firearm) must be stored in a container, or containers, that:
  - are capable of withstanding the normal conditions of air transport
  - are appropriately identified as dangerous goods, meaning the containers or packaging is marked with the UN number and/or proper shipping name and labelled with the applicable hazard division label diamond (e.g. Division 1.4S diamond)
  - during the aerial work operation, any spare ammunition is able to be secured, including during take-off and landing, to minimise the possibility of ammunition spilling in the event of an incident or accident.

**Note:** The method of securely closing the container must be robust enough to withstand a reasonably high amount of force, noting the intent is to prevent ammunition spilling during an accident.

- the ammunition container must be stowed and secured in the aircraft in a manner that will prevent any movement in flight which would change their orientation (restrained to hard points inside the aircraft that are within easy reach of the shooter or securely stowed in an internal compartment within the cabin)
- the loading of the ammunition onto the aircraft must be supervised by the operator
- the dangerous goods (ammunition) must be:
  - under the control of trained personnel ( task specialist) during the time when they are in use on the aircraft
  - the ammunition is to be inspected for damage or leakage prior to loading
  - the ammunition may only be carried with the approval of the operator
  - the PIC is to be notified of the location where the ammunition is loaded on board the aircraft and, in the event of a crew change, this information must be passed on to the next crew.
- all personnel must report any dangerous goods accident or dangerous goods incident (as defined within regulation 92.010) that occurs while undertaking company operations to CASA (in writing) within 2 working days of the event occurring, including those that occur during positioning flights requiring the carriage of ammunition for this operation (as per regulation 92.065)
- for the carriage of ammunition as dangerous goods, pilots and other air crews must ensure that the ammunition:
  - does not include ammunition with explosive or incendiary projectiles
  - is limited to the quantities required for the operation being conducted
  - is limited to ammunition classified in either:
    - » Division 1.4S (UN 0012 and UN 0014 only)
    - » Division 1.4E (UN 0471 Articles, explosive, n.o.s. [bird scaring cartridges only])
    - » Division 1.4G (UN 0431 Articles, pyrotechnic [bird scaring cartridges only] or UN 0312 Cartridges, signal [bird scaring cartridges only]).

### 3.13 Minimum equipment list (MEL)

The requirement for an MEL will depend on the type of aircraft operated by the Part 138 operator. If required use [Protocol suite \(OPS.01\) Minimum equipment list.](#)

# 4. Training and checking system

## 4.1 General

### 4.1.1 Suitable training and checking system

A Part 138 aerial work operator must have a training and checking system if required under regulation 138.125. Other regulations also require training activities such as dangerous goods. The operator can choose to include these within their training and checking system or provide that training separately. If the operator conducts training outside the training and checking system, the inspector will need to verify that the training is managed to a level at least equivalent to that required by the training and checking system. A suitable operations manual will need to demonstrate that the operator has full oversight and responsibility for the training and checking system, even if certain activities are contracted out to a Part 142 flight training organisation or a third-party provider.

To be suitable, the inspector must determine that the training and checking system is appropriate for the size, nature, and complexity of the organisation. Items the inspector should consider include, but are not limited to:

- number of its operational safety-critical personnel
- number and kinds of aircraft it operates
- nature of activities the operator conducts
- location and distribution of the organisation's air transport activities.

Other items the inspector should consider include the organisational structure. A complex organisation may require management assistance for the HOTC to ensure obligations under regulation 138.105 are fulfilled. A simple operation where training and checking events occur predictably or infrequently may be able to demonstrate compliance using shared HOTC and HOO duties.

The inspector should also consider the need for any support systems associated with the training and checking activities of an organisation. The use of administrative staff and an IT system to manage the operator's training and checking system may be appropriate for larger and more complex organisations.

### Voluntary extension of a mandatory training and checking system

The operator may choose to extend their training and checking system to one or more of their operations. In this case the operator is required to comply with all the requirements prescribed in regulations 138.130 and 138.135. Inspectors will use this Principle for the assessment.

### Voluntary adoption of a training and checking system for nominated operations

Where an operator is not required to have a training and checking system under regulation 138.125. In this case the operator must meet all the requirements prescribed in regulations 138.130 and 138.135. Inspectors will use this Principle for the assessment.

### 4.1.2 Training and checking system approved under regulation 61.040

An operator can apply for their training and checking system to be approved under regulation 61.040 (approved training and checking system) As with other approvals the requirements of regulation 11.055 apply to the approval.

Under the approval, flight crew who are successfully participation in the operators approved training and checking system may be granted relief from:

- paragraph 61.880(3)(d) instrument proficiency check (IPC)
- regulation 61.800 flight review
- Part 61 recency provisions.

Note: The relief provisions provided by the regulation 61.040 approvals do not provide relief from the recency requirements under Part 138.

## Relief from Part 61 IPC

For the operator proficiency check (OPC) to be approved under paragraph 61.880(3)(d) the operator must demonstrate how the requirements prescribed in the Schedule 6, Appendix 1 (IPC) of the Part 61 MOS are addressed. To be suitable the operator may develop an OPC that addresses both the 138 proficiency check (138PC) and the IPC competencies, or a series of OPC's covering the competencies within 12-month period. The inspector must be satisfied the training and checking system meets both the IPC and 138PC competencies within the 12-month period.

## Relief from Part 61 recency provisions

An approved training and checking system may also provide relief from certain Part 61 recency provisions. The inspector must confirm the proposed training and checking activities using an acceptable means of compliance creates an equivalent level of safety to that provided by the regulations. The operator will need to determine what recency provisions will be relieved and how the training and checking systems ensures that flight crew are competent.

### Example

An operator who wants relief from the requirement for 3 instrument approaches in 90 days must be able to demonstrate that the flight crew will maintain competency in the conduct of an instrument approach.

To be suitable the inspector should confirm the training and checking system includes:

- a granular method to measure the competency of flight crew
- a regular line operation review process to ensure flight crew are maintaining competency.

To grant relief from recency provisions would normally require a mature training and checking system preferable conducting training and proficiency checks in a qualified flight simulator training device (FSTD).

## Check pilot training and assessment

Flight crew operating within an approved training and checking system do not require an IPC and therefore the OPC can be conducted by a check pilot nominated by the operator. To be suitable the inspector must ensure that the check pilot training covers the same competencies required to issue a Part 61 flight examiner rating. In addition, the training and checking system should provide for an annual standardisation check to maintain check pilot proficiency. The operations manual may detail the required competencies or refer to schedule 5 and 6 of the Part 61 MOS.

Use [Protocol suite \(OPS.21\) Check pilot assessment](#).

### 4.1.3 How is training and checking conducted

The operator's operations manual must include a description of how it fulfills the requirements of its training and checking obligations. The description should include a high-level view of training and checking system organisational structure and the details of how the training and checking is conducted.

If the operator utilises contracted training and or checking personnel or a Part 142 flight training organisation, their description must include how these are incorporated into their operator's activities, as well as how oversight of the training activities is managed.

Other items that should be included are:

- scheduling of events
- administrative process including the use of forms



- personnel able to conduct the event
- training syllabuses
- assessment process including checking topics
- platform for the event; ground facility, FSTD, or aircraft
- threat and error management and risk mitigation for in-aircraft activities
- simulation devices, if any, used in air crew and TASK SPECIALIST training and checking
- if used, suitability of third-party facilities for the operator's aircraft types
- oversight and monitoring processes.

The size and complexity of an organisation, and the specific nature of the training and checking events, must be considered when determining suitability.

#### 4.1.4 Personnel training and checking records

The operator must have an appropriate system that maintains records of training and checking events conducted, and results of the events. The system must be constructed so that the operator can conduct auditing of the records for quality assurance purposes. The system may be designed so a third party can similarly conduct an audit of the events. To be suitable, the inspector should determine that the operator's operations manual describes the operation of this system and clearly defines the administrative processes involved in maintenance of the records and access to the data when required.

The operator's operations manual must include a description of how the operator ensures their personnel complete training and checking in accordance with their approved training and checking system, refer to section 4.1.1 of this principle. The description should focus on the administrative tasks to ensure personnel comply with all regulatory requirements. Specific personnel or position holders should be nominated to conduct required actions. These should include items such as:

- personnel or position holder assignment to specific duties
- responsibilities and accountabilities for ensuring activities are conducted in accordance with the operations manual
- a process to ensure only appropriately trained and checked personnel are released for duty.

To be suitable, the inspector must determine that the procedures are appropriate for managing the amount of training and checking events conducted, the operations conducted, and the fleet composition and disposition of the operator. In addition, the system must be capable of preventing personnel being assigned a duty when a training or checking activity has not successfully been completed. The inspector should verify that if a person does not complete a training or checking activity, there is a process to ensure they are not available for line operations until the activity is completed.

#### Making training and checking records

The operator's operations manual must detail a process to ensure training and checking records are made within 21 days of a training and checking activity. Records may be paper based or electronic and the process should ensure correct completion, including proper signoff by training and checking personnel. Incomplete records should be returned to personnel for completion.

#### Storing training and checking records

The design of the training and checking records must make sure all the records required by regulations are completed and stored for the period required by the regulations. The process may include a policy on the destruction of records at the end of the storage period. If the training and checking records are electronic the operator should provide for a data backup system, remote from the primary system to preserved records in the event of an IT system corruption. Whether paper based or electronic, training and checking records should be stored securely to prevent unauthorised access.

If the operator receives a request in writing from another air transport operator for a copy of a person's training and checking records, they must be provided within 7 days. To be suitable, the operations manual should include clear guidelines on the provision of the records. Matters for consideration should include:

- verification of the veracity of the other air transport operator, e.g., why are the records requested
- how the records will be provided securely
- confirmation from the person whom the record refers to that they authorise the release.

#### 4.1.5 Supervision during training and checking

The operator must describe in its operations manual how effective supervision is provided to its personnel undergoing training and checking. To be present and suitable, the inspector should determine that the system describes:

- specific supervision of personnel through all phases of training and checking, including:
  - supervised flying training and checking in an aircraft
  - supervision administratively.
- performance management, including procedures to manage personnel whose progression is below expectations
- performance management when personnel do not meet the required standard for any check.

Some operators may elect to utilise Part 61 qualified instructors or persons who hold a Certificate IV or equivalent to conduct the training and assessment of personnel other than flight crew. In this case the operations manual should include details on how such persons are inducted into the system.

To effectively supervise training and checking activities, training and checking personnel must be trained and assessed as competent to conduct the activity. If the training of training and checking personnel is conducted internally, the inspector must ensure that the course of training is adequate for the role of the person. To be suitable the course of training must include a theory component covering instructional techniques and a practical component covering competency assessment. At the completion of the training the process should include an assessment and internal approval process.

Use [Protocol suite \(OPS.21\) Check pilot assessment](#) and [Protocol suite \(OPS.15\) Emergency and safety equipment instructor assessment](#).

If the operator chooses to engage individuals (other than a Part 142 authorised organisation) to conduct training and checking duties, their operations manual must include a description of how the operator ensures any training and checking personnel it engages meet the Part 138 MOS requirements. The operator must also nominate the individuals to CASA either within their operations manual, or directly via an appropriate document. To determine present and suitable, the inspector must ensure that the operations manual includes the following:

- a description of appropriate minimum experience and entry control requirements for an individual to be permitted to conduct training and/or checking duties
- a description of the operator's training programme, appropriate for the nature and complexity of the operation, to train an individual to conduct training and/or checking
- a process to ensure the individual has met all relevant recency and proficiency requirements prior to undertaking training and/or checking duties
- a process to ensure the individual conducting training and/or checking duties has been nominated to CASA, either via inclusion in the operations manual, or another appropriate written method.

If an operator does not require a training and checking system under regulation 138.125 the required proficiency checks may be carried out by the HOO or a person authorised under Part 61. In this case the operations manual will include the details on what training is required to conduct the proficiency checks.

The inspector should also be aware that CASA may elect to test an individual who is nominated to conduct training and/or checking duties for the operator, in accordance with Part 138 MOS. Refer to [Protocol suite \(OPS.21\) Check pilot assessment](#) for guidance.

#### 4.1.6 Assessment of competence

The operator's operations manual must include a description of how the operator's air crews are assessed for competency. This could be a simple pass/fail assessment or competency-based assessment with a granular grading system e.g. score of 1 to 5.

If a pass/fail system is used, the operations manual must clearly define what constitutes a pass or fail assessment and may refer to the Schedule 8 of the Part 61 MOS—Helicopter general flight tolerances - professional level. Other requirements such as human factors and non-technical skills (HF/NTS) may also utilise the Part 61 MOS competency standards.

The operator who chooses a more granular competency-based system will need to provide more guidance on how to make the assessment. To be suitable each grading score should be accompanied by a word picture description of the competency elements that make up each score which should be simple and concise to promote consistency of rating and ensure that crew being graded can easily understand their performance assessments.

**Note:** A competency-based grading system will require checking personnel to be appropriately training to ensure interrater reliability.

### 4.1.7 Remedial training

The operator must provide remedial training, followed by another check, to a flight crew member, air crew, or task specialist who fails the operator's respective general emergency check of competency or the operator's respective proficiency check for the operator's aircraft. The operator's operations manual must describe how the operator monitors the remedial training, successful completion of another check, and reinstatement of unsupervised operational status of the flight crew member, air crew, or task specialist. The inspector should determine that the system the operator uses is capable of fulfilling those requirements given the nature and complexity of the operation.

### 4.1.8 Contracting training and checking

The operator may contract a Part 142 flight training authorisation that includes contracted training and checking to conduct flight crew training and checking activities, including those required under Part 61. To be suitable the operator's operations manual must include processes to demonstrate how the HOTC oversight the training and or checking activities including both:

- ensuring each person assigned by the Part 142 organisation to conduct training or checking activities for the operator is authorised under Part 61 to conduct the training and/or checking activities
- notifying the Part 142 organisation in writing any changes to the operator's operations manual relating to the training and checking activities.

Operators are also able to contract third party providers who do not hold Part 142 flight training authorisation that includes contracted training and checking, to conduct certain training and checking for all personnel including:

- dangerous goods training
- HF/NTS training
- emergency and safety equipment training
- refresher training.

To be suitable, the inspector must determine that the operator's operations manual describes how the operator manages the following requirements:

- details of any person who is contracted to conduct training and checking activities
- specific details of the training and checking activities each contracted person is authorised to conduct
- procedures to ensure that any contracted person is complying with the operator's approved training and checking system.

The complexity and nature of the operations will generally influence suitability criteria. Operators may have levels of management within the organisation to assist in managing these regulatory requirements, or an HOTC may undertake these management functions as an individual. See section 4.1.1 of this principle. The operator's operations manual should also ensure that any training and checking functions that fall outside the area of responsibility of the HOTC (the flight crew responsibilities) are managed appropriately, understanding

that the CEO is responsible for ensuring all training and checking, apart from the flight crew training and checking, is conducted in accordance with the operator's operations manual.

## 4.2 Flight crew

### 4.2.1 Flight crew – training and checking requirements

Detailed information is provided under each sub-heading of Division 1 of Chapter 23 of the Part 138 MOS prescribing items that must be trained or checked for flight crew to operate unsupervised. These provisions are applicable to an aerial work certificate holder whether or not regulation 138.125 applies to the operator. The operator's operations manual must describe how it will fulfill these requirements for the type of operation they conduct. The nature and complexity of the operation must be taken into account when the operator designs a training and checking system to meet these requirements, refer to section 4.1.1 of this principle.

#### Example

If the operator conducts IFR flights, or VFR flights at night, then the training and checking system will have to ensure that the flight crew meet Part 61 regulatory requirements before undertaking such duties.

It may also include ensuring that, if the operator conducts flights in a foreign registered aircraft, the flight crew meet the regulatory requirements of the State of the aircraft's registry and the training and checking is conducted by person authorised by the NAA of the aircraft's State of registry to conduct that training. To meet present and suitable, the inspector must ensure the operator's operations manual covers each of the requirements under Division 1 of Chapter 23 of the Part 138 MOS sub-headings in a way that is appropriate for the type of operation.

#### New or inexperience flight crew

The operations manual must include the requirements that must be met for new and or inexperienced flight crew. To be suitable, instructions may include:

- required Part 61 qualifications
- minimum flight hours on a particular type or class of aircraft conducting specific operations
- operational limitations until the person has completed certain experience with the operator.

#### Supervised line flying

The flight crew member supervised line flying requirement must be completed during line operations for the aircraft. The flight crew member supervised line flying cannot be completed in an FSTD. Line operations experience is designed to expose flight crew to the real-world environment and the processes and procedures used by the operator.

Flight crew member supervised line flying is not a Part 61 activity and will not fulfill the requirements of a flight crew member proficiency check.

#### Use of approved simulators

##### Caution

Regulation 91.745 limits a PIC conducting a simulated engine failure in a multi-engine aeroplane. See section **Error! Reference source not found.** of this principle for guidance.

Some operators may choose to use of a qualified FSTD to conduct conversion training, recency and the flight crew member proficiency check specifically for the conduct of operations which involve emergency and abnormal activities.

To use a qualified FSTD for training and checking purposes, the operator (other than a Part 142 operator) must apply for approval to use the device under regulation 60.055. The FSTD the operator is seeking approval to use must be qualified under either:

- regulation 60.035 for a device located in Australia
- if located outside of Australia, under the regulations of the foreign State overseeing the operation of the device. In this case, the operator will need to:
  - provide CASA with a copy of a qualification certificate that meets the requirements of regulation 60.010
  - include details of the device in the operations manual, including how they ensure the device continues to remain qualified by the regulator of the foreign State.

The operator's operations manual should list the approved flight simulators and what training and checking activities can be conducted in the FSTD. To be suitable, the operations manual should include a process to make sure the FSTD is qualified at the time of the training and checking event. The operations manual should include instructions to ensure that check pilots/examiners verify that any defects on the FSTD will not affect its qualification for the conduct of the training and checking activities.

## Differences training

Differences training may be required for familiarisation purposes where there are differences between aircraft in the operator's fleet. To be suitable the inspector should confirm that the operator has determined what differences exist and developed a training program to ensure flight crew are competent. Differences training should include, where relevant:

- emergency and safety equipment
- system or equipment differences
- engine differences
- weight and balance differences
- performance differences.

Note: Differences training in this section does not refer to the requirement for differences training under regulation 61.200.

## Emergency and safety equipment training and checking

The operator must provide both annual and 3-yearly emergency and safety equipment training and check. The annual and 3-yearly training only include the use of life jackets, life rafts, or underwater escape if required and may be conducted concurrently every third year. The training may be conducted in the aircraft or a training facility or device.

If emergency and safety equipment training and checking is conducted in an aircraft, the operator's operations manual should contain policies and procedures to ensure that the activity can be conducted safely and effectively, and that the aircraft continues to meet airworthiness requirements following the activity. The operator should consider the following:

- If emergency and safety equipment is removed from its stowage position and used for training and checking activities, the operator should detail how that equipment will be handled safely and indicate who is responsible for ensuring the equipment is restowed and serviceable.
- If emergency and safety equipment is removed from its stowage position and replaced with 'dummy' equipment, then an entry should be made in the aircraft technical log. Following the training and checking activity, the technical log must be certified once the equipment is correctly restowed and serviceable.
- If emergency exits are operated, the procedures will need to ensure that the activity is conducted safely and with no damage to the aircraft.

- Where escape slides/rafts can be armed for automatic deployment, the procedure will need to include how the system is made safe to prevent accidental deployment. In this instance, approved maintenance staff may need to be involved in deactivating and reactivating the system.

Practical training in emergency and safety equipment may be conducted using representative training devices instead of the actual aircraft and equipment. The effectiveness of flight crew member training and checking can be enhanced using cabin training devices, emergency exit trainers, underwater escape trainers, and fire-fighting training devices, etc.

There is no formal approval process for the use of such devices. The operations manual must detail the policies and procedures for the use of the device, and the training and checking activities that can be conducted.

Training and checking personnel who use the device need to be trained and qualified by the operator to conduct the activities.

The operations manual should outline maintenance procedures and describe when the device is considered unserviceable and the process that personnel must follow to report the unserviceability.

Whether the training is conducted in aircraft or utilising training devices, the inspector should conduct an onsite inspection to confirm suitability.

Operators may choose to combine the emergency and safety equipment training with HF/NTS training to enhance awareness between air crew, task specialists and flight crew. When the training and assessment is combined the inspector must confirm that the sessions are properly managed by the instructor.

## 4.2.2 Pilot in command training

Division 2 of Chapter 23 of the Part 138 MOS prescribes the minimum qualifications and experience requirements a flight crew member must complete before they can operate marine pilot transfer operation or as PIC in aerial work operations which involve sling load operations carrying a person.

## 4.3 Air crew members

Detailed information is provided under each sub-heading of Chapter 24 of the Part 138 MOS prescribing items that must be trained or checked for an air crew member to operate unsupervised. The operator's operations manual must describe how it will fulfill these requirements for the type of operation they conduct. The nature and complexity of the operation must be taken into account when the operator designs a training and checking system to meet these requirements, refer to section 4.1.1 of this principle. The training and checks should be tailored to the specific air crew role the person will undertake. To meet present and suitable, the inspector must ensure the operations manual covers each of the requirements under the sub-headings in a way that is appropriate for the type of operation.

**Note:** Section 4.02 and subsection 24.01(2) of the Part 138 MOS require that all air crew member training and checking must be conducted by an aerial work certificate holder to whom subregulation 138.125(1) applies

### Supervised line flying

Air crew supervised line flying requirement must be completed during line operations for the aircraft. Line operations experience is designed to expose air crews to the real-world environment and the processes and procedures used by the operator.

### Differences training

Differences training may be required for familiarisation purposes where there are differences between aircraft in the operator's fleet.

Differences training should include, where relevant:

- for front seat aircraft member roles specific aircraft equipment use and functionality and the use of checklists and the communication systems in the aircraft

- safety and emergency equipment, including its location
- emergency exit operation, including location of the exits
- normal or emergency procedures.

To be suitable, the inspector should determine that the operator's operations manual includes differences training procedures where applicable. The training should focus on the operations manual specified air crew member duties in the aircraft and the location and use of safety and role equipment used in those duties, and the normal and emergency procedures for the aircraft variant.

The operations manual should also outline procedures to ensure air crews aren't assigned unsupervised flying duties on an aircraft that requires differences training until they have successfully completed both differences training and a differences training check.

## Emergency and safety equipment training and checking

The operator must provide both annual and 3-yearly emergency and safety equipment training and check. The annual and 3-yearly training only include the use of life jackets, life rafts, or underwater escape if required and may be conducted concurrently every third year. The training maybe conducted in the aircraft or a training facility or device.

If emergency and safety equipment training and checking is conducted in an aircraft, the operator's operations manual should contain policies and procedures to ensure that the activity can be conducted safely and effectively, and that the aircraft continues to meet airworthiness requirements following the activity. The operator should consider the following:

- If emergency and safety equipment is removed from its stowage position and used for training and checking activities, the operator should detail how that equipment will be handled safely and indicate who is responsible for ensuring the equipment is restowed and serviceable
- If emergency and safety equipment is removed from its stowage position and replaced with 'dummy' equipment, then an entry should be made in the aircraft technical log. Following the training and checking activity, the technical log must be certified once the equipment is correctly restowed and serviceable
- If emergency exits are operated, the procedures will need to ensure that the activity is conducted safely and with no damage to the aircraft
- Where escape slides/rafts can be armed for automatic deployment, the procedure will need to include how the system is made safe to prevent accidental deployment. In this instance, approved maintenance staff may need to be involved in deactivating and reactivating the system.

Practical training in emergency and safety equipment may be conducted using representative training devices instead of the actual aircraft and equipment. The effectiveness of air crew training and checking can be enhanced using cabin training devices, emergency exit trainers, underwater escape trainers, and fire-fighting training devices, etc.

There is no formal approval process for the use of such devices. The operations manual must detail the policies and procedures for the use of the device, and the training and checking activities that can be conducted.

Training and checking personnel who use the device need to be trained and qualified by the operator to conduct the activities.

The operations manual should outline maintenance procedures and describe when the device is considered unserviceable and the process that personnel must follow to report the unserviceability.

Whether the training is conducted in aircraft or utilising training devices, the inspector should conduct an onsite inspection to confirm suitability.

## 4.4 Task specialists

### 4.4.1 Required training and checking

From a generic perspective, before a task specialist operates unsupervised, an operator must ensure the task specialist is competent in carrying out the operator's normal, abnormal and emergency procedures for the aircraft and operation relevant to the duties they will be present to conduct. The training and checking procedures must be appropriate to:

- the nature, size, and complexity of the aircraft and operation
- the nature and complexity of the relevant duties.

The procedures prescribe within an operator's operations manual must be appropriate, considering the risks associated with the tasks being undertaken.

### 4.4.2 Specific training requirements for task specialist operations

Task specialist operations that have specific training requirements are prescribed in Chapter 17 of the Part 138 MOS. These are:

- aerial mustering operations
- firearms use operations
- marine pilot transfer operations
- NVIS fire mapping operations.

Hence, the training and checking requirements are related to the task for which they are present, rather than general safety and operational related proficiency.

**Note:** In the case of aerial mustering, the training and checking prescribed in the section 17.02 of the Part 138 MOS is in addition to the pilot's Part 61 aerial mustering low-level endorsement. The training and checking is for the specific aerial mustering operations of the AWC holder.

### 4.4.3 Firearms training requirements

Operators must include procedures about the following items within their operations manuals if they conduct a task specialist operation involving firearms:

- possession and carriage of a firearm
- safe onboard storage of a firearm
- discharge of a firearm in flight.

#### PIC - firearms operations

An operator must ensure a PIC meets one of the following when in command of an aircraft involved in aerial platform shooting:

- The PIC has been trained by the operator in each of the items above.
- The PIC has either:
  - documented experience in aerial platform shooting operations that meets the relevant experience as set out in the AWC holder's operations manual
  - commenced, and is engaged in, training in aerial platform shooting in accordance with the AWC holder's operations manual.

An inspector must determine the processes, along with the experience the operator requires of its PICs, is appropriate to the operation.



**Note:** An individual who conducts the training for a PIC in aerial platform shooting must meet the requirements of the section 23.10 of the Part 138 MOS and have documented experience in aerial platform shooting operations themselves.

## Task specialists - firearms operations

A task specialist must meet the following requirements to discharge a firearm:

- They must be authorised to carry, possess, and discharge the firearm by a law of the Commonwealth, the State or the Territory.
- They must have completed a training course about carrying, onboard storage, and discharge of a firearm for the particular task and onboard the particular category of aircraft. The course must be based on a written syllabus and be conducted by either:
  - the operator in accordance with a firearms possession and use training program in the operations manual
  - an aerial platform shooting training organisation whose course is accredited by an authority of a State or Territory.

To meet present and suitable, an inspector must determine that the AWC holder's operations manual includes a description of how the operator meets these requirements for its task specialists. The training program described must also be appropriate for the nature of the aerial platform shooting the operator undertakes.

### 4.4.4 Firearms training – external

A task specialist involved in aerial platform shooting must have completed a training course as described in section 4.4.3 of this principle. The course must be based on a written syllabus and be conducted by either:

- the operator in accordance with a firearms possession and use training program in the operations manual
- an aerial platform shooting training organisation whose course is accredited by an authority of a State or Territory.

If an external provider is used, the operations manual must include a process for monitoring the accreditation of the provider. The operator must also have appropriate procedures for retaining task specialist training records and the Certificate of competency – firearms discharge for at least 3 years after course completion.

### 4.4.5 Refresher training – animal culling

To undertake animal culling operations, in the previous 2 years task specialists must have either:

- discharged a firearm from an aircraft of the same category for animal culling purposes
- successfully completed, for an aircraft of the same category, a training course as mentioned in section 4.4.3 of this principle
- successfully completed a refresher training course based on the training course mentioned in section 4.4.3 of this principle.

Refer section 17.06 of the Part 138 MOS. An inspector must determine that an AWC holder has appropriate procedures to ensure their task specialists involved with aerial platform shooting for 'animal culling' comply with these requirements prior to undertaking the operations.

# 5. Revision history

Amendments/revisions for this principle are recorded below in order of the most recent first.

**Table 3. Revision history table**

Version No.	Date	Parts / Sections	Details
1.5	May 2024	All	Removal of Part 91 regulations that are specific to the PIC
1.4	May 2024	Sections 3.7.5	Incorporated OPS.19 Aerial work passengers.
1.3	March 2024	Sections 3.3.4 and 3.4	Incorporated OPS.09 Electronic flight bag and OPS.18 Management of change.
1.2	November 2023	All	Included WHS, added dangerous goods, EFB and C-EFB, various typos. Content moved to new template.
1.1	July 2023	Various	Removed standard sections that are now contained in the Operations protocol framework. Clarified CAO 48.1 assessment. Added dangerous goods assessment information. Added and amended cross references and hyperlinks to published protocol suites.
1.0	August 2022	All	First issue