



# SUMMARY OF PROPOSED CHANGE



## Proposed new Manual of Standards Part 138 (Aerial Work Operations) and regulation amendments

<b>Date</b>	April 2020
<b>Project number</b>	OS 10/26
<b>File ref</b>	D19/431763

## Contents

<b>Reference material</b>	<b>3</b>
Acronyms	3
Definitions	3
References	4
<b>Introduction</b>	<b>5</b>
<b>Purpose and scope of the proposed amendments</b>	<b>7</b>
Suggested methodology for reviewing the proposed Part 138 MOS	7
Structure of the MOS	9
Changes to the regulations	19
Previous consultations	23
Impact on industry	24
Regulation impact statement	26
Closing date for comment	26

## Reference material

### Acronyms

The acronyms and abbreviations used in this proposal are listed in the table below.

Acronym	Description
AGL	Above ground level
AOC	Air Operator Certificate
AWZ	Aerial work zone
CAO	Civil Aviation Order
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
FAR	<i>Federal Aviation Regulations</i>
m	Metres
MOS	Manual of Standards
MTOW	Maximum take-off weight
OEI	One engine inoperative
Part 91	Part 91 of the CASR
Part 138	Part 138 of the CASR
PC	Performance class for a rotorcraft
PC2WE	Performance class 2 with exposure
PC3	Performance class 3
PIC	Pilot in command

### Definitions

Terms that have specific meaning within this proposal are defined in the table below.

Term	Definition
Aerial work operation	Refer <a href="#">regulation 138.010 of CASR</a> .
Air crew member	<ul style="list-style-type: none"> <li>a. for a flight not involving an aerial work operation—means a crew member for the flight (other than a flight crew member) who carries out a function during the flight relating to the safety of the operation of the aircraft, or the safety of the use of the aircraft; or</li> <li>b. for a flight involving an aerial work operation—means the following: <ul style="list-style-type: none"> <li>i a crew member, for the flight, of a kind mentioned in paragraph a, other than a crew member of a kind prescribed by the Part</li> </ul> </li> </ul>

CONSULTATION DRAFT FOR PROPOSED NEW MANUAL OF STANDARDS PART 138 (AERIAL  
WORK OPERATIONS) AND REGULATION AMENDMENTS

Term	Definition
	<ul style="list-style-type: none"> <li>ii a crew member, for the flight, of a kind prescribed by the Part 138 Manual of Standards for the purposes of this subparagraph.</li> </ul>
limited aerial work operation	<p>means an aerial work operation by an aircraft:</p> <ul style="list-style-type: none"> <li>a. that is described in <a href="#">subregulation 138.030(2) of CASR</a>; and</li> <li>b. for which the operator is not required by <a href="#">subregulation 138.030(1) of CASR</a> to be an aerial work certificate holder.</li> </ul>
limited aerial work operator	means an operator who conducts a limited aerial work operation.
Task specialist	has the same meaning as in <a href="#">regulation 138.015 of CASR</a> .

## References

### Regulations

Regulations are available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Document	Title
Part 138 of the CASR	<a href="#">Civil Aviation Safety amendment (Part 138) Regulations 2018</a>
Part 91 of the CASR	<a href="#">Civil Aviation Safety Amendment (Part 91) Regulations 2018</a>
Operations Definitions (added to CASR for the new Part 91 and 138)	<a href="#">Civil Aviation Safety Amendment (Operations Definitions) Regulations 2018</a>
CAR	<i>Civil Aviation Regulations 1988</i>
FAR	Code of Federal Regulations Title 14 Aeronautics and Space Parts 1 to 199*

\* FAR are available at [http://www.faa.gov/regulations\\_polices/faa\\_regulations/](http://www.faa.gov/regulations_polices/faa_regulations/)

### International Civil Aviation Organization (ICAO) documents

ICAO documents are directly available for purchase from <http://store1.icao.int/>

Document	Title
Annex 6 Part II	Annex 6 to the Convention on International Civil Aviation - Operation of Aircraft - Part II - International General Aviation - Aeroplanes
Annex 6 Part III	Annex 6 to the Convention on International Civil Aviation - Operation of Aircraft - Part III - Helicopters (Section III - International General Aviation)

## Introduction

This public consultation will be of interest to

- current operators, flight and other crew who conduct aerial work operations
- prospective operators under Parts 119, 121, 133, 135, and 138 of CASR
- agencies or organisations using aircraft for emergency service operations
- law enforcement agencies (both State and Federal)
- agencies or organisations using aircraft for aerial work operations.

CASA has been progressively transitioning the *Civil Aviation Regulations 1988* (CAR) to the *Civil Aviation Safety Regulations 1998* (CASR).

The future legal mechanism for specifying aeroplane and rotorcraft aerial work requirements is Part 138 of CASR. The Part 138 regulations were registered on the Federal Register of Legislation in December 2018 and are planned to be applicable from 2 December 2021.

The Part 138 regulations empower the creation of a Part 138 Manual of Standards (MOS). Part 138 of CASR does not cover aerial work operations conducted by drones.

Regulation 138.010 defines an **aerial work operation** as:

- a. an external load operation
- b. a dispensing operation
- c. a task specialist operation.

Termed ‘kinds’ of aerial work in the regulation these three categories cover the full spectrum of aerial work operations currently being conducted together with the operational training for such operations.

The Part 138 regulations and MOS bring together the certification, operational, procedural and safety risk management requirements affecting aerial work operations. They are designed to cover a very wide range of operations from simple aerial work tasks to very complex aerial work tasks that may involve the use of large, multi-crew transport category aircraft.

Part 137 of CASR currently regulates aerial application operations in aeroplanes. Work continues on amendments to integrate Part 137 with Part 91 of CASR and Part 138 of CASR prior to the commencement of these Parts. These amendments will include the incorporation of helicopters and amendment to the requirement for an Air Operators Certificate (AOC) to an Aerial Application Certificate. There will be some overlap between Part 137 Aerial Application Operations and Part 138 Aerial Work-dispensing operations—in some circumstance’s operators will be able to elect which Part is best suited to the conduct of their operations. Key considerations will be other types of aerial work conducted and aircraft operated. This will determine whether the operations can be conducted under the same CASR Part avoiding the need to have multiple certificates.

This issue was the subject of a discussion paper (DP) – regulatory packaging of firefighting activities within Part 137 aerial application and Part 138 aerial work operations (DP 15070S). The outcome of the DP and the subsequent industry meeting were published in 2015 as Annex A to NPRM 15190S. Both the DP and the Summary of Consultation (SOC) responses form the basis of this policy. Both documents are available from the CASA website

<https://www.casa.gov.au/standard-page/dp-1507os-regulatory-packaging-firefighting-activities-within-casr-part-137-aerial>

Commencing in 2021, the general operating rules are contained in Part 91 of CASR and the Part 91 Manual of Standards (MOS). These rules were publicly consulted during March and April 2018. These documents are available on the CASA website <<https://www.casa.gov.au/standard-page/casr-part-91-general-operating-and-flight-rules>>

In order to permit aerial work operations to occur it is necessary to 'turn off' or disapply certain Part 91 requirements. These disapplication provisions (off switches) are specified in regulation 91.035 of CASR. The primary task of Part 138 of CASR is to outline a separate set of safety risk management processes, risk mitigations and operational circumstances which must be applied by the operator and the crew members for the flight. These risk mitigators manage the risk of disapplying a Part 91 of CASR requirement.

Currently, when aerial work is conducted on a commercial basis the rules require an AOC. The current rules provide in CAR 2(7) for certain types of aerial work to be classified as 'private operations' not requiring an AOC. Part 138 of CASR provides for similar relief to the requirement to hold an aerial work certificate, in regulation 138.030 and the definition of limited aerial work operations in Chapter 1 of the MOS.

Part 138 of CASR introduces the following certification concepts for aerial work operations:

- an aerial work certificate rather than an AOC
- the conduct of aerial work operations without a certificate under certain circumstances (referred to as a limited aerial work operator in the Part 138 MOS).

This policy allows certain aerial work operations to be conducted by non-certified operators over land owned or occupied by the registered operator or the owner of the aircraft, provided the operational safety risk management requirements of the MOS for the aerial work operation are complied with.

**Note:** There is a specific consultation question as to whether this policy should be changed.

## Purpose and scope of the proposed amendments

This public consultation seeks feedback on:

- the proposed Part 138 (MOS) (Annex A)
- proposed amendments to Part 138 regulations which were made in 2018 and commence in December 2021.

The MOS includes:

- the introduction of an aerial work passenger and aerial work cargo carriage policy
- the introduction of task specialist crew members for greater operational flexibility
- specific recognition of air crew member training and checking requirements for those operators that use air crew members for their operations
- the introduction of the emergency services operation (ESO) concept to allow greater operational flexibility and efficiency in these highly specialised operations
- the enabling of operations lower than the heights outlined in Part 91, thereby eliminating the need for individual exemptions and permissions for most operators who use such instruments and removes the need to pay the costs currently associated with the issue of such instruments
- the ability to utilise prescribed single engine aeroplanes (PSEA – new term for ASETPA) on some aerial work operations which are not using them today
- the introduction of rotorcraft performance class considerations as a risk mitigator for certain complex aerial work operations - noting less complex aerial work operations are not impacted by these requirements
- the introduction of formalised training and checking and safety management systems as a risk mitigator for certain complex aerial work operations - noting less complex aerial work operations are not impacted by these requirements
- the introduction of the aerial work zone and the aerial work zone risk management plan for operations over complex obstacle environments such as populous areas and public gatherings
- the introduction of risk mitigation policies that recognise the potential of usage and exceedance monitoring for improved operational capability in rotorcraft operations
- the introduction of expanded qualifications and experience for pilot in command of an aerial work operation, with a focus on mustering and human external cargo operations.

## Suggested methodology for reviewing the proposed Part 138 MOS

CASA acknowledges that the Part 138 MOS is a complex document for the unfamiliar reader that is used to reading the multiple CAOs applicable to a particular type of aerial work operation.

Therefore, CASA recommends that anyone reviewing this public consultation adopts the following stepped approach:

- a. Review your current aerial work operations and operations manual content (covering how you manage your operations and the standard operating procedures for your aerial work operations).
- b. Review your current operations manual training and checking procedures and crew composition requirements.
- c. Consider how your current operations would be classified under Part 138 (dispensing, external load or task specialist) and the requirements that would apply under Part 138 of CASR.
- d. Consider the classes of aerial work passengers in chapter 2 of the MOS and determine if this new capability will be applicable to your operations.
- e. Review the generally applicable (to all aerial work) content of the Part 138 MOS, particularly chapter 7 which outlines the operations manual content requirements and chapter 13 sections 13.01 and 13.02 risk management requirements. Consider these requirements in the context of your current operations and what (if any) additional content may be required to your operations manual to address the risk management requirements and the carriage of aerial work passengers.
- f. When considering how the risk criteria and the risk management process of the chapter 13 will need to be integrated into your operation, remember that these processes should be developed in a scalable way, which is appropriate to the nature, size and complexity of your operations. This means very simple safety risk management processes for simple operations compared to the more complex operations such as Class D human external load operations attached to the belly hook of the rotorcraft.
- g. When reviewing the general requirements, it should be noted that much of this is unchanged from current requirements (i.e. equipment, fuel, plus others – see the example Annexes for more detail). This will mean a significant amount of your operations manual may only need a change of regulatory reference or terminology rather than a re-write. Also note CASA is NOT requiring operators to adopt any 'new' manual structure etc. The only regulatory requirement is that your manual contain the required content and reflect any new or modified requirements in Part 138 of CASR compared to the existing CAOs that govern your operations.
- h. If you conduct specialised or higher risk operations review these against the specific risk mitigations for these operations within the MOS. For example, if you conduct winching or rappelling operations review section 13.03 and the applicable sections of chapter 15. Consider any additional general operations manual or standard operations procedure content this may require.
- i. Review as applicable to your operation chapter 24 or 25 in regard training and competency assessment of your flight crew members.
- j. Review as applicable to your operation chapter 26 in regard training and competency assessment of air crew members, if air crew members are part of your aerial work operations. Note that air crew member training and checking must be conducted under a formal training and checking system.
- k. Review as applicable to your operation chapter 27 in regard training and competency assessment of task specialist crew members, if task specialists are a part of the crew



for your aerial work operation. Note that task specialist crew member training and competency assessment is not limited to a formal training and checking system but is applicable to any operator who utilises task specialist crew as part of their operations.

- I. Finally, it may be worthwhile considering a gap analysis of your operations that may require additional procedures under the requirements of the 138 MOS.

## Structure of the MOS

When considering the Part 138 MOS it is important to focus on the Parts of the MOS that are relevant to the operations being conducted. To assist in this process the MOS is divided into chapters, divisions, sections and subsections). Some of these are generally applicable to all operations, but many are only relevant if the operator is doing some of the very specific higher risk, more complex tasks.

### MUSTERING EXAMPLE

A typical mustering operator would need to comply with less than half the MOS. Effectively, there are only 3 new elements – 4 pages on flight crew training and checking designed to provide increased flexibility, 2 pages on the new ability to legally carry a passenger in aerial work and 1 page on risk assessments.

Attached to this document are three Annexes (Annexes B, C and D) identifying which section of the MOS are applicable to the example operations. There is an additional Annex (Annex E) specifying the operational (not certification or operations manual content) parts of the MOS applicable to each type of aerial work currently listed in the AOCM.

CASA requests feedback from industry on any other operational combinations that would be useful to include in the Part 138 guidance material to be provided prior to the commencement of the new requirements.

The Part 138 MOS is applied in a scalable fashion, as appropriate for the nature, size and complexity of an operator's operations. Outcome based requirements are utilised where appropriate to achieve this, for example:

### RISK CRITERIA EXAMPLE

Chapter 13 of the MOS outlines risk criteria and risk assessment / mitigation processes for the conduct of aerial work risk assessments. However, these are applied by sections 13.01 and 13.02 in a manner that requires them to be designed by the operator, and be appropriate for the nature, size and complexity of the operation.

These risk criteria and procedures are:

- to be used to evaluate the significance of the risks involved in the operation
- to result in a decision by the operator that the risks are, or are not, acceptable
- to ensure the operation is within the capability of his or her aircraft and organisation
- to ensure the operation will not involve an unacceptable level of risk overall.

CASA understands that guidance material to support such outcome-based requirements is essential. This material is being developed as part of the Part 138 of CASR implementation project.

## **Examples of the generally applicable elements (all operators require awareness)**

A review of these generally applicable chapters and sections would cover many of the less complex aerial work operations, such as:

- a mustering operation
- a low-level, close proximity to obstacles, aerial spotting or survey operation
- low level, close proximity to obstacles, aerial photography
- media operations not associated with low level operations over populous areas.

Other than the more formal risk assessment and management requirements, many of the current operations will see very little difference in requirements from today. The Part 138 regulations and MOS package these provisions in one document written in an updated legislative drafting style.

The generally applicable sections and chapters are the following:

- Section 1.04 - Definitions
- Section 2.01 - Aerial work passengers - additional classes of persons
- Section 3.02 - Task specialists included in definition (this is a machinery provision which allows flight crew and air crew members to perform the role of task specialist on a flight)
- Section 6.01 - Personnel fatigue management
- Section 7.01 - Operations manual content
- Section 7.02 - Operations manual - instructions and procedures
- Section 7.03 - Operations manual procedures for operations – general
- Section 7.04 – Operations manual requirements for aerial work passengers
- Section 8.01 - Compliance with the flight manual
- Section 9.02 - Requirements for aircraft flight in close proximity to an object in an area that is not a populous area or a public gathering (this is a general low flying permission for low level operations which also need to operate in close proximity to things, as Part 91.320 limits operations to no closer than 150m)
- Chapter 10 - Fuel requirements (these are unchanged from today's requirements and just refer the reader to Chapter 19, Divisions 19.1 and 19.2 (as applicable) of the Part 91 MOS.)
- Section 13.01 - Conduct of risk assessments - risk criteria
- Section 13.02 - Conduct of risk assessment - assessment and mitigation processes
- Section 14.01 - Wearing seat belts and other restraint devices (section 14.02 is only applicable to your operations if you use safety harness in lieu of seatbelts for crew members)
- Chapter 20 - Performance - Take-off and landing weights other aircraft
- Chapter 23 - Instruments, indicators, equipment and systems (as applicable to the aircraft type and category of operations you undertake in addition to those mentioned in Chapter 30 of the Part 91 MOS)
- Chapter 25 - Flight crew not under a training and checking organisation
- Chapter 27 - Task Specialists.

These section headings in the table of contents have been highlighted green for ease of

reference and if being read as an electronic document includes links from the table of contents to the relevant section.

## Explanation of Chapters and Sections

### Section 1.05 aerial work zone (AWZ)

- This section and its defined AWZ characteristics are only applicable to operators who will conduct low level or close proximity operations in populous areas or over or near public gatherings.
- If you conduct these operations this section should be read with sections 13.04 and 13.05 for the requirements on constructing an AWZ risk management plan.

### Chapter 11

- Part 138 and the Part 138 MOS introduce the concept of the carriage of aerial work passengers on certified aerial work operations. The classes of persons who can be carried are prescribed in chapter 2 of the MOS.
- Chapter 11 outlines the conditions of that carriage on IFR operations and VFR operations at night.
- Other than meeting the criteria in chapter 2, the limit of 9 aerial work passengers and the carriage of these persons is not limited under VFR by day, unless an additional risk criterion needs to be met for the flight.
- In such situations the application of the risk mitigations is cumulative so that the higher standard applies in the higher risk situation.
  - For example, if an aerial work passenger is to be carried on an aerial work operation below the minimum heights outlined in Part 91, then the criteria for the carriage of the passenger in the category of the operation (IFR, VFR or VFR at night) and the operation below the minimum height apply and the highest criteria must be applied to the flight.
- The carriage of aerial work passengers is a new capability for the industry introduced in Part 138 of CASR.

### Section 14.02

- Section 14.02 is applicable to operators who require the use of harnesses instead of seat belts in their operations.
- This section allows for the use of these items of equipment, without the need for the issue of a specific permission, thereby removing the cost of this regulatory service for the industry.

### Chapter 15

- This chapter outlines the additional rules for external load operations. You will only need to read this chapter if you conduct or intend to conduct operations with persons or other loads such as sling load, winching, rappelling or banner or flag towing.
- The chapter is applicable to both rotorcraft and aeroplanes for the required operation.
- Section 15.06 describes the operational requirements when a person is picked-up or set-down as a class D external load and introduces, in addition to winching, processes

and conditions for belly hook and platform class D external loads without the need for a specific and separate permission or approval to be issued.

- Section 15.13 additional requirements for Class E external loads covers the requirements for banner towing type operations in aeroplanes in a similar fashion. It permits the process to be controlled by the operator's operations manual without the requirements for specific approvals as is the case today.

## **Chapter 16**

- Chapter 16 describes the additional requirements for dispensing operations.
- If you conduct dropping or dispensing operations today this chapter will be applicable to your future operations.
- The section relies on the approved content of your operations manual to demonstrate compliance with chapter 16, without the requirement for specific approvals and the associated costs of the issue of these instruments.

## **Chapter 17**

- Chapter 17 describes the additional requirements for task specialist operations.
- If you conduct such operations today this chapter will be applicable to your future operations.
- The Chapter applies to the task specialist operations conducted by either certificated or limited aerial work operators.
- Section 17.02 outlines additional requirements for the qualifications and experience for the pilot-in-command (PIC) of an aerial work operation that is a task specialist operation that involves aerial mustering below 500 ft above ground level.
- The mustering minimum experience requirements are also applicable to limited aerial work operators conducting such operations.
- Division 3 of chapter 17 outlines additional requirements for a task specialist operation in which there is a requirement to:
  - carry, or otherwise possess, a firearm on the aircraft
  - or
  - discharge a firearm from the aircraft.
- Currently this section relies on the approved content of your operations manual and compliance with chapter 17 requirements to permit such operations, without the requirement for specific approvals and the associated costs of the issue of these instruments.

## **Chapters 18, 19 and 20**

- These chapters outline the circumstances and methods for calculation of take-off and landing weights (i.e. the aircraft performance requirements) as follows:
  - Chapter 18:
    - o Rotorcraft when required to be flown in a performance class.
    - o If you are not required by your operation or another provision of the MOS to operate in a performance class, you will not need to read this chapter.
  - Chapter 19:

CONSULTATION DRAFT FOR PROPOSED NEW MANUAL OF STANDARDS PART 138 (AERIAL  
WORK OPERATIONS) AND REGULATION AMENDMENTS

- o For aeroplanes that are a propeller-driven, multi-engine aeroplane with an MTOW of more than 5 700 kg or a jet a jet-driven, multi-engine aeroplane with an MTOW of more than 2 722 kg.
- o These requirements are effectively the current CAO 20.7.1B with minor changes.
- Chapter 20:
  - o For aircraft to which neither Chapter 18 nor Chapter 19 apply.
  - o This chapter uses the terms "other aircraft", "other rotorcraft" or "other aeroplanes" as the case may be.
- The chapters work very similarly to the current section 20.7 CAOs (20.7.1, 20.7.1B, 20.7.2 and 20.7.4) which are a series of directions issued under regulation 235 of CAR.
- Most aerial work operations will be covered by chapter 20 which, for both aeroplanes and rotorcraft, is based on ensuring the take-off or landing weights are calculated in accordance with approved flight manual requirements.
  - The way these are to be calculated is not specified and therefore CASA is of the view it should be done so in a manner which is applicable to the complexity and nature of the operator's operations.
  - Additionally, the chapter uses outcome-based legislation to specify the operator's operations manual must contain procedures which ensure that the pilot in command takes into account all relevant operational considerations for the take-off, the take-off climb, the en-route approach, and the landing and baulked landing stages of the flight.
    - o These are left up to the operator to determine based on their understanding of risks associated with their operations.
  - Section 20.07 outlines additional requirements specific to rotorcraft which have Category A one engine inoperative (OEI) performance flight manual supplements when these aircraft are taking off from a place within a populous area which is not in an AWZ and is not a recognised heliport, helicopter landing site or and aerodrome used for the regular operations of aeroplanes.
    - o In such circumstances the PIC may only take-off if the take-off weight allows compliance with the Category A procedure for take-off and initial departure at the relevant HLS, or the rotorcraft is operated in PC1, PC2 or PC2WE until the rotorcraft meets the minimum height requirements specified in regulation 91.315.
  - Section 20.08 outlines the additional requirements specific to the operation of a Category B rotorcraft when they are taking off from a place within a populous area which is not in an AWZ and is not a recognised heliport, helicopter landing site or and aerodrome used for the regular operations of aeroplanes.
  - In such circumstances the PIC may only take-off if:
    - o the take-off weight allows hover out of ground effect performance for the take-off; and
    - o the planned take-off profile minimises time within the avoid area of the HV curve; and
    - o the rotorcraft's weight allows sufficient performance for the rotorcraft to avoid obstacles during the take-off and initial climb stage of the flight and autorotate or fly clear of persons or property in the event of a critical engine failure.

- Sections 20.13 and 20.14 outline these same risk-based criteria for the landing situation.
- The aim of these requirements related to rotorcraft is to address third party risk when operating in such locations.

## Chapter 21

- This chapter is only applicable to rotorcraft operations which are required to be flown in a performance class. If your operation does not require the use of a performance class risk mitigation you can disregard these provisions.
- Operators who could be affected by these divisions are:
  - an operator who will operate below the minimum height for IFR or VFR at night (see chapter 9)
  - an operator who will operate below the minimum height for operations over populous areas or public gatherings (see chapter 9)
  - an operator operating an aircraft in IFR flight by day or night below minimum height over the sea (see chapter 9)
  - an operator who will operate a rotorcraft IFR in a flight that is a SAR recovery operation involving an auto-hover over the sea (see chapter 9)
  - an operator who will carry aerial work passengers on rotorcraft IFR flights (see chapter 11.02)
  - an operator who will carry aerial work passengers on rotorcraft VFR flights at night (see chapters 11.03 and 11.04).
- Table 1 provides a useful summary of the types of aerial work that are proposed to require operating in a performance class.

CONSULTATION DRAFT FOR PROPOSED NEW MANUAL OF STANDARDS PART 138 (AERIAL  
WORK OPERATIONS) AND REGULATION AMENDMENTS

**Table 1 - Summary of the application of rotorcraft performance class requirements**

Operational Circumstances	Performance Class			
If a performance class is not required by the operational circumstances, the minimum requirement is compliance with the rotorcraft flight manual and Operations Manual.	PC3	PC 2 with exposure	PC 2	PC 1
<p><b>Below the minimum height for IFR or NVFR for other than taking off or landing</b></p> <p>No aerial work passengers unless an ESO</p>	<p>Minimum required.</p> <p>If the flight is conducted at night must use NVIS and, if there are no available suitable forced landing areas, aircraft must have:</p> <ul style="list-style-type: none"> <li>• Usage monitoring system</li> <li>• Dual hydraulics</li> <li>• Dual fuel control</li> </ul> <p>*Note: NVIS is not required for Frost Protection Operations.</p>	Permitted	Permitted	Permitted
<p><b>Below minimum height over a populous area for other than taking off or landing</b></p> <p>Day or night IFR or VFR No aerial work passengers unless an ESO</p>	<p>Minimum required.</p> <p>If using a multi-engine rotorcraft must have en route OEI stay up capability.</p> <p>If not using a multi-engine rotorcraft must have available suitable forced landing areas when below the minimum height unless:</p> <ul style="list-style-type: none"> <li>• Flight below minimum height is essential for the operation</li> <li>• no aerial work passengers carried unless the flight is an ESO</li> <li>• If flight is at night NVIS is used</li> <li>• Aircraft has:                             <ul style="list-style-type: none"> <li>○ Usage monitoring system</li> <li>○ Dual hydraulics</li> <li>○ Dual fuel control</li> </ul> </li> </ul>	Permitted	Permitted	Permitted
<p><b>NVFR with 2 or less aerial work passengers</b></p> <p>(exceptions for ESOs)</p>	<p>Minimum required. NVIS must be used.</p> <p>If there are no available suitable forced landing areas, only permitted if the aircraft has:</p> <ul style="list-style-type: none"> <li>• Usage monitoring system</li> <li>• Dual hydraulics</li> <li>• Dual fuel control</li> </ul>	Permitted	Permitted	Permitted
<p><b>NVFR more than 2 aerial work passengers</b></p> <p>(exceptions for ESOs)</p>	Not permitted	<p>Minimum required.</p> <p>NVIS required if</p>	Permitted	Permitted

CONSULTATION DRAFT FOR PROPOSED NEW MANUAL OF STANDARDS PART 138 (AERIAL  
WORK OPERATIONS) AND REGULATION AMENDMENTS

Operational Circumstances	Performance Class			
		not IFR equipped.		
<b>IFR with 1 to 9 aerial work passengers</b>  (exceptions for ESOs)	Not permitted	Minimum required.	Permitted	Permitted
<b>Class D external load operations</b>  (exceptions / conditions for ESOs)	No specific performance class.  For winching: <ul style="list-style-type: none"> <li>• OEI HOGE capable during the winching operation unless day VFR and aircraft is a turbine with a usage monitoring system, dual hydraulics, dual fuel control and aircraft mass does not exceed 90% of the AFM MTOW HOGE at the most limiting mass for the operation.</li> </ul> For belly hook or platform: <ul style="list-style-type: none"> <li>• OEI HOGE capable during the operation unless aircraft is a turbine with a usage monitoring system, dual hydraulics, dual fuel control and aircraft mass does not exceed 90% of the AFM MTOW HOGE at the most limiting mass for the operation.</li> </ul>			

- The chapter includes the general requirements to enable performance class operations in rotorcraft.
- These are required to set the baseline operating standards for PC1, PC2 and PC3.
- If you are not required to operate in a performance class this chapter is not applicable to your operations.
- As part of the introduction of this concept, operations in performance class 2 with exposure (PC2WE) have been permitted.
  - This is made possible by using the requirements outlined in chapter 21 and the use of a separate and additional approval to operate in PC2WE.
  - This is a highly specialised operation and will be utilised by operators who operate in complex obstacle environments, often within populous areas, where PC1 or PC2 operations cannot be used.

These criteria have been developed over several years with considerable input from industry SMEs.
- In general, the reader will note that Part 138 performance class operations are only utilised where additional risk management is needed for third party risk mitigation or in specific circumstances when aerial work passengers are being carried under the IFR or VFR at night.

**Chapter 24**

- Essentially this chapter outlines the baseline requirements for training and initial, recurrent and emergency proficiency checks within the operator's formal training and checking system.



- The chapter sets out the training and checking requirements for a flight crew member of an aerial work certificate holder to whom subregulation 138.125 (1) applies. That is an operator who is required to have a formal training and checking system. The chapter only applies to:
  - operations transporting marine pilots
  - operations in:
    - o multi-engine transport category rotorcraft with a maximum take-off weight of more than 3,175 kg
    - or
    - o multi-engine aeroplanes with a maximum take-off weight of more than 5,700 kg
    - or
    - o turbine-engine aeroplanes (other than turbine-engine propeller-driven aeroplanes less than 5700 kg).
  - operations prescribed by the Part 138 MOS for the purposes of this paragraph.
- The Part 138 MOS prescribes in Chapter 4 these additional operations to also have a training and checking system:
  - auto hover search and rescue operations in rotorcraft
  - an operation which uses offshore airborne radar approach procedures in accordance with section 8.6 of the Part 173 Manual of Standards
  - an operation that uses the descent and operational procedures set out in Division 3, 4 or 5 of Chapter 9, as the case requires.
- This system is described in regulation 138.130 and its components, personnel requirements and standard operating procedures are described in the operator's operations manual.
- This chapter and training and checking in general will be supported by significant levels of guidance material to assist operators in compiling their operations manual content.

## Chapter 25

- This Chapter sets out the training and checking requirements for a flight crew member of an aerial work certificate holder to whom subregulation 138.125 (1) does not apply.
- This chapter is outcome-based requiring the operator to set out in their operation's manual procedures for flight crew member training and assessment of competency in carrying out normal, abnormal and emergency procedures in an aircraft for an aerial work operation.
- The chapter also requires that the flight crew member must have an initial competency assessment to demonstrate competence in:
  - carrying out the operator's standard operating procedures
  - carrying out the duties associated with the aerial work operation to which the flight crew member is assigned
  - operating the relevant aircraft to be used in the conduct of the assigned aerial work operation.
- Section 25.03 requires a recurrent competency assessment at intervals of not more than every 12 months after the initial competency assessment.
- Section 25.05 outlines the qualifications and experience for the PIC of an aerial work operation. A new requirement is introduced for the minimum experience for a PIC of

class D external load operations which involve suspending a person from the belly hook of a rotorcraft.

- Chapter 25 allows considerable flexibility in who may conduct training and checking for an operator.
  - This is outlined in section 25.06 and includes:
    - o the operator's head of operations
    - o a Part 141 operator or a Part 142 operator nominated for the provision of training and competency assessment.
  - These nominations are subject to the conditions set out in section 25.06.

## Chapter 26

- Chapter 26 outlines the training and checking requirements for operators who use air crew members for their operations. Air crew member is defined as:

A crew member for the flight (other than a flight crew member) who carries out a function during the flight relating to the safety of the operation of the aircraft, or the safety of the use of the aircraft.

- The rules have been future proofed to allow the Part 138 MOS to prescribe kinds of persons into or out of this definition. Any such change to the MOS would be the subject of public consultation.
- The chapter uses outcome-based provisions which rely on the operator designing and specifying in their operations manual how this training and checking occurs.
- The operations manual requirements for a proficiency check of an air crew member's competence in carrying out normal, abnormal and emergency procedures must be relevant to the nature, size and complexity of the operation and the aircraft.
- This chapter only applies to operators who have a formal training and checking system.
  - This level of training organisation is necessary to ensure the required formal training is carried out and the integration of crew co-ordination processes for the crews of the operator.
- Additionally, an operator who utilises air crew members must consider the management of their fatigue under chapter 6 of the MOS.

## Chapter 27

- To add flexibility and versatility to who can be carried as crew on aerial work operations, Part 138 has introduced a type of crew member called the "task specialist". For the purposes of the Part 138 MOS the definition of task specialist is:

(1) A task specialist, for an aerial work operation, means a crew member for a flight:

(a) who carries out a function for the flight relating to the aerial work operation; and

(b) who is not a flight crew member or an air crew member for the flight.

(2) Despite (1), a task specialist:

(a) includes a crew member of a kind prescribed by the Part 138 Manual of Standards for the purposes of this paragraph; and

(b) does not include a crew member of a kind prescribed by the Part 138 Manual of Standards for the purposes of this paragraph.

- Part 138 of CASR differentiates task specialists from air crew members to allow greater flexibility for both roles in the aircraft's crew.
- The chapter outlines the requirements for training and checking of task specialist.
- The chapter applies whether or not a training and checking system is required, as task specialist training by nature will be required across a very broad spectrum of aerial work operations.
- This chapter is outcome-based, relying on the operator's operations manual to specify the requirements related to the competence of a task specialist in carrying out normal, abnormal and emergency procedures that are relevant to the nature, size and complexity of the operation and the aircraft.
- Importantly, the training and checking is scalable to the nature, size and complexity of the operation and the aircraft, which allows the chapter to cover the use of task specialists in very simple to very complex operations.

## Changes to the regulations

Since the Part 138 regulations were made into law in December 2018 and noting that the regulations do not start until 2021, CASA has conducted further detailed drafting of the Part 138 MOS including holding multiple working group discussions.

As a result of these activities, it has become apparent that several Part 138 regulations need to be modified to, clarify certain terminology and defined terms, and apply additional regulations to aerial work operators not required to hold an aerial work certificate.

The proposed amendments to the Regulations are outlined below.

## Terminology and definition changes

- Replace all references to 'aerial work specialist', to the term 'task specialist'.
  - Part 138 of CASR uses both terms, effectively to mean the same person. The terminology should be standardised, which CASA proposes to do by using the term 'task specialist'. The definition of 'aerial work specialist' in regulation 138.015 of CASR will form the basis of the definition of 'task specialist' in the amendments.
- Insert a definition for 'operations manual' that is consistent with the definition in Part 141 of CASR and like the definitions of 'exposition' for Parts 119 and 142 of CASR.

operations manual for the holder of an aerial work certificate means

  - (a) the set of documents approved by CASA under regulation 138.045 in relation to the operator; or
  - (b) if the set of documents is changed under regulation 138.065 or as required to comply with regulation 138.155 – the set of documents as changed.
- Amend paragraph (c) of the definition of 'emergency service operation' in the CASR Dictionary by adding a reference to 'protecting the environment'. It is conceivable that

some emergency service operations, such as those conducted over territorial waters, would not involve law enforcement, or the saving or protection of persons or property.

- Amend the Dictionary definition of 'aerial work passenger' to solely refer to the Part 138 MOS for the prescription of classes of persons that can be aerial work passengers. The existing named classes of persons within the definition have been moved to Chapter 2 of the proposed MOS which is the primary subject of this consultation.

### **Applying additional regulations to aerial work operators without a certificate**

- Part 138 of CASR permits certain aerial work operations to be conducted without an aerial work certificate (see regulation 138.030 of CASR).
- Part 138 regulations apply to aerial work certificate holders but only regulations that state they apply 'whether or not an aerial work certificate is held' apply to aerial work operations conducted without a certificate.
- CASA has identified a number of additional regulations that, require amendment to apply to 'non-certificated' aerial work operations in order to achieve consistent safety outcomes.
  - The regulations proposed to be amended to apply to non-certificated aerial work operations are:
    - o 138.295 – Fuel requirements
    - o 138.305 – Carriage of aerial work passengers – general (also see the specific amendment to this regulation outlined below)
    - o 138.370 – Operator must conduct risk assessments
    - o 138.400 – Certain night operation prohibited unless operation is an emergency operation or approved by CASA
    - o 138.420 – Possessing and discharging firearms
    - o 138.435 – Take-off weights
    - o 138.440 – Landing weights
    - o 138.465 – Instruments, indicators, equipment and systems - requirements
    - o 138.470 – When aircraft may be flown with inoperative instruments, indicators, equipment or systems
    - o 138.495 – Pilot in command
    - o 138.500 – Qualifications as pilot in command

### **New Part 138 regulations**

- Changes to Division 138.B.3 of CASR:
  - Currently, there are 2 regulations within this division of the Part 138 regulations.
  - The first regulation – 138.060 – is unique to Part 138. Other certificate based CASR parts (119, 131, 141, 142) do not include this regulation and instead include specific regulations related to certain kinds of changes, including regulations that outlines the process for making changes to operations manuals (or expositions for 119, 131 and 142).
  - This difference in CASR parts increases administrative burden as operators won't have consistent rules across the multiple CASR parts. Additionally, the lack of similar regulations in Part 138 means that the 'significant change' process, which

underpins the change process across the future regulatory suite, won't work effectively within Part 138.

- o It is proposed to Delete existing regulation 138.060.
- Insert a regulation that matches the intent of 119.085 (which is a newer version of 141.080). This regulation outlines the process for changes of operator name, contact details or operational headquarters.
- Insert a new regulation that matches the intent of 119.090 (which is a less complex version of 141.085). This regulation outlines the requirements relating to approvals of significant changes.
- Insert a new regulation that matches the intent of 119.095 (which is a newer version of 141.090). This regulation outlines the requirements on CASA relating to what it must consider when approving significant changes.
- Insert a new regulation that matches the intent of 141.095 (which doesn't refer to another regulation like 119.100 and therefore better matches the legislative structure of Part 138). This regulation prescribes that the operator commits an offence if they make a change that is not in accordance with the change process in their operations manual.

### Amendments to specific Part 138 regulations

- Regulation 138.005
  - A technical amendment is required to subregulations (3) and (4) to clarify their intent. The reference in each subregulation to 'the operator holds an aerial work certificate' should more properly read that 'the operator holds an aerial work certificate for the operation'. It would not be relevant that the operator holds a certificate for some other type or kind of aerial work operation.
- Regulation 138.010
  - Subparagraph (5)(b) of the definition of aerial work operation should be deleted as it is redundant
  - External load operations will be authorised to be conducted under Part 133 of CASR, but only in respect of winching in a medical transport operation (CASA intends to amend Part 133 to reflect this policy change). Medical transport operations are already excluded from the definition of aerial work operation under paragraph 138.010(5)(a).
- Regulation 138.025
  - To facilitate the issuance of approvals under the Part 138 MOS, this provision should be amended to acknowledge that approvals may also be issued under the Part 138 MOS, and that persons may apply to CASA for these approvals.
- Regulation 138.030
  - Change still under policy discussion. See question on Consultation Hub.
- Regulation 138.105
  - To clarify the responsibilities of the head of training and checking (where one is required), this regulation should be amended to reflect that the head of training and checking is responsible for managing all training for flight crew, and not only 'recurrent' training.

CONSULTATION DRAFT FOR PROPOSED NEW MANUAL OF STANDARDS PART 138 (AERIAL  
WORK OPERATIONS) AND REGULATION AMENDMENTS

- The exception to this is the training mentioned in paragraph 138(3)(d) which refers to the training contracted out to a Part 142 operator. Part 142 operators are currently limited under Part 142 to conducting contracted recurrent training.
- Regulation 138.110
  - It is proposed to delete paragraph (2)(a) which requires a safety manager to have sufficient relevant experience in carrying out or managing air operations as the requirements of paragraph (2)(c) are sufficient (this latter paragraph requires the safety manager to have a satisfactory record in the conduct or management of air operations).
- Regulation 138.205
  - It is proposed to amend paragraph (1)(c) to include a reference to utility category aircraft. The use of such aircraft should be permitted under Part 138, provided any flight manual or placard limitation and any instruction or restriction on the carriage of passengers in the form of aerial work passengers are complied with.
- Regulation 138.275
  - It is proposed to re-frame this regulation to specify requirements that must be met instead of circumstances. This change simplifies the legal drafting for the Part 138 MOS with no change in functional outcome.
  - The existing regulatory wording is proposed to be renumbered as subregulation 138.275(1) and add a new subregulation 138.275(2) that permits the Part 138 MOS to prescribe requirements related to minimum heights.
  - It would be an offence if the operator or the pilot in command did not comply with a requirement of the MOS that applies to them.
- Regulation 138.305
  - The organisational safety mitigators that enable the new policy of permitting aerial work passenger carriage cannot be achieved in a non-certificated aerial work operation.
  - This regulation is proposed to be amended so that it applies whether or not the operator holds an aerial work certificate and to create appropriate offences for operators and pilots-in-command.
- Regulation 138.310
  - CASA intends to amend 138.310(2)(a) so that the offence applies if any aerial work passengers are carried on a VFR flight at night. The requirements of subregulation (3) should apply regardless of the number of passengers carried.
- Regulations 138.435 and 138.440
  - Similar to the proposal for regulation 138.275, it is proposed to amend these regulations to permit the Part 138 MOS to prescribe 'requirements' rather than 'circumstances' and 'methods'.
  - This change simplifies the legal drafting for the Part 138 MOS with no change in functional outcome.
- Regulation 138.445
  - It is proposed to amend this regulation to add a requirement for an operator to hold an approval under regulation 138.025 if the rotorcraft will be flown in performance class 2 with exposure during the relevant stage of the flight.

- This approval requirement would have been in the Part 138 MOS. However, moving it to the regulation increases transparency and regulatory consistency with Part 133 which also has the approval requirement in the regulations and not the MOS.
- Regulation 138.475
  - Paragraph 138.475(2)(c) does not appropriately encompass foreign registered aircraft.
  - It is proposed to amend this regulation to require each flight crew member to be appropriately authorised or qualified to pilot an Australian aircraft under Part 61 and a foreign registered aircraft under the law of the aircraft's State of registry or the State of the operator.
  - This aligns the formulation of these requirements with similar regulations in Part 91.
- Division 138.D.6 – fuel requirements
  - For clarity and consistency between multiple CASR parts (similar provisions exist in Parts 133 and 135), it is proposed to add a new provision requiring operators to include in their operations manual fuelling safety procedures.

## Previous consultations

Joint Part 138 of CASR working group meetings (under various consultation structures) and briefings were held as follows:

- 15-16 June 2010, to recommence the Part 138 work.
- 23-24 November 2010, aerial work policy briefing.
- 31 March 2011, SA CFS and NSW RFS meeting with CASA.
- 25-26 July 2012, joint media operations specific meeting.
- 25-27 September 2013, industry briefing on Medical Transport Operations/Part 138/night vision imaging systems (NVIS).
- 1 April 2014, Part 138 briefing at the Operational Standards Sub-committee meeting.
- 30 March 2015, Part 138 briefing at the Operational Standards Sub-committee meeting.
- 31 July 2015, Part 137/138 firefighting policy meeting.
- 14 to 15 October 2015, Industry consultation meeting.
- 16 March 2016, Part 138 aerial mustering industry meeting.
- 10 to 11 October 2018, Part 138 industry technical working meeting.
- 27 to 28 March 2019, Part 138 MOS industry technical working group meeting.
- 12 November 2019, Part 138 MOS industry technical working group teleconference.
- 05 February 2020 Part 138 industry technical working group teleconference.
- 12 March 2020, Part 138 MOS industry technical working group meeting.

CASA has worked closely with industry for many years to refine and develop aerial work policy and develop a MOS that supports the entire breadth of aerial work operations. Recently, work has focused on reducing both the complexity of the requirements in the MOS and the repetition of rules from other CASR parts. Two examples are the fuel and equipment fitment requirements which were duplicated from the Part 91 MOS.

As a result of feedback from the most recent Part 138 working group (12 March 2020) Annexes

have been included in this consultation for specific industry sectors that indicate the sections of the MOS that are relevant to the operation.

To further assist industry to understand the aerial work requirements CASA is currently developing, aerial work specific guidance material including plain English guides and sample operations manuals that will also be included in the Manual Authoring and Assessment Tool (MAAT) to assist with manual development.

CASA acknowledges that the most recent working group did not provide full support for the proposed MOS to be publicly consulted. However, CASA has determined it is appropriate to seek additional industry and community feedback prior to making further decisions on reducing duplication or deciding to reduce the specific nature of some requirements and where necessary increasing the granularity of guidance material.

## Impact on industry

### Benefits

The reclassification of aerial work operations will reduce the number of aerial work purposes from the current 41 to 3. For operators with multiple approvals the reduction in the number of operational categories will reduce the number of categories that require separate authorisation from CASA.

Currently, several aerial work operations are not permitted by the existing regulations and are only permitted by CASA issuing a general or individual exemption and are required to be renewed on an ongoing basis. Part 138 of CASR incorporates many of the current exemptions into legislation by adopting the conditions that are currently specified in the exemptions in its MOS. In many cases, there will be no change in the requirements that operators must meet in order to undertake the operation, however, the incorporation of the exemptions into Part 138 of CASR will reduce the need for many operators to apply for exemptions.

Annex E shows a comparison of the current aerial work requirements compared to the requirements proposed under Part 138 of CASR and the Part 138 MOS.

Additionally, the embedding of operational approvals and their associated conditions into the legislation which is responsible for the safety management of an operation should also reduce administrative burdens on the industry and CASA.

As part of the new Part 138 of CASR, CASA is introducing the ability to carry passengers during aerial work operations, including during certain types of positioning flights as well as during flights involving dispensing, external load or task specialist operations. For many operators, the introduction of these rules is anticipated to result in the operators not requiring an Australian air transport AOC. The ability to carry aerial work passengers does require compliance with several new conditions in order to ensure an appropriate level of aviation safety for these persons. Unlike normal commercial passengers that 'elect' to travel on an air transport flight, many aerial work passengers will simply be present on a flight as a result of their employment.

CASA also expects the new requirements to increase the potential for the use of a generic operations manual for many operations, particularly non-complex types of aerial work operations.



A key focus of Part 138 of CASR is on the operator assessing an operation, identifying the risks associated with the operation, determining mitigations that will appropriately manage the identified risks and then confirming the operation is within their capability to carry out safely. This risk-based focus will greatly enhance the flexibility and procedural control operators have over their operations, as opposed to today's more prescriptive legislative approach.

## Costs

Part 138 requires certain types of operations such as marine pilot transfer and more complex operations including emergency service operations which may utilise off shore ARA's, auto-hover SAR and some of the IFR and VFR at night descent procedures in chapter 9 of the 138 MOS and the operation of aeroplanes greater than 5700 kg and rotorcraft greater than 3175 kg MTOW, to have a training and checking system and a safety management system.

CASA considers that these requirements are unlikely to have a significant impact as relevant operators currently undertaking these types of operations are required to have a training and checking system and often already have a safety management system (SMS) and would already be compliant with the requirements. Furthermore, many operators will be conducting air transport operations in addition to aerial work and as such will be required to have these systems under Part 119 of CASR.

However, for operators who do not currently have these systems CASA recognises that implementation of these systems before the start date of the new rules is not practically possible. CASA will shortly be conducting a separate public consultation on transitional matters associated with the start of the entire general operating, air transport and aerial work rules. As part of this consultation, CASA will be proposing to defer for a varying number of years the compliance date for these systems for existing operators.

Part 138 introduces a requirement for certain types of rotorcraft aerial work operations to fit a usage monitoring system (UMS). These operations include:

- a. the carriage of marine pilots in single engine rotorcraft
- b. flight below the minimum height (for IFR or VFR at night) flown in performance class 3 (PC3) at night where suitable forced landing areas are not available for the entire time the rotorcraft is operating below the minimum height
- c. flight in PC3 over populous areas or public gatherings without suitable forced landing areas
- d. the carriage of 1 or 2 aerial work passengers in VFR flights at night in PC3 using NVIS when suitable landing areas are not available for the flight
- e. flights where a person is picked-up or set-down via a winch, belly hook or platform
- f. flights in performance class 2 with exposure (PC2WE).

The required UMS is **NOT** a full vibration, health and usage monitoring system. Instead, it is a system similar to those found on many modern rotorcraft which monitor various engine, transmission, rotor RPM and other parameters for exceedance or outside of operational normal limit conditions on the rotorcraft each flight. Considering many rotorcraft now come with this equipment fitted from the OEM, the introduction of this requirement provides increased operational flexibility that, in order to ensure the requisite level of aviation safety, would have alternatively required the use of a multi-engine rotorcraft.

The transitional consultation will contain details of the specific kinds of operations and the operators which are proposed to access a deferred start date for the UMS requirements.

The general transitional rules, which will be the subject of a separate public consultation, will outline that if an operator currently has an individual approval, permission or exemption today that allows an operation to occur that could be considered to be at a standard below that required by Part 138 of CASR, then the operator will be able to rely on this instrument instead of complying with a relevant individual aspect of Part 138 of CASR for a period of time beyond the start date. This period will be outlined in the public consultation of the transitional rules.

## **Regulation impact statement**

The Office of Best Practice Regulation (OBPR) assessed that the proposed Part 138 regulation amendments and these matters are publicly available as part of the Part 138 explanatory statement and are available on the Federal Register of Legislation.

## **Closing date for comment**

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on the draft proposed Part 138 MOS and proposed regulation amendments should be submitted through the online response form by close of business 3 June 2020.