

EXPLANATORY STATEMENT

Issued by the authority of the Deputy Prime Minister and Minister for Infrastructure,
Transport and Regional Development

Civil Aviation Act 1988

Civil Aviation Safety Amendment (Part 138) Regulations 2018

The *Civil Aviation Act 1988* (the Act) establishes the regulatory framework for maintaining, enhancing and promoting the safety of civil aviation, with particular emphasis on preventing aviation accidents and incidents.

Subsection 98(1) of the Act provides, in part, that the Governor-General may make regulations, not inconsistent with the Act, prescribing matters required or permitted by the Act to be prescribed, or necessary or convenient to be prescribed for carrying out or giving effect to the Act. Subsection 98(1) also provides that the Governor-General may make regulations, for the purpose of, carrying out and giving effect to the provisions of the Convention on International Civil Aviation (the Chicago Convention) relating to aviation safety, and in relation to the safety of air navigation, being regulations with respect to any other matters to which the Parliament has power to make laws.

Subsection 9(1) of the Act specifies, in part, that the Civil Aviation Safety Authority (CASA) has the function of conducting the safety regulation of civil air operations in Australian territory by means that include developing and promulgating appropriate, clear and concise aviation safety standards and issuing certificates, licences, registrations and permits.

The *Civil Aviation Safety Amendment (Part 138) Regulations 2018* (the Regulations) amends the *Civil Aviation Safety Regulations 1998* (CASR), primarily to insert a new Part 138 of CASR—Aerial work operations.

In Australia, aerial work was for many years described in paragraph 206(1)(a) of the *Civil Aviation Regulations 1988* (CAR), which operated to require that an Air Operators Certificate (AOC) be issued to operators wishing to conduct aerial work operations. In the current Australian aviation environment, aerial work operations represent a diverse and growing sector, ranging from relatively low risk surveillance operations, to much more complex and higher risk operations involving winching equipment or persons to the roof of a building in the central business district of a major city. The current CAR and Civil Aviation Orders (CAOs) do not always address the unique needs of the industry, resulting in a large proportion of this sector being regulated by exemption.

The International Civil Aviation Organization (ICAO) leaves it to individual States to regulate aerial work under domestic legislation. Furthermore, there is no common approach amongst the major civil aviation authorities for the regulation of aerial work activities.

The Regulations form a risk-based set of rules specific to aerial work operations that provide appropriate risk-based alleviations from the baseline operational requirements contained in Part 91 of CASR. The Regulations apply to the operators of Australian and foreign-registered aeroplanes and rotorcraft who conduct aerial work operations within Australian territory. The definition of an aerial work operation excludes aerial application operations which are regulated under Part 137 of CASR.

The main features of the Regulations, compared with previous regulatory requirements, are as follows:

- the consolidation of rules for aerial work operations provides for more transparent requirements that are easier for industry to understand
- the incorporation of previous exemptions into the Regulations means that operators will no longer need to apply for and renew exemptions for common matters, resulting in reduced costs and administrative burden to industry and ensuring a nationally consistent standard for aerial work operations
- the introduction of the aerial work certificate removes the requirement for operators to obtain and maintain an AOC; however, the requirements for complex, higher risk operations—such as dedicated police, search and rescue, and marine pilot transfer operations—remain comparable to current AOC requirements
- simplification of the identified 41 aerial work purposes into 3 broad classes of aerial work operations: external load operations, dispensing operations and task-specialist operations
- the regulatory treatment of emergency services within each of the 3 classes, being operations that are conducted at the request of, or tasked by governmental agencies and organisations
- requirements related to the carriage of persons other than flight crew on aerial work flights, including in what circumstances passengers are permitted on board
- safety management system requirements for complex operations
- training and checking system requirements for complex operations
- aircraft performance requirements according to risks of the operation.

The Regulations use a number of new defined terms which will not take effect until 25 March 2021. The new definitions will be included in the CASR Dictionary following the making and registration, planned for February 2019, of the *Civil Aviation Safety Amendment (Operations Definitions) Regulations 2019* (available in draft on the CASA Part 138 webpage at www.casa.gov.au/standard-page/project-os-1026-casr-part-138-aerial-work-operations-aeroplane-and-rotorcraft).

Strict liability offences

There are 61 strict liability offences in Part 138, which are outlined in the Statement of Compatibility with Human Rights at [Attachment B](#).

Consistent with the principles set out in the Attorney-General's *A Guide to Framing Commonwealth Offences, Infringement Notices and Enforcement Powers* (September 2011) (the AGD Guide) and the Sixth Report of 2002 of the Senate Standing Committee for the Scrutiny of Bills, *Application of Absolute and Strict Liability Offences in Commonwealth Legislation* (26 June 2002), the strict liability offences are considered reasonable, necessary and proportionate to the objective of ensuring aviation safety. In this regard, the offences are regulatory in nature, in other words their aim is to insist on reasonable compliance with regulated safety standards by those conducting activities which are otherwise intrinsically or potentially unsafe unless such high standards of compliance are met. Not having to prove fault in the relevant circumstances aims to provide a strong deterrent. To this extent, and in this context, they are consistent with other safety-focussed regulatory regimes and do not unreasonably or impermissibly limit the presumption of innocence. The offences are designed to achieve the legitimate objective of ensuring the integrity of the overall aviation safety regulatory scheme by promoting compliance and deterring non-compliance.

The rationale is that people who responsible for the safety of aerial work operations should be expected to be aware of their duties and obligations. In the context of aerial work operations, a defendant can reasonably be expected to know what conduct is required by the law, and the mental, or fault, element can justifiably be excluded.

For strict liability offences in the Regulations, the prosecution will have to prove only the conduct of the accused. However, where the accused produces evidence of an honest and reasonable, but mistaken, belief in the existence of certain facts which, if true, would have made that conduct innocent, it will be incumbent on the prosecution to establish that there was not an honest and reasonable mistake of fact.

The Regulations also contains 3 provisions that reverse the evidential burden of proof in relation to prescribed defences to strict liability offences (“offence-specific defences”). Consistent with section 4.3.1 of the AGD Guide, the provisions have been included in the Regulations because they relate to matters that are peculiarly within the knowledge of a defendant and/or would be significantly more difficult and more costly for the prosecution to disprove than for the defendant to establish the matter.

Details of, and justification for, the offence-specific defences are provided in the Statement of Compatibility with Human Rights at [Attachment B](#).

In practice, any enforcement action contemplated by CASA is subject to the provisions of CASA’s “just culture” policy as set out in CASA’s Regulatory Philosophy.

Consultation

CASA consulted on Part 138 of CASR and the Part 138 Manual of Standards by publishing NPRM 15190S from 15 September 2015 to 29 February 2016. The NPRM provided a case for change and an overview of the key changes to current rules for aerial work in both aeroplanes and rotorcraft. There were 45 respondents to this consultation. The respondents indicated broad support for Part 138 and made recommendations to CASA for its improvement. CASA incorporated the recommendations, as appropriate. A technical working group of the Aviation Safety Advisory Panel (ASAP) met in October 2018 and expressed its support for the regulation with some minor revisions. Subsequently the ASAP outlined its support for the Regulations in a letter to the CASA Director of Aviation Safety.

Incorporation by reference

In accordance with paragraph 15J (2) (c) of the *Legislation Act 2003* and subsection 98 (5D) of the Act, the legislative instrument applies, adopts or incorporates matters contained in the following instruments:

- Annex 2 to the Chicago Convention – Rules of the Air (Annex 2)
- training and checking manual of an aerial work operator
- operations manual of an aerial work operator
- flight manual instructions of aircraft operated under Part 138
- the Part 91 Manual of Standards (Part 91 MOS)
- the Part 138 Manual of Standards (Part 138 MOS).

Under subsection 98 (5D) of the Act, the instruments and other writing may be incorporated as in force or existing at a particular time or from time to time, including non-legislative instruments that may not exist when the legislative instrument is made.

The following table contains a description of the documents incorporated by reference into the legislative instrument, the organisation responsible for each document and how they may be obtained.

Document	Description	Manner of incorporation	Source
Annex 2, Rules of the Air, to the Chicago Convention	General rules, visual flight rules and instrument flight rules and applies to a contracting State to the Chicago Convention without exception over the high seas and over national territories, to the extent that they do not conflict with the rules of the State being overflown	As the Annex is in force from time to time, in accordance with clause 15 of Part 2 of the CASR Dictionary	Annex 2 is publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a subscription fee fee (https://store.icao.int/).

Document	Description	Manner of incorporation	Source
training and checking manual of an aerial work operator	The training and checking manual states the training and competency assessment procedures for the personnel of an aerial work operator if the operator conducts specified aerial work operations	The manual is incorporated as it exists from time to time	Not publicly or freely available. The training and checking manual is a proprietary document prepared by, and used exclusively by, the operator and will generally include commercial in confidence information about the operator's business. The incorporated requirements of a training and checking manual are at the operator-specific level and apply only to the operator and its personnel. Further, the operator is under obligations to make the manual available to its personnel

Document	Description	Manner of incorporation	Source
operations manual of an aerial work operator	“Operations manual” will be defined in the CASR Dictionary as the set of documents approved for an aerial work operator, as changed in accordance with Part 138	Consistent with the proposed definition of the term “operations manual”, a manual is taken to be incorporated as it exists from time to time	Not publicly or freely available. The operations manual is a proprietary document prepared by, and used exclusively by, the operator and will generally include commercial in confidence information about the operator’s business. The incorporated requirements of an operations manual are at the operator-specific level and apply only to the operator and its personnel. Further, the operator is under obligations to make the operations manual available to its personnel who have obligations under the manual

Document	Description	Manner of incorporation	Source
aircraft flight manual instructions	“Aircraft flight manual instructions” will be defined to comprise the flight manual, checklists of normal, abnormal and emergency procedures for the aircraft and any operating limitation, instructions, markings and placards relating to the aircraft. The instructions comprise information required to safely operate the specific aircraft	As the instructions exist from time to time, consistent with the definition of “flight manual” in the CASR Dictionary	Publicly available but not for free. The aircraft flight manual instructions for an aircraft is proprietary to the owner of the aircraft design (usually the manufacturer). The incorporated requirements of an exposition are at the aircraft-specific level, and instructions are required to be provided to owners of aircraft
Part 91 Manual of Standards	Legislative instrument that prescribes matters for Part 91 of CASR (general operating rules)	As the MOS is in force from time to time, in accordance with section 10 of the <i>Acts Interpretation Act 1901</i> and section 13 of the <i>Legislation Act 2003</i>	When made, this document will be freely available on the Federal Register of Legislation
Part 138 Manual of Standards	Legislative instrument that prescribes matters for Part 138 of CASR (air transport operations in aircraft)	As the MOS is in force from time to time, in accordance with section 10 of the <i>Acts Interpretation Act 1901</i> and section 13 of the <i>Legislation Act 2003</i>	When made, this document will be freely available on the Federal Register of Legislation

In relation to Annex 2 and aircraft flight manual instructions, the cost of obtaining a copy is a matter for a person wishing to review the matter to which the document relates. CASA has no effective control over those costs. However, as noted and by prior arrangement with CASA where the document is available, a copy of the document can be made available for viewing free of charge at any office of CASA.

In the case of Annex 2, training and checking manuals and operations manuals of aerial work operators, and aircraft flight manual instructions, CASA considers it extremely unlikely that the relevant owner of the document would sell CASA the copyright at a price that would be an effective and efficient use of CASA funds, or otherwise permit CASA to make the document freely available. CASA has incorporated the documents in the instrument because they are appropriate and necessary to give effect to the safety regulatory scheme under Part 138, and because no other, freely available document is available that serves the purpose.

Regulation Impact Statement

A Regulation Impact Statement (RIS) was prepared that identified the Regulation's positive net benefits. The RIS was assessed as adequate by the Office of Best Practice Regulation (OBPR ID: 24505). A copy of the Statement is set out in [Attachment A](#).

Statement of Compatibility with Human Rights

A Statement of Compatibility with Human Rights is set out in [Attachment B](#).

Commencement and making

The Regulations are a legislative instrument for the purposes of the *Legislative Instruments Act 2003*.

The Act specifies no condition that needed to be satisfied before the power to make the Regulations may be exercised.

The provisions of the *Civil Aviation Safety Amendment (Part 138) Regulations 2018* commence on 25 March 2021.

Details of the Regulations are set out in [Attachment C](#).

Transition period

To avoid the undesirable situation of different air operators operating to different rulesets through a staged transition period, compliance will be expected from commencement of the new regulations on 25 March 2021.

Authority: Subsection 98(1) of the
Civil Aviation Act 1988

Regulation Impact Statement for CASR Parts 119, 121, 133, 135 and 138

Summary

The current regulations applying to commercial passenger, cargo and aerial work operations have not been comprehensively reviewed or updated in over 20 years. During that time there has been considerable technological change and changes to International standards. Combined with recent operational experience within Australia and Australian safety data trends and disparities between types of operations the Australian public sees as largely similar, it is timely to review and update the regulatory requirements.

There are a number of safety improvements identified by CASA that are likely to be beneficial. The most significant improvements relate to businesses undertaking charter flights.

Within commercial passenger operations, the accident rate for low capacity charter is markedly higher than low capacity regular public transport (RPT) flights. The accident rate disparity is approximately 11 to 1 for small aeroplanes.

The ATSB has found that a significant contributing factor to accidents involving charter aircraft has been organisational failures and under developed safety management systems.

The preferred option would create a single regulatory standard for businesses carrying fare paying passengers and cargo. This will remove the current differential in regulatory standards between businesses operating scheduled flights that are publicly available and charter flights. The new single standard will be largely based on the current standards applying to RPT operators and will require businesses currently conducting charter flights to implement;

- *A safety management system (SMS)*; the important elements involve having a safety manager who is responsible for safety and ensuring that safety risks are identified and resolved
- *Improved staff training and management of competency*; with pilots of small aircraft required to undertake bi-annual or annual training and checks for competency

The preferred option would also make changes to the requirements for the fitment of safety equipment, including Terrain Awareness and Warning Systems (TAWS) and weather radar, however, there will not be significant cost impacts associated with these changes.

The aerial work regulations will be streamlined to remove the need for time limited exemptions and clarify the aircraft performance requirements when using helicopters for particular aerial work operations.

Overall the changes within the preferred option are estimated to have a 10-year annualised cost impact of \$6.51m.

Background/Problem

The current regulatory requirements that apply to businesses seeking to operate commercial passenger carrying, cargo and aerial work operations are primarily contained in the *Civil Aviation Act 1988*, *Civil Aviation Regulations 1988* and the Civil Aviation Orders. The

operator must be issued with an Air Operator's Certificate (AOC) by CASA under the Act. To apply for an AOC an applicant must provide an operations manual that outlines the operational procedures of the business including;

- Key personnel being a CEO and Head of Flying Operations and if required the Head of Aircraft Airworthiness and Maintenance Control;
- The employment of suitably qualified pilots assessed by the operator;
- Aircraft equipped with the necessary navigation and safety equipment;
- Management of the continuing airworthiness of aircraft and maintenance; and
- Organisational requirements if required, for an SMS, training and checking and management of pilot fatigue.

Whilst the operations manual is a universal requirement for AOC operators, the specific operational requirements are differentiated both by the nature of the operations and the type of the aircraft used by the business.

CASA undertakes initial entry control to issue an AOC. CASA also undertakes ongoing surveillance to ensure ongoing compliance. The operations manual is an important document which is required to be complied with by the operator's personnel. CASA also has regard to it for surveillance to ensure that the business is following the procedures set out in their operations manual. The current compliance costs with the initial AOC requirements are estimated to be in order of \$70 000 for a typical business, with ongoing compliance costs estimated to range from \$23 000 for a small single pilot operator to \$245 000 for a large charter business employing more than 20 pilots (Appendix 2).

Problem

Whilst the current Act and regulatory requirements have evolved over time, any changes have been *ad hoc* focused on one issue or a limited set of issues and there has been no holistic and comprehensive review within the last 20 years in the light of advancement in technology, changes to international standards and operational experience within Australia.

There are different standards based on whether the flights are charter or RPT. This can result in the same aircraft carrying the same number of passengers (or cargo) having different regulatory standards.

Some regulatory requirements are not aligned to international standards. Australia is subject to audits from the International Civil Aviation Organization (ICAO) and from ICAO member States, including the USA. Whilst there is no immediate threat, failure to maintain parity with international standards over the medium to longer-term may result in Australia's ability to participate in international markets being compromised.

Advancement in technology

In some cases, the current regulations have not fully taken into account the advancements in technology, such as the expansion in the number of flight data recorder parameters and an increase in the sampling rate of those parameters.

Safety

In reviewing the operational experience within Australia, it is apparent that the accident rate within commercial air transport operations is highest for lower capacity aircraft conducting charter flights (ATSB 2018, p.18).

Over the last ten years for aerial work operations there were 326 accidents and 55 deaths. There have been 148 accidents and 16 deaths through the operation of low capacity charter aircraft (ATSB 2018, p. 10), compared to 4 accidents and 2 deaths in low capacity RPT. The accident rate for low capacity charter flights is higher than for low capacity RPT flights (ATSB 2018, p. 17 - 18).

In an analysis of the cause of charter accidents the ATSB found that the most common were: mechanical problems with the aircraft's landing gear (20 per cent), wheels-up, landing (12 per cent), partial and complete power loss/engine failure (14 per cent),

loss of aircraft control (11 per cent), and fuel-related accidents (7 per cent) (p. 17, ATSB 2007). However, in terms of fatal accidents the most likely occurrences were collisions, loss of control and power loss occurrences (p. 19 ATSB 2007). Table 1a provides examples of the types of fatal accidents within the charter sector. (ATSB 2007, p. 54)

In explaining the high accident rate, the ATSB notes that charter flights are generally shorter and that can provide part of the explanation as to why the charter sector has a higher accident rate per flight hour, because in part charter flights have greater exposure to approach and landing accidents per hour flown (ATSB 2018, p. 18).

It is CASA's assessment that part of the disparity in the accident rate between RPT and charter is due to differences in the type of aircraft and their reliability. To highlight this point approximately 62% of the aircraft registered to RPT operators are powered by more reliable turbine engines compared to only 16% for charter operators.

Mitigators

In addition, it is generally accepted that aircraft accidents rarely have one cause and even if an accident is attributed to pilot actions, it is important to consider the operational environment in which the pilot operates. The US Federal Aviation Administration (FAA) researchers note:

It is generally accepted that like most accidents, those in aviation do not happen in isolation. Rather, they are often the result of a chain of events often culminating with the unsafe acts of aircrew (p.1 Wiegman et al, 2005)

Table 1a: Fatal Charter Accidents reported by the ATSB

The fatal charter accidents included:

- A Partenavia P.68 aircraft impacting terrain while on approach to land (1998).
- A Bell 206L LongRanger helicopter that collided with the sea due to a loss of visual contact in heavy rain (1999).
- Hypobaric incapacitation of the pilot and passengers of a Beech Super King Air 200 following a failure of the aircraft's pressurisation and supplemental oxygen system (2000).

- In-flight structural failure and breakup of a Piper Aerostar 600A aircraft during attempted recovery from a spiral manoeuvre (2000).
- Fuel starvation or interruption to the engine of a Cessna 210 Centurion aircraft (2001).
- A Beech C90 King Air aircraft that suffered a loss of control and impacted power lines following an uncontained engine failure (2001).
- A Piper PA-32 Seminole aircraft that suffered abnormal engine performance shortly after take-off, and subsequently impacted with terrain (2002).
- A Robinson R44 helicopter that was operating with a maximum take-off weight and centre of gravity outside limits, leading to an in-flight loss of control and collision with terrain (2003).
- In-flight loss of control accidents including a Britten Norman BN-2A Islander aircraft that crashed on final approach due to an engine failure (1999), a Cessna 206 Stationair aircraft conducting manoeuvres in darkness with a lack of visual cues (2000), a Cessna 210 Centurion aircraft conducting aerial manoeuvres (2001), a Cessna 206 flying at low level over water in severe weather conditions (2002), a Cessna 172 Skyhawk aircraft that suffered carburettor icing (2003), and a Beech 58 Baron aircraft that lost control for unknown reasons (2006).
- Collision with terrain accidents (Cessna 185 Skywagon in 1998, Aero Commander 500-S in 2001, Cessna 210 Centurion in 2002, Piper PA-31 Navajo in 2005, Cessna 210 in 2007, Robinson R44 in 2007).

Source: ATSB 2007, p.54

This approach to safety highlights the importance of creating the appropriate organisational safeguards to mitigate against human error. SMS and training in human factors is an important mechanism for ensuring that an operational environment within a business is created that minimises the risk of accidents. The ATSB analysis of aviation accidents has found that poor or non-existent SMSs are a contributing factor to a number of aviation accidents and has advocated for the introduction of SMS for the aviation industry (ATSB 2008).

It is CASA's assessment that in part the accident rate can be attributed to differences in the safety processes adopted by charter operators, with all RPT operators having an SMS, compared to approximately 40% of charter operators.

An important mitigator against accidents is also requiring pilots to be trained to avoid loss of control and to deal with emergencies such as engine failures. Pilot training and competency is maintained at two levels, through the general requirements applying to all pilots under Part 61 of the *Civil Aviation Safety Regulations 1998 (CASR)* and through the operator providing training to a company pilot, which can be through a training and checking organisation.

Aircraft safety equipment can contribute to avoiding accidents. The ATSB found in analysing a collision with terrain accident at Lockhart River in 2005, that resulted in 15 fatalities that the accident was most likely a controlled flight into terrain accident and that had the aircraft been fitted with TAWS it is probable that the accident would not have occurred (ATSB 2007a, p. xiv).

Objective

The primary objective is to review to the existing regulatory requirements with the intention of proposing regulatory options that are beneficial to society by reducing the risk of aircraft accidents. The factors that need to be considered in proposing options for change are: safety, regulatory impact and alignment with international standards.

Options

Option 1

Option 1 is to maintain the current distinction between businesses operating RPT and charter services in terms of organisational requirements. The specific operating requirements for aircraft used by AOC holders, including large aeroplanes, small aeroplanes and rotorcraft would remain unchanged.

Organisational requirements

An SMS is an organised approach to managing safety, the key elements include:

- establishing safety policy at the company's management level,
- collecting safety information,
- identifying safety hazards,
- analysing safety risks,
- performing safety investigations,
- developing corrective actions,
- providing safety training;
- monitoring safety performance;
- creating a continuous improvement environment; and
- safety communication.

Under option 1 all RPT operators are required to have an SMS, however, charter and Aerial work operators are not required to have an SMS.

The training and checking organisation is a system of regularly checking the competency of pilots to operate the aircraft and handle and emergencies and to provide relevant training, referred to as proficiency checks.

Under option 1 all RPT operators and charter operators with aircraft Maximum Take-Off Weight (MTOW) >5700kg are required to have a training and checking organisation. Currently charter and aerial work operators operating aircraft MTOW<5700kg are not required to have a training and checking organisation unless directed by CASA.

Terrain Awareness and Warning System

TAWS fitted to an aircraft provides pilots with predictive warning if they are at risk of collision with terrain. TAWS is seen as the most effective way of reducing the risk of controlled flight into terrain accidents and is an ICAO standard for certain aircraft.

The current Australian requirement is for TAWS to be fitted to aeroplanes with a turbine engine(s) operating under Instrument Flight Rules (IFR) and carrying 10 or more passengers or with a MTOW greater than 15000kg.

Weather radar

A weather radar is capable of giving pilots the latest weather information during the flight and will reduce the risk of the flight crew operating in dangerous weather conditions, such as hail, lightning and thunderstorms.

The current requirement is for a weather radar to be fitted to aircraft operating under IFR with 2 pilots that are:

- pressurised with piston engine(s); or
- pressurised with turbine engine(s); or
- unpressurised with turbine engine(s) weighing more than 5700kg.

The requirements under option 1 are summarised in Table A.

Option 2

Option 2 will introduce revised organisational requirements applying to all businesses and revised aircraft operational requirements. The option would revise the operational classifications to eliminate the differences between the current regular public transport, charter and aerial work ambulance flight categories by forming an air transport category. There would be other minor changes to the naming of classifications (Figure 1).

Figure 1: Operational Classifications

Present Classifications	Proposed Classifications
Regular Public Transport	Air Transport
Charter	
Aerial work: Ambulance flights	
Aerial work: other	Aerial Work
Private	General Aviation

Option 2: Organisational Requirements

Option 2 would require all air transport operators to implement:

- An exposition, which is a document or collection of documents that describes the way in which the organisation operates and the procedures they use to meet the requirements of the regulations.
- A SMS will be required by air transport operators and some aerial work operators; and
- Improved staff training and management of competency, with a training and checking system required by air transport operators and some aerial work operators

Option 2 would remove the requirement for aerial work operators to possess an AOC – instead replacing the AOC for aerial work with an aerial work certificate. This replacement permits CASA to remove the requirements for AOCs specified by the *Civil Aviation Act 1988* for certain types of aerial work operators.

Improved staff training and management of competency

Option 2 will require air transport and select aerial work operators to provide a formal training and checking system for flight crew, either internally or contracted to a flight training organisation (approved under CASR Part 142). This will only be a new requirement for organisations operating aircraft below an MTOW of 5700kg that have not been directed by CASA to have a training and checking organisation. The number of proficiency checks required will depend on the types of operations being conducted by the operator.

Option 2: Aircraft equipment and operational requirements

Option 2: would expand the requirement for TAWS and weather radar to primarily base the requirements on aircraft weight consistent with the standards published by ICAO.

Option 2 will require TAWS to be fitted to aeroplanes weighing more than 5700kg operating under IFR or Night Visual Flight Rules (VFR) for air transport flights. This change will result in an expansion of the requirement to night VFR operations, however, it will not include freight only operations in aeroplanes below 8618kg. It will capture freight only operations in aeroplanes between 8618kg and 15000kg that are not currently captured. The requirement will also apply to aircraft that have a weight greater than 5700kg, but are certified to carry less than 10 passengers.

Option 2 will require a weather radar to be fitted to aeroplanes that operate IFR or night VFR that are:

- pressurised turbine of any weight (single or 2 pilot); or
- pressurised piston weighing more than 5700kg and 2 pilot.

This will expand the requirement from operations under the IFR to capture night VFR operations and it will expand the requirement to include single pilot aeroplanes that are pressurised with a turbine engine(s). However, the proposed change will remove the requirement from aircraft that are unpressurised with turbine engine(s) weighing more than 5700kg. It will also remove the requirement from pressurised aircraft with a piston engine(s) weighing less than 5700kg required to be operated by 2 pilots. The intention of the change is to only apply the requirement to the aircraft that are most likely to be exposed to hazardous weather conditions, with storms carrying the greatest risk to aircraft occurring within the cruising altitude of pressurised aeroplanes.

Option 3

Option 3: Organisational Requirements

Option 3 would require all AOC holders to implement:

- An exposition;
- An SMS; and
- A training and checking system

Option3: Aircraft equipment and operational requirements

Option 3 would expand the requirement for TAWS and weather radar to primarily base the requirements on aircraft weight and passenger capacity consistent with the recommendations published by ICAO.

Option 3 will require TAWS to be fitted to aeroplanes weighing more than 5700kg operating under IFR or night VFR for air transport flights or carrying more than five passengers. This change will result in an expansion of the requirement to night VFR operations, however, it will not include freight only operations in aeroplanes below 8618kg. It will capture freight only operations in aeroplanes between 8618 and 15000kg that are not currently captured.

Option 3 will require a weather radar to be fitted to aeroplanes that operate IFR or night VFR that are:

- MTOW>5700kg; or
- Have a capacity to carry more than five passengers.

The requirements under Option 3 are summarised in Table A relative to Option 1 (status quo) and Option 2.

Table A: Requirements by Option 1

Requirement	Option 1 (status quo)	Option 2	Option 3
<i>Exposition</i>	<i>no AOC holders</i>	<i>Air transport</i>	<i>Air transport and aerial work</i>
<i>SMS</i>	<i>RPT</i>	<i>Air transport (RPT, charter, ambulance) and complex aerial work</i>	<i>Air transport and aerial work</i>
<i>Training and checking</i>	<i>MTOW>5700kg</i>	<i>Air transport (RPT, charter, ambulance) and complex aerial work</i>	<i>Air transport and aerial work</i>
<i>Weather Radar</i>	<i>IFR, two pilot and pressurised</i>	<i>IFR, pressurised and MTOW>5700kg</i>	<i>IFR, passenger seats>5 and MTOW>5700kg</i>
<i>TAWS</i>	<i>IFR & Seats >9</i>	<i>IFR & MTOW>5700kg</i>	<i>IFR, passenger seats>5 and MTOW>5700kg</i>
<i>Helicopter TAWS</i>	<i>No requirement</i>	<i>Passenger seats>9</i>	<i>Passenger seats>9</i>

1: In addition, Options 2 and 3 would require a Life Raft and First Aid kit to be carried for selected flights

Requirements common to Options 2 and 3

In addition to the major organisation requirements of an Exposition, SMS and training and checking system, and the aircraft specific requirements for TAWS and weather radar there are other less significant requirements that are common to both Options 2 and 3.

Life raft

Under Options 2 and 3 operators will be required to carry a life raft if they are operating for a significant distance over water. The requirement is risk based, with the requirement for a life raft based on the reliability of the aircraft. Aeroplanes with two engines are not required to

carry a life raft unless they are beyond 100 nautical miles or 30 minutes flying time at normal cruising speed from land. Single engine aircraft will require a life raft when the flight over water is greater than the gliding distance to a forced landing site, plus the distance the aircraft travels in 5 minutes at normal cruising speed. The relevant staff must also be trained to operate the life raft, with life raft training required every 3 years.

Minimum Equipment List

Under Options 2 and 3 aircraft will be required to be operated in accordance with a Minimum Equipment List (MEL) if the aircraft is operated internationally or if the aircraft is operated within Australia under the IFR and the manufacturer provides a Master MEL for that aircraft. The minimum equipment list outlines the conditions under which the aircraft can be operated without a serviceable part. For example, if the fuel gauge is inoperative then the aircraft may be operated if the fuel level is measured using a dipstick.

There are efficiency benefits for aircraft operators in having a MEL and many operators have one without regulatory compulsion. The safety benefit is clarity and consistency of the condition in which the aircraft is safe to operate. MELs are currently required under the regulations for smaller aeroplanes used in regular public transport operations but not for aircraft used in 'on-demand' charter operations.

[Larger aeroplanes](#)

Requirement for two pilots

Option 2 and 3 will require all aeroplanes weighing more than 8618kg or carrying 10 or more passengers to be operated with two pilots when undertaking air transport flights, however, certain aircraft (single engine that have a weight of 8618kg or less and a seating capacity of 10 or more) will be permitted to carry the maximum number of passengers their aircraft can fit with a single pilot if operated under day VFR conditions.

The current requirement is for all high capacity (not the same as larger aeroplanes) RPT flights to be operated with 2 pilots, for low capacity RPT to conduct operations with 2 pilots when carrying greater than 9 adult passengers and for charter flights to be operated with the number of pilots specified by the aeroplane flight manual. Accordingly, for all current high capacity RPT operators there will be no change in this requirement. However, this will represent a new requirement for current charter operators of single pilot certificated aeroplanes with a passenger seating capacity of more than 10 that operate under IFR.

Underwater locating device

To be consistent with international standards, aircraft with a weight greater than 27 000kg will be required to be fitted with an underwater locating device attached to the aircraft frame. The frequency omitted by this beacon will be different to the frequency of the beacon attached to the flight data recorder and will increase the probability of locating aircraft wreckage in oceanic areas. The impact of the requirement is minimised by imposing the requirement on aircraft that operate over oceans.

Flight data recorder parameters

The current requirements for the parameters and sampling rates that apply to flight data recorders are not consistent with international standards. This situation requires CASA to

issue exemptions to aircraft that are fitted with flight data recorders that meet the ICAO standard, but exceed the current outdated Australian requirements.

First aid kit

Operators of all aircraft within air transport will be required to carry a first aid kit for treating passengers.

Requirements for businesses operating helicopters

Option 2 and 3 would introduce the ICAO standard performance model, appropriately adjusted for Australia and based on a 3 Tier Performance class system, that sets the number of passengers that can be carried by each type of rotorcraft in passenger transport.

Performance classes

- Performance class 1 – mandatory for > 19 passengers – can continue flight after a critical failure.
- Performance class 2 – minimum mandatory standard for operations with between 10 and 19 passengers – can continue flight after a critical failure except if this occurs during take-off or late in the landing phase.
- Performance class 3 – limited to 9 or less passengers – in the event of a critical failure may or will be required to make a forced landing.

In addition to the performance classes, Option 2 and Option 3 would introduce:

- A requirement that operations over water have flotation equipment, unless the rotorcraft is capable of operating with one engine inoperative or the flight is in an access lane, or no more than 2 minutes from a safe landing area and are complying with Air Traffic Control instructions.
- Helicopter TAWS (HTAWS) to be fitted to helicopters conducting passenger transport and medical transport flights (excluding freight only flights) operating under the IFR and having a maximum operational seating capacity of more than 9.

Aerial work

Option 2 and 3 will consolidate the existing rules governing aerial work operations into one regulatory part, CASR Part 138. Whilst Part 138 will largely adopt the current requirements applying to aerial work operations there will be some changes that could be viewed as new requirements, these include:

- Reclassification of aerial work operations; The reclassification of aerial work operations will reduce the number of aerial work purposes from the current 41 to three;
- Introduce an operating certificate and remove the need for an AOC described in the background section of this document; The introduction of the Part 138 Certificate will remove the requirement for operators to obtain and maintain an AOC. The requirements of the Certificate will be graduated depending on the complexity of the operation;

- Require a SMS for complex operations; an SMS will be required for complex operations that involve marine pilot transfer and certain of the more complex emergency service operations;
- Require a training and checking system for complex operations that involve marine pilot transfer, and certain of the more complex emergency service operations and when aerial work is conducted in some of the more complex aircraft types;
- Incorporate current exemptions into regulation; A number of aerial work operations are not permitted by the existing regulations and are only permitted by CASA issuing a general or individual exemption; and
- Introduce aircraft performance requirements by risk of operation, Part 138 will introduce performance requirements for operations based on the potential for risk to third party individuals and for operations where aerial work passengers are carried. The requirements will potentially impact on a limited number of Search and Rescue, marine pilot transfer and police/ fire fighting operations using large and complex aircraft.

Impact

The major cost impacts for Option 2 and Option 3 are the organisational requirements of an Exposition, an SMS and training and checking system that will be new requirements for existing charter operators. The following sections outline the cost impact by requirement with a total estimated cost impact for each option provided in a summary section.

Impacted Operators

In order to analyse the nature of the impacted operators CASA has analysed a range of data sources with a focus on the number of pilots employed by the operator and the number of aircraft and aircraft types registered to that operator.

There are currently 786 businesses that hold an AOC to conduct RPT, charter, or aerial work operations using an aeroplane or rotorcraft. There is a significant proportion of operators with an AOC for multiple activities the key points being:

- All RPT operators also hold a charter authorisation on their AOC;
- Of the 505 operators authorised for charter operations, 460 are also authorised in at least one aerial work function; and
- There are only four aerial work operators that are authorised for the air ambulance function that do not currently hold a charter authorisation on their AOC.
- There are 240 aerial work operators (excluding ambulance function) that do not hold a charter authorisation on their AOC.

Table 1: Number of current operators

	<i>Approved operators</i>
<i>RPT</i>	<i>37</i>
<i>charter only</i>	<i>45</i>
<i>Charter and aerial work</i>	<i>460</i>
<i>Aerial work (ambulance, excluding charter)</i>	<i>4</i>
<i>Aerial work (other, excluding charter)</i>	<i>240</i>

Exposition

In order to meet the exposition requirement operators are likely to be able to use material from their existing manuals, however, it is likely that the operators will need to review these manuals to confirm compliance with the new regulations and identify this compliance for CASA. However, CASA is not proposing that operators will be required to modify their existing manuals to some different form of “exposition standard”.

Feedback from organisations that have been required to prepare an entirely new exposition for CASA acceptance (including Flight Training Organisations approved under CASR Part 142 and Maintenance Organisations under CASR Part 145) is that preparing the exposition, including learning about the requirement, interacting with CASA staff and going through the application process requires the full-time effort of one person for approximately one month.

For the exposition requirement under CASR Part 119, CASA has sought to implement the requirement in a more flexible way to reduce the impact on operators when compared to the implementation of previous CASRs. For existing AOC holders with simple operations there will be the ability to provide a short document that essentially identifies the suite of manuals that constitute the operator’s exposition. Operators will need to, as a minimum, compare their existing manuals to the new regulatory requirements, make any necessary adjustments (the main common refinements will be the necessity for all air transport operators to possess an approved change management process and include a training and checking and an SMS outlined below) and then inform CASA about these refinements.

This refined approach to the implementation of the exposition requirement will reduce the amount of time that the operator needs to comply with the requirements relative to the compliance time experienced by Part 145 or Part 142 operators. In addition, the change management process will reduce the time that operators interact with CASA for manual amendments, which is approximately once per year for the average operator. Based on five days of full-time effort the exposition requirement is estimated to cost each operator approximately \$2 500 when based on a wage rate of \$500 per day (Table 2). For the more complex RPT operators it is estimated that they will require further time to develop an exposition, estimated at 20 days and a cost of \$10 000 (Table 2).

Table 2: Exposition Cost

Operator size	Full-time effort (days)	Cost per operator	Number of operators	Cost by type of operator
Current RPT	20	\$10 000	37	\$0.37m
Current charter	5	\$2 500	505	\$1.26m
Ambulance only	5	\$2 500	4	\$0.01m
Total for Option 2				\$1.64m
Aerial work	5	\$2 500	240	\$0.6m
Total for Option 3				\$2.24m

Safety Management System (SMS)

The cost impact of the requirement to develop and maintain a SMS will depend on the operator's current approach to the management of safety. All current RPT operators are required to have a SMS, and there is a significant voluntary compliance among existing charter operators with the SMS requirement. A 2011 CASA survey found that of the current charter operators 40% reported having a fully implemented SMS, 38% have a SMS under development and 22% have no SMS. In addition, analysis of a 2006 CASA surveillance tool found that approximately 45% of charter operators and 35% of aerial work operators have an SMS. Given the lack of recent evidence and to be conservative CASA has assumed that 40% of existing charter operators and 30% of aerial work operators have an SMS. This will result in 305 existing charter operators requiring to implement a SMS under Option 2 and a further 168 aerial work operators under Option 3.

The experiences of other aviation organisations developing a CASA approved SMS indicates that it would take one staff member within a small organisation approximately 1 week of full-time work to utilise the CASA material to develop the SMS structure, processes and a manual, including the associated forms and spreadsheets. For medium and large operators this initial set up would take approximately 2 weeks (Table 2). The operator would also be required to provide initial SMS training to their staff which would involve approximately 4 days of training per staff member. The total cost for SMS implementation is estimated at \$3.77m (Table 3) for Option 2. The total for Option 3 includes the additional cost for aerial work operators resulting in a total cost of \$4.87m for Option 3. The assumptions underlying the estimation method for the SMS compliance costs are outlined in Appendix 3.

Table 3: SMS set up costs

Operator size	Set up, manual, training, spreadsheet	Number of staff requiring training	Total training cost (based \$ 1000 training cost per staff member)	Total upfront cost per operator (set up plus staff training)	Number of operators	Total cost by size of operator
Single pilot	1 week valued at \$2 500	1	\$1 000	\$3 500	83	\$0.29m
Small	1 week valued at \$2 500	4	\$1,000	\$6 500	105	\$0.69m
Medium	2 weeks valued at \$5000	14	\$1 000	\$19 000	96	\$1.83m
Large	2 weeks valued at \$5 000	41	\$1 000	\$46 000	21	\$0.97m
Total for					305	\$3.77m

Option 2						
Aerial work	1 week valued at \$2 500	4	\$1 000	\$6 500	168	\$1.09m
Total for Option 3						\$4.87m

Ongoing SMS requirements

Feedback from organisations currently operating a SMS indicates that for the ongoing management of the SMS, the nominated safety manager would likely spend approximately 3 days per year to update and maintain the processes of the SMS.

For the medium to large sized charter operators there will be increased on-going time costs due to maintenance of the SMS processes (hazard/incident reporting, internal audit, safety meetings and safety investigations) which will be undertaken by the person in the safety manager role for approximately 5 to 10 days each year plus an additional 2 days of training for this SMS manager. The assumptions underlying these estimates are outlined in Appendix 2 and on a wage rate of \$500 per day which results in an annual estimated compliance cost of \$0.76m for Option 2 and \$1.09m for Option 3 (Table 4).

Table 4: SMS ongoing maintenance costs

Operator size	SMS maintenance	Training for the SMS manager	Total days per year	Cost (based on a wage rate of \$500 per day)	Number of operators	Cost by type of operator
Single pilot	1 day	1 day	2	\$1 000	83	\$0.08m
Small	2 days	2 days	4	\$2 000	105	\$0.21m
Medium	5 days	2 days	7	\$3 500	96	\$0.34m
Large	10 days	2 days	12	\$6 000	21	\$0.13m
Total for Option 2					305	\$0.76m
Aerial work	2 days	2 days	4	\$2 000	168	\$0.34m
Total for Option 3						\$1.09m

For all operators there will be a requirement to provide refresher training on the principles of the SMS and Human Factors and Non-Technical Skills (HF and NTS) to staff, which as outlined in Appendix 3 is based on one day of training per staff member. Based on the number of staff employed by operators this is estimated to cost \$1.36m annually for Option 2 and \$1.69m for Option 3 (Table 5).

Table 5: Ongoing costs for staff training in SMS, HF and NTS

Operator size	Number of staff requiring training	Annual training cost per staff member	Annual training cost per operator	Number of operators	Total cost by size of operator
Single pilot	1	\$500	\$500	83	\$0.04m
Small	4	\$500	\$2 000	105	\$0.21m
Medium	14	\$500	\$7 000	96	\$0.67m
Large	41	\$500	\$20 500	21	\$0.43m
Total for Option 2				305	\$1.36m
Aerial work	4	\$500	\$2 000	168	\$0.34m
Total for Option 3					\$1.69m

Safety benefit

These new organisational requirements are important safety enhancements and would bring the regulatory requirements for charter operators in line with current requirements for RPT operators, implement recommendations from the ATSB and comply with international standards set by the ICAO. Within Australia and internationally a leading causal factor of aircraft accidents are human factors and deficient organisational practices. This is why Australia introduced the SMS and HF & NTS requirements for RPT operations in 2009 and why other countries have adopted similar requirements for their entire passenger air transport sector consistent with this proposed option.

Training and Checking

Part 119 will require operators to provide a formal training and checking system for flight crew, either internally or contracted to an approved flight training organisation. Of the 509 AOC holders that CASA estimates will move to the air transport classification, 105 currently have a training and checking organisation approved by CASA.

Pilots of current charter aircraft of MTOW<5700kg that conduct IFR operations will be required under options 2 and 3 to undertake bi-annual training and checks of competency. Under current regulations, these pilots employed by a charter business are only required to undertake an annual check of competency, whereas there is a bi-annual requirement if the same pilot is employed by an RPT operator.

Pilots of current charter aircraft of MTOW<5700kg that conduct VFR operations will be required to undertake an annual check of competency. Under current regulations, these pilots employed by a charter business are only required to undertake a Part 61 flight review once every two years, which is the same requirement for Private Pilots. Pilots currently conducting RPT operations are required to undertake bi-annual checks.

It is assumed for this analysis that the training and checking function would need to be contracted out to a Part 142 operator. The costs associated with this would involve the development of a training and checking system and documentation and competency checks. The costs are likely to be in the range of \$10 000 for production of the documentation based on the feedback of operators who have recently acquired one (Table 6). This will result in a \$4.04m industry wide cost when based on 404 air transport operators requiring the system under Option 2 or \$6.44m with an additional 240 aerial work operators under Option 3 (Table 6).

Table 6: Training and Checking Requirement set up costs

Operators	Training and Checking system	Number of operators	Cost by type of operator
Option 2	\$10 000	404	\$4.04m
Option 3	\$10,000	644	\$6.44m

The costs of undertaking proficiency checks of pilots will vary according to the type of aircraft. As outlined in Appendix 4 the cost is likely to be \$1015 for single engine aircraft and \$1165 for multiple engine aircraft. To be conservative CASA has assumed that the multiple engine aircraft cost will apply to all additional checks. This results in an industry cost of \$3.98m for the 404 operators under Option 2 or including aerial work operators under Option 3 will result in an estimated cost of \$4.07m (Table 7). The average number of pilots employed by the impacted operators is based on the reported pilot numbers to a CASA AOC holders survey in 2014.

Safety benefit

The increased frequency of proficiency checks will enhance safety by ensuring that pilots have demonstrated competency for their specific operations and provide a training opportunity for those pilots.

Table 7: Training and checking requirement ongoing costs

Operators	Cost per check	Number of pilots	Check cost per year	Number of operators	Cost by type of operator
Single Pilot	\$1,165	1	\$1,165	128	\$0.15m
2 to 5 pilots	\$1,165	3.5	\$4,078	168	\$0.68m
6 to 20 pilots	\$1,165	11.5	\$13,398	75	\$1.01m
20+	\$1,165	33	\$38,445	32	\$1.25m
Total Option 2					\$3.09m
Aerial work	\$1,165	3.5	\$4,078	240	\$0.98m
Total for Option 3					\$4.07m

Aeroplane specific requirements

Terrain Awareness and Warning System (TAWS)

The new requirement will impact primarily on aeroplanes weighing more than 5700kg with a piston engine(s) and aeroplanes with turbine engine(s) weighing more than 5700kg, but carrying less than 10 passengers. The other potential impact is on non-IFR that operate night VFR and current medical transport only aircraft weighing more than 5700kg.

There are currently 348 aeroplanes on the Australian aircraft register that are piston powered with an MTOW greater than 5700kg or are turbine powered with a MTOW less than 15000kg, but greater than 5700kg.

Of the aircraft on the aircraft register, 132 are registered to an operator authorised to conduct RPT, charter or air ambulance operations. As the current TAWS fitment requirement applies to aircraft operated carrying more than 10 passengers in RPT or charter it is necessary to consider the seating configuration of the aircraft. It is estimated that of the current 132 aircraft registered to an RPT or charter operator, 65 are configured with more than 10 seats and would currently be required to be fitted with TAWS. These include aircraft such as the Beechcraft 1900, Dornier 228 and 328, Embraer 120 and Fairchild Metroliner SA227 (excluding those in freight configuration).

The TAWS requirement will therefore potentially require 67 aircraft currently on the aircraft register to be fitted with TAWS in order to operate within the air transport category. CASA has contacted a sample of the operators of these aircraft and determined that there is already TAWS fitted to 49 aircraft. This results in approximately 18 aircraft that would be required to be fitted with TAWS at an estimated cost of \$21 000 per aircraft (Table 8).

For option 3, TAWS would be required for aircraft with 6 or more passenger seats. The types of aircraft that are within this category include, the piston powered AeroCommander 680, Beech 95 and Cessna 421 and the turbine powered aeroplanes that include the Cessna 208, Fairchild SA 226 and Pilatus PC 12. CASA estimates that there are approximately 323 of these types of aircraft. Based on 323 aircraft within the six to nine seat range and the 18 aircraft with MTOW>5700kg of option 2 this would result in an estimated cost impact of \$7.2m for 341 aircraft (Table 8).

Table 8: Terrain Awareness Warning System costs

	Purchase¹	Number of aircraft	Total upfront cost
<i>Option 2</i>	\$21,000	18	\$0.38m
<i>Option 3</i>	\$21,000	341	\$7.2m

1: Estimated fitment cost based on feedback from two Avionics Businesses and a small sample of operators who have recently fitted GNSS to their aircraft with ADS-B. The cost is based on a unit cost of \$12 000, \$2000 for installation, \$4000 for an Engineering Order and Supplementary Type Certificate if required and \$1000 for training of an average of 3 pilots per operator.

Weather Radar

CASA has analysed the operators and aircraft likely to be affected by the change to requirement for the fitment of weather radar. The impact of the new requirement will be on single pilot pressurised turbine powered aeroplanes that are currently not required to be fitted with a weather radar when operated in RPT, charter or air ambulance. These aircraft undertaking flights in the air transport category under option 2 will require a weather radar.

Currently there are 304 aeroplanes that are registered to an RPT, charter or ambulance flight operator that are turbine powered, pressurized and could be operated with a single pilot. The most common types of aircraft are the King Air B200, Cessna Citation, Cessna Conquest, Global Express, PC12, Lear Jet 35s and single pilot Metro Liners.

CASA has analysed a random sample of 30 of the 304 aircraft to determine if a weather radar is currently fitted. Based on information contained in the maintenance control and operations manuals of the aircraft, or from contacting the operator, CASA estimates that 237 of the 304 aircraft are already fitted with a weather radar. For the remaining 67 aircraft it is possible some of these are already fitted with weather radar, however, to be conservative CASA has estimated that there are 67 aircraft that would be required to be fitted with a weather radar.

The cost of fitting weather radar is estimated at \$34,000 based on feedback from an avionics business that fits weather radar and from a small number of operators that have recently fitted a weather radar to their aircraft. This results in an estimated industry wide cost impact of \$2.28m for this Option 2 (Table 9). Under option 3, with an additional 323 aircraft within the six to nine seat category the estimated cost is \$13.26m (Table 9).

Table 9: Weather radar costs

	Purchase¹	Number of aircraft	Total upfront cost
Option 2	\$34,000	67	\$2.28m
Option 3	\$34,000	390	\$13.26m

1: The cost is based on a unit cost of \$25 000, \$2000 for installation, \$4000 for an Engineering Order and Supplementary Type Certificate if required and \$1000 for training of an average of 3 pilots per operator.

Weather radar provides for a significant improved ability for aircraft to avoid entering a thunderstorm or areas of severe turbulence associated with thunderstorms that in the worst scenario can lead to structural damage to an aircraft that results in an accident and loss of life.

Common requirements Options 2 and 3

Two pilots for 10 plus seat aircraft

Aircraft types impacted

The requirement for two pilots when operating a 10 plus seat aircraft will be a new requirement that will potentially impact on an aircraft with a single engine weighing less than 8618kg that are capable of carrying more than 9 passengers. Based on the current aircraft registered in Australia the only aircraft that is within this category is the Cessna 208B, known as the Grand Caravan. There are currently 71 Cessna Grand Caravans registered, with 35 registered to operators authorised for RPT, 23 to charter operators and 13 in aerial work or private.

The current RPT and aerial work operators will not be impacted by this requirement and the evidence from existing charter operators is that these aircraft are operated under the VFR and therefore would not be impacted by the requirement, or if they are operated under IFR they are already operated with two pilots.

Life Raft

A small number of businesses (approximately 20) operating 40 single engine aircraft up to 25 miles from land would be required to fit a life raft costing approximately \$4 000 per aircraft, with an approximate industry wide cost of \$160 000. These operators would also need to provide 3 yearly proficiency training and checking of staff, with the training estimated to cost \$1 100 per person, with annualised industry cost of approximately \$20 000.

The life raft requirement would increase the likelihood of passengers surviving a ditching of an aircraft. There have been a number of accidents involving the ditching of an aircraft for which the passengers survive the initial ditching and having the life raft will increase their chances of survival.

Requirement for a first aid kit

A first aid kit will be required to be carried in each aircraft. A first aid kit meeting the regulatory requirements costs \$50. During consultation with affected aircraft operators, the evidence indicates that at least half already carry a first aid kit meeting the regulatory requirements. If half of the 1750 small aeroplanes are required to be fitted with a first aid kit costing \$50 this will have an industry wide cost of \$43 750.

Rotorcraft Impact

Helicopter Terrain Awareness and Warning System (HTAWS)

The option 2 requirement will require helicopters that have the capacity to carry 10 or more passengers that are operated within air transport under the IFR to be fitted with an HTAWS. There are currently 1404 helicopters on the Australian aircraft register that are registered to an operator currently undertaking charter or ambulance flights. Of these aircraft CASA has identified 196 that would have the potential for a maximum operator seating capacity of 10 or more, with these 196 consisting of 14 models (Table 10).

Of the 196, based on current usage approximately 84 are not used under the IFR for an air transport flight and therefore would not be impacted by this requirement. Of the remaining 112, based on industry feedback, 74 are already fitted with HTAWS, this leaves 38 helicopters, of which some may be operated in the air transport category. Based on feedback from the operators of these aircraft, approximately 26 are not used in air transport and therefore CASA estimates that approximately 12 Helicopters would require the fitment of HTAWS.

The estimated cost for the fitment of HTAWS is estimated at \$48 000 based on feedback from avionics businesses that fit HTAWS to these types of aircraft. That is a unit cost of \$35 000, installation of \$7000 including an Engineering Order and STC if required, plus training of 6 pilots at average cost of \$1 000 per pilot. Based on 12 aircraft this results in an estimated cost of \$0.58m.

Table 10: Helicopters with a seating capacity of 10 plus

Model	Number	Seats	Used in air transport IFR	HTAWS fitment
<i>Augusta AW139</i>	45	15	Yes	100%
<i>Bell 412</i>	30	14	Yes (but MOPSC <= 9)	

<i>Kawasaki BK117</i>	29	10	Yes (but MOPSC <= 9)	
<i>Sikorsky S-92</i>	22	19	Yes	100%
<i>Sikorsky S-76</i>	14	12	some	
<i>Bell 212</i>	12	15	some	
<i>Bell 205</i>	12	14	No	
<i>Eurocopter EC225</i>	10	19	No	
<i>Eurocopter AS365</i>	11	12	Yes (but MOPSC <= 9)	
<i>Bell 214B</i>	3	14	No	
<i>Augusta AW189</i>	3	19	Yes	100%
<i>Eurocopter AS.332L</i>	2	19	Yes	100%
<i>Eurocopter EC 175</i>	2	16	Yes	100%
<i>Bell 421EPI</i>	1	13	Yes	

Performance classes

The introduction of performance requirements for rotorcraft formalise the current requirements specified in the Rotorcraft Flight Manual into regulation. The regulations replace the current policy letter requiring operators to insert a performance supplement in their operational documentation. There are likely to be no additional costs as the new legislative requirement will replace an existing policy letter.

Overall impact

Costs

The overall cost impact for the changes is annualised over a 10-year period to be \$6.51m for Option 2 and \$10.35m for Option 3 (Table 11).

The impact of Option 2 on a typical business is primarily based on the requirement for an existing business undertaking charter flights to implement an SMS and training and checking for their pilots, indeed over 90% of the estimated \$6.51m cost is attributed to these two requirements. Option 3 includes additional costs primarily due to broader application of requirements for SMS, training and checking, TAWS and weather radar.

For a small charter operator the upfront cost is estimated at \$6500 to implement a SMS and \$10 000 to implement training and checking. In order to see these costs in context, CASA has estimated the existing compliance costs with the initial AOC requirements to be in order of \$70 000 for a typical business (Appendix 2).

The ongoing compliance cost estimated for a small operator is \$2000 for SMS and \$2000 for training and checking. To put this compliance cost in perspective, CASA has estimated the current compliance cost for these operators to be approximately \$23 000 (Appendix 2).

Table 11: Total Cost for Option 2 and Option 3 by requirement

<i>Requirement</i>	Option 2		Option 3	
	One off upfront cost	Annualised cost	One off upfront cost	Annualised cost
<i>Exposition</i>	\$1.64m	\$0.16m	\$2.24m	\$0.22m
<i>SMS (upfront)</i>	\$3.77m	\$0.38m	\$4.87m	\$0.49m
<i>SMS (annual maintenance)</i>	\$0.76m	\$0.76m	\$1.09m	\$1.09m
<i>SMS (annual training)</i>	\$1.36m	\$1.36m	\$1.69m	\$1.69m
<i>Training and checking manual</i>	\$4.04m	\$0.40m	\$6.44m	\$0.64m
<i>Training and checking (annual)</i>	\$3.09m	\$3.09m	\$4.07m	\$4.07m
<i>TAWS</i>	\$0.38m	\$0.04m	\$7.161m	\$0.72m
<i>HTAWS</i>	\$0.58m	\$0.06m	\$0.58m	\$0.06m
<i>Life Raft fitment (upfront)</i>	\$0.16m	\$0.02m	\$0.16m	\$0.02m
<i>Life Raft training (annual)</i>	\$0.02m	\$0.02m	\$0.02m	\$0.02m
<i>First Aid Kit</i>	\$0.04m	\$0.00m	\$0.04m	\$0.00m
<i>Weather radar</i>	\$2.28m	\$0.23m	\$13.26m	\$1.33m
<i>Total</i>		\$6.51m		\$10.35m

Appendix 3 provides further information on how the cost estimates were derived for the safety management system and training and checking requirements.

Safety benefits

Options 2 and 3 will reduce the risk of accidents. As highlighted by the ATSB the cause of accidents is difficult to attribute to a single factor, therefore it is difficult to make estimations as to the extent of the risk reduction. Individually, the equipment fits will reduce the risk of accidents and/or mitigate the extent of the injuries:

- TAWS will reduce the risk of controlled flight into terrain accidents
- Weather radar will reduce the risk of accidents from pilots flying into adverse weather conditions
- Life raft improve the chances of survival should an aircraft ditch

The requirements for an SMS will address the organisational settings that provide a mitigation against organisational factors that can attribute to accidents.

The increased frequency of proficiency checks will enhance safety by ensuring that pilots have demonstrated competency for their specific operations and provide a training opportunity for those pilots.

In terms of the scale of the potential safety benefits, the ATSB estimates that each year for charter operators there are approximately 15 accidents, resulting in 1.6 fatalities, 2 serious injuries and 15 written-off or substantially damaged aircraft. Using a value of statistical life

of \$4.5m, a serious injury value of \$0.26m and an average aircraft value of \$1m¹, these accidents result in a \$22.5m cost to society each year.

The US experience provides an illustration of the possible safety improvements for establishing common safety standards of charter and scheduled services. In the US scheduled (Part 135 Commuter) and charter operators (Part 135 On Demand) are required to meet the same regulatory standards. In the US the charter accident rate is only 1.2 times higher than the scheduled service accident rate, instead of 4.5 times higher as is currently the case in Australia.

If imposing the same regulatory standards on charter operators in Australia was to reduce the charter accident rate so that it was only 1.2 times higher than the scheduled service accident rate this benefit would amount to a 75% reduction in the charter accident rate. With the average annual cost of charter accidents valued at approximately \$22.5m, this equates to a safety benefit of \$16.9m.

Consultation

Formal Consultation

CASA has developed this regulatory proposal working with the aviation industry over a five-year period. CASA formed an industry working group consisting of affected businesses and associations representing those businesses and pilot associations to assist in reviewing the existing regulations and proposing revised regulations.

A notice of proposed rule-making was published for each Regulatory Part outlining the broad changes over the current operational parts and the proposed terminology to be used in the regulations in order to seek feedback from stakeholders.

In response to the consultation CASA made a number of changes to the proposed regulatory requirements. The initial consultation proposed TAWS and weather radar applicability requirements consistent with Option 3, that is aircraft carrying 6 or more passengers. In response to the initial consultation, CASA revised the requirements to base the requirement on an MTOW > 5700kg, with this requirement consulted on in 2018.

Informal consultation

CASA has presented the draft options to affected businesses through informal consultation. Some of the key comments made during this consultation from affected businesses were that:

- Charter businesses are operating in a difficult market place with many not profitable
- The proposed option would impose a cost on charter businesses which may result in some choosing to withdraw from the charter flight industry
- Strict liability offences in the regulations is unnecessary (CASA has responded to industry comments about strict liability by publishing an explanation of strict liability provisions and how they are administered (treated) by CASA).

Strict liability offences arise in a regulatory context where, for reasons such as public safety and the public interest in ensuring that regulatory schemes are observed, the sanction of

¹ Based on the 2014 VSL published by OBPR (PM&C 2014) and indexed by CPI. Serious injury value of 5.75% of VSL based on Table 2-2 (FAA 2004). Aircraft value is a CASA assumption based on Table 5-5 (FAA 2004).

criminal penalties is justified. They also arise in a context where a defendant can reasonably be expected to know what the requirements of the law are, and the mental, or fault, element can justifiably be excluded.

The rationale is that people who owe general safety duties should be expected to be aware of their duties and obligations.

For strict liability offences in this regulation, the prosecution will have to prove only the conduct of the accused. However, where the accused produces evidence of an honest and reasonable, but mistaken, belief in the existence of certain facts which, if true, would have made that conduct innocent, it will be incumbent on the prosecution to establish that there was not an honest and reasonable mistake of fact.

The inclusion of strict liability in certain offences in this regulation is consistent with the principles set out in the Attorney-General's *Guide to Framing Commonwealth Offences, Infringement Notices and Enforcement Powers* (September 2011) and the Sixth Report of 2002 of the Senate Standing Committee for the Scrutiny of Bills, *Application of Absolute and Strict Liability Offences in Commonwealth Legislation* (26 June 2002).

Implementation and Review

The changes will be formally implemented by making of Parts 119, 121, 133, 135 and 138 in the *Civil Aviation Safety Regulations 1998* and an individual Manual of Standards for each of Parts 121, 133, 135 and 138. The commencement date will be 25 March 2021, which will allow operators approximately two years to prepare for the new rules. CASA will be publishing transitional arrangements in 2019 that address extended compliance periods between 2022 and 2024 for the provisions related to new aircraft equipment (that includes the requirements for weather radar and TAWS), new training and checking and new SMS requirements.

Prior to implementation of the new Parts, CASA plans to conduct an extensive education, training and communication program for both affected industry personnel and internal staff. This will be supplemented by the development and distribution of appropriate support tools to assist with the introduction of the initiatives, including sample materials that will reduce operator costs to update their documentation.

Review

CASA will monitor and review the new regulations on an ongoing basis during the transition phase, with careful consideration given to the feedback from the regulated organisations and their members and CASA will make any necessary changes to internal processes or the regulatory requirements.

The key information that CASA will be collecting during the transition is feedback from the regulated organisations as to the reasonableness of the requirements and whether the requirements reflect the original intent.

An important way that CASA will monitor the effectiveness of regulations, including safety performance, is surveillance of the organisations to ensure that they are implementing their processes documented in their Exposition or Manuals.

CASA will continue to monitor accident and incident data, including from the ATSB. This data will help inform any future changes required to the regulations, CASA procedures or the manuals or expositions of organisations.

The regulatory changes will be subject to a post-implementation review in 2025, which is one year after the end of the compliance date for all provisions. Prior to 2025 there will be on-going monitoring of the performance of the charter operators to assess how the new regulations are performing. This monitoring will be undertaken through the CASA field officers and CASA's industry oversight programs.

Conclusion

Australia has historically applied a lower regulatory safety standard to charter flights compared to RPT flights. The basis for a lower standard is difficult to sustain with evidence that charter flights can operate the same types of aircraft carrying the same number of passengers on the same routes. In effect the only difference is whether the flight is scheduled and generally available to the public.

Recent operational experience has highlighted the higher accident rate for charter flights relative to RPT flights, with a significant difference in the smaller aeroplane air transport industry sector where the disparity is 11 to 1. Overall, the charter accident rate is approximately 4.5 times higher than the comparable scheduled service accident rate. Whilst part of the higher accident rate could be explained by the differences in the operations involved, the relative accident rate difference is not as dramatic in countries that regulate the two operations the same. In the US where charter and RPT services are regulated the same the charter accident rate is only 1.2 times higher.

A key motivating factor for the creation of the air transport category is to address the relatively high accident rate for charter operations.

CASA is proposing to create a single air transport category including both current RPT and charter services. The standards for air transport would generally be the current standards for RPT services and therefore they will be relatively unaffected by the new Parts.

Approximately 500 charter businesses would be required to:

- Implement a safety management system
- Increase the frequency of pilot training and competency checks

Option 2 is the preferred option because the requirements are consistent with International Standards and recommendations from the ATSB, with a lower annualised compliance cost impact when compared to Option 3. CASA estimates that the 10-year annualised cost impact of the proposed changes under Option 2 is \$6.51m.

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Appendix 1: Explanation of minor regulatory changes

Aerial work changes under CASR Part 138 that will not be a significant impact

Reclassification of operations

The reclassification of aerial work operations will reduce the number of aerial work purposes from the current 41 to three. For new applicants or operators with multiple authorisations the reduction in the number of the operational categories will reduce the number of categories that require separate approval from CASA. This will provide an administrative saving for these affected operators.

Currently aerial work operators would require a specific CASA assessment to include an additional aerial work purpose on their AOC. The new three categories will potentially result in a simpler approval process for operations within a specific aerial work category, as the risk mitigating aspects of the category have been highly standardised.

Part 138 Certificate

The introduction of the Part 138 certificate will remove the requirement for operators to obtain and maintain an AOC. The requirements of the certificate will be graduated depending on the complexity of the operation. Complex operations, such as dedicated police, SAR and marine pilot transfer operations, will be required to meet comparable requirements to current AOC requirements, so in effect the Part 138 certificate will not be a significant change for these types of operations.

However, for non-complex operations the Part 138 certificate will potentially provide a simplification in terms of obtaining an initial certificate because CASA will not be required to impose the requirements specified in the *Civil Aviation Act* for the issue of an AOC. For example, entry control will potentially (dependant on the experience and previous history of the nominated person), not involve a specific assessment of the head of operations, rather the nominated person for this position could just be approved by CASA based on their history of operations.

The operating certificate will also open the possibility of a generic CASA approved or developed operations manual for specific types of operations, for example an acceptable means of compliance (AMC) based mustering manual could be developed by the relevant association and assessed by CASA once. After this initial CASA assessment of the operating procedures these procedures could then be adopted by operators at low cost and require minimal CASA assessment.

SMS

A safety management system will be required for complex operations that involve marine pilot transfer and more complex emergency service operations. This requirement will not be a significant impact because a larger majority of the current operators already have a SMS in place that would meet the proposed requirements. Many operators have reported to CASA that customers through formal contract terms require a SMS or that there are insurance or other business benefits from having a SMS.

Training and checking

Training and checking will be required for complex operations that involve marine pilot transfer, and more complex emergency service operations and when aerial work is conducted in more complex aircraft types. This requirement will not be a significant impact because the current operators undertaking these types of operations in most cases are required to already undertake training and checking of their pilots that would meet the proposed requirements.

Incorporate current exemptions

Some aerial work operations are required to obtain an approval or exemption, for example, external sling load, and most aerial work operations which require operations at low levels below that specified in CAR 157 of the Civil Aviation Regulations.

Part 138 will incorporate the current exemptions into legislation by adopting the conditions that are currently specified in the exemptions in a Manual of Standards. This will mean that 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 could provide a cost saving, particularly where an individual exemption was previously needed for the operation.

In the above situation operators will no longer incur the cost of applying for an exemption and there is likely to be a reduction in the number of CASA assessments required for individual operations.

Performance requirements

Part 138 will introduce performance requirements for operations based on the potential for risk to third party individuals and for operations where aerial work passengers are carried. The requirements will potentially impact on some high-end SAR, marine pilot transfer, police and firefighting operations.

For rotorcraft, the impact for some operations will be minimal because the current operations are already undertaken in types of rotorcraft that will meet the performance requirements, however in other cases this impact may require a reconsideration of how the operation is managed or resourced from an equipment perspective. There may be a limited number of police operations involving low-level operations over populous areas that are currently undertaken in a single-engine rotorcraft that may require the adoption of a more conservative operational strategy or possibly the use of a multi-engine aircraft.

Appendix 2: Current Compliance Costs for Commercial Operators

Section 27 of the *Civil Aviation Act 1988*, read with regulation 206 of the *Civil Aviation Regulations 1988* requires RPT, charter and aerial work operators to hold an AOC. In order to obtain and maintain an AOC the significant requirements are:

- Develop an Operations Manual. An important function of the manual is to outline how the operator will comply with the relevant regulatory requirements and be used by staff as a reference for decision making and to outline what processes they must follow. An operations manual can be in order of 300 to 400 pages.
- Appoint key personnel, currently a CEO, Head of Flying Operations and if required Head of Aircraft Airworthiness and Maintenance Control.
- CASA interviews with key personnel and a check flight with the CEO and Head of Flying Operations.
- Comply with the aviation legislation
- Submit variations to the operations manual
- Ensure pilot flight reviews are undertaken as required by CASR Part 61 and competency checks or training specified in the operations manual.
- Comply with pilot flight and duty limits to manage fatigue.
- Undertake aircraft maintenance, which in the case of current charter aircraft requires an inspection after 100 hours of operation.
- Engine overhaul based on the manufacturer specified requirements, typically after every 2000 hours of flying.

CASA has surveyed a number of businesses that have recently obtained an AOC, or varied their existing AOC or have been subject to ongoing surveillance. The purpose of the survey was to determine the time and resource cost involved in complying with the AOC requirements. The major findings were:

- The average time to prepare the manual was approximately 12 weeks of full-time work for one person
- Some businesses contracted out the preparation of the operations manual at an approximate cost of \$10 000
- 2 days to complete other associated paperwork with the application, including the application form
- 1 day for a CASA site visit and inspection of premises
- 1 day for each interview of key personnel
- 1 day for a check flight with the Head of Flying Operations
- 10 days for other miscellaneous requirements, including corresponding with CASA
- CASA assessment fees of \$12 000
- 1 day to complete associated paperwork for aircraft registration, including the initial application form and compiling supporting documentation

Table A1 provides the estimated costs associated with initial AOC application process with the estimated costs based on a wage rate of \$500 per day. For the issue of an initial AOC the compliance cost is estimated at approximately \$70 000.

Table A1: Current Compliance Costs for an Initial AOC

	Time to complete	CASA fees	Total cost
<i>Initial approval</i>			
<i>AOC application</i>	6 to 12 months	\$12 000	\$12 000
<i>Operations Manual</i>	3 months		\$45 000
<i>Interactions with CASA</i>	2 weeks		\$10 000
<i>Interview with Chief Pilot</i>	1 day		\$500
<i>Interview with CEO and HAAMC</i>	1 day		\$500
<i>Inspection of premises</i>	1 day		\$500
<i>Check flights</i>	1 day		\$1 000
<i>Aircraft registration</i>	1 day	\$130	\$390
<i>Total</i>			\$69 890

Ongoing requirements

The compliance costs associated with maintaining an AOC include ensuring that any change to the operational procedures of the business that requires a change to operations manual is submitted to CASA and approved. Feedback from AOC holders is that the time associated with varying the operations manual would take approximately 4 hours and require the payment of \$300 in CASA fees, resulting in an annual cost of \$550 for one change per year (Table A2).

A CASA audit of the AOC holder generally involves an onsite inspection, which is typically completed in one day with a further day of preparation. If the AOC holder was to be audited once every two years this would result in an annualised cost of \$500.

In order to ensure that the pilots employed by the AOC holder remain current they must undertake a flight review and a review for any endorsement held by the pilot that is used for the operations of the AOC holder, for example if the pilot undertakes aerial application for the AOC holder, this endorsement must be maintained with a review once per annum.

The frequency of flight reviews for pilots depend on the type of aircraft operation. For a single engine pilot in a small aeroplane or helicopter operating day VFR this would require a flight review once every 2 years at an estimated cost of \$1015 (Table A2). For the pilot operating a multiple engine aircraft the flight review is once per year at an estimated cost of \$1165 (Table A2). Most pilot ratings, including the commonly held instrument rating, require a review once per annum in order to maintain currency and would typically be done as part of pilot a flight review. Therefore if the pilot is authorised to operate a single engine aeroplane and holds an instrument rating, these pilots would be required to have an annual Instrument Proficiency Check.

Whilst not part of the current review of the requirements applying to AOC holders, the aircraft airworthiness standards impose a cost on operators. A charter operator must undertake 100 hourly inspections to maintain a Certificate of Airworthiness. The typical cost of 100 hourly inspection is \$2 000.

In addition, the maintenance requirements applying to charter aircraft require the engine to be overhauled according to the manufacturer's time limits, typically every 2000 hours. The engine overhaul costs are typically in the order of \$50 000 (Table A2).

Table A2: Ongoing AOC holder Compliance Costs

<i>Ongoing requirements</i>	Time to complete	CASA fees	Total cost	Annualised cost
Variations to manuals	0.5 days	\$300	\$250	\$550
Comply with audits	2 days		\$1 000	\$500
Pilot flight reviews (single engine, once every 2 years)	1 day		\$1 015	\$500
Pilot flight reviews (multi-engine, once per year)	1 day		\$1 165	\$1 165
Aircraft maintenance (100 hourly inspection in charter)	1 day		\$2 000	\$8 000
Engine overhaul every 2000 hours	1 week		\$50 000	\$12 500

The total cost of ongoing compliance will vary according to the number of pilots employed, hours flown and number of aircraft operated. For a current AOC charter operator employing 3 pilots, operating 2 single engine aircraft with a total of 1500 flight hours annual, the annual cost would be approximately \$46 128 (Table A3). This currently assumes that all operators employ multiple engine rated pilots.

Table A3: Compliance Cost by size of Operator

Operators	Number of pilots	Number of Aircraft	Variation to manuals	Comply with audits	Flight Reviews	Aircraft Maintenance	Engine Overhaul	Total
Single Pilot	1	1	\$550	\$500	\$1 165	\$8 000	\$12 500	\$22 715
2 to 5 pilots	3.5	2	\$550	\$500	\$4 078	\$16 000	\$25 000	\$46 128
6 to 20 pilots	11.5	5	\$550	\$500	\$13 398	\$40 000	\$62 500	\$116 948
20+	33	10	\$550	\$500	\$38 445	\$80 000	\$125 000	\$244 495

Appendix 3: Cost Impact for implementing and maintaining a Safety Management System

Upfront Costs

For small charter organisations employing less than 20 safety sensitive staff, it is anticipated that there is a requirement for the organisation to develop, implement and maintain a safety management system, and a program for training and assessing operational staff in human factors principles and non-technical skills. Training time for initial staff SMS induction training would be approximately 4 hours, with a further one to two days to set-up SMS process forms and spread sheets. A typical HF & NTS course would run for approximately 2 days. Therefore, the total SMS and HF & NTS training implementation for the organisation would be approximately five days.

For a medium-sized charter organisation employing between 20 to 50 personnel, the training time/costs would be similar to the smaller organisations, however, there would be an additional 2 days required for the safety manager/designate to ensure SMS process forms and spread sheets are fully integrated within the organisation's SMS. Induction would be ½ a day for all personnel, plus a 2-day HF & NTS course for all safety sensitive staff. Total SMS and HF & NTS training requirements for the organisation would be approximately 6 ½ days (1/2 – SMS induction and 2 – HF & NTS for all personnel plus 4 days for the safety manager/designate).

For larger charter organisations, employing more than 50 staff, the time cost will be similar to the small/medium organisations, however, the development and implementation of the SMS would take approximately 2 further days for the safety manager/department, plus an extra half a day to cover initial SMS induction training for all safety sensitive staff. Therefore, total SMS and HF & NTS training requirements would be approximately 9 days (2 x ½ day – SMS induction courses and 2 days – HF & NTS to cover all personnel plus 6 days for the safety manager/department).

On-going Costs

For the smaller charter organisations there will be an on-going requirement to provide staff with refresher training to cover both the organisation's SMS and HF & NTS principles and processes. This could be accomplished by 1 day per year for refresher training covering SMS and HF & NTS for all personnel. An additional 2 days per year is required to maintain/amend SMS policies and processes for the safety manager/designate. Therefore, the on-going requirement for SMS and HF & NTS would be approximately 3 days per year.

For the medium-sized charter organisations there will be increased on-going time costs due to maintenance of the SMS processes (hazard/incident reporting, internal audit, safety meetings and safety investigations) which will be undertaken by the person in the safety manager role. Approximately 5 to 10 days per year would be required by the safety manager/designate to maintain the SMS plus additional induction training as required, and approximately 1 day per year for all safety sensitive staff to cover SMS and HF & NTS refresher training requirements.

For the larger charter organisations there will be additional full-time time and costs for the safety department to cover the on-going maintenance and amendment of SMS processes including: safety reporting processes, safety meeting coordination, safety investigations similar to the medium organisations, however, larger in scale. The on-going training

time/cost for the safety department to cover SMS and HF & NTS induction and refresher training would be in the order of 24 days per year (based on 2 days per month, noting probable staff turn-over), as well as all safety sensitive staff having 1 day per year to cover refresher training for SMS and HF & NTS principles and processes.

Assumptions

- Small to medium organisations would most likely have a person in the safety manager role as a part-time appointment (a secondary duty) to maintain the organisation's SMS procedures, policies and processes
- HF & NTS training for the larger organisations would be carried out internally
- SMS induction and refresher training is carried out internally for all organisations
- Refresher training is an annual event for all safety sensitive personnel
- Time and cost considerations are approximate only, noting that each organisation will have SMS training and process requirements specifically 'tailored' for their operations

Appendix 4: Cost of flight reviews and operator proficiency checks

The cost of flight reviews is determined by the aircraft operating costs and the opportunity cost of staff time.

The typical operating cost for a single engine aircraft weighing less than 5700kg such as a Cessna 172 is approximately \$250 per hour. For multi-engine aircraft weighing less than 5700kg, the weighted average operating cost is approximately \$350 per hour.

The other significant cost of the review is the opportunity cost for the two pilots valued at \$80 per hour, which represents the hourly rate of a \$135 000 salary.

Table 4: Flight Review costs for single engine aircraft <5700kg

<i>Aircraft based cost components</i>	
Aircraft operating costs per hour ¹	\$250
Value of 1.5 hours of aircraft use	\$375.0
Pilot time ²	640
Total review cost	\$1 015.0

1: Average costs obtained from a survey of affected aircraft operators

2: Four hours for two pilots valued at \$80 per hour

Table 5: Competency Check costs for multi-engine aircraft <5700kg

<i>Aircraft based cost components</i>	
Aircraft operating costs per hour ¹	\$350
Value of 1.5 hours of aircraft use	\$525.0
Pilot time	640
Total review cost	\$1 165.0

1: Average costs obtained from a survey of affected aircraft operators

2: Four hours for two pilots valued at \$80 per hour.

Attachment B**Statement of Compatibility with Human Rights**

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Civil Aviation Safety Amendment (Part 138) Regulations 2018

This Legislative instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Disallowable Legislative Instrument

The *Civil Aviation Safety Amendment (Part 138) Regulations 2018* (the Regulations) amends the *Civil Aviation Safety Regulations 1998* (CASR) to introduce a new Part 138 which provides a regulatory framework for aerial work operations.

Subpart 138.A provides the application of Part 138. This Part applies for aerial work operations if the aircraft is an aeroplane or rotorcraft and Part 101 does not apply to the operation of the aircraft. It further provides that the Civil Aviation Safety Authority (CASA) may issue a Manual of Standards (MOS) for this Part, prescribing matters required or permitted by these Regulations to be prescribed by the Part 138 Manual of Standards or necessary or convenient to be prescribed for carrying out or giving effect to this Part. It also prescribes the approval requirements by CASA for this Part.

Subpart 138.B provides the regulatory framework for aerial work operations certification. It further provides for requirements of certain personnel and the organisation for aerial work operations with respect to responsibilities, qualifications, experience, training and checking, safety management, personnel fatigue, records and documents and operations manuals.

Subpart 138.C provides the general requirements for aerial work operations, including in relation to flight limitations, compliance with operational documents requirements and reporting and recording obligations for defects and incidents.

Under Subpart 138.D, the operational procedures for aerial work operations are prescribed. This includes flight preparation, flight planning, flight rules, take-offs and landings, fuelling requirements, carriage of aerial work passengers and cargo, requirements in relation to instruments, indicators, equipment and systems, as well as additional rules for external load operations, dispensing operations and task specialist operations.

Subpart 138.F provides the performance requirements for an aircraft used in aerial work operations, including the take-off and landing weights, and the compliance with performance class requirements.

Under Subpart 138.J, the procedures and requirements for loading aircraft used in aerial work operations, as well as the necessary weight and balance documents required, are prescribed.

Subpart 138.K prescribes the regulatory framework for instruments, indicators, equipment and systems for aerial work operations. This includes the instruments, indicators, equipment and system that are required to be fitted or carried, and the requirements relating to instruments, indicators, equipment and systems that are not required to be fitted or carried. It further provides the requirements of emergency and survival equipment.

Under Subpart 138.N, the requirements of flight crew members are prescribed.

Subpart 138.P prescribes the requirements of air crew members.

Non-compliance with a number of the stated requirements in Subparts 138.B to 138.P is an offence under the Regulations.

Human rights implications

The Regulations engage the following human rights:

- the right to a fair trial and fair hearing in Article 14 of the *International Covenant on Civil and Political Rights* (ICCPR);
- the right to protection against arbitrary and unlawful interference with privacy in Article 17 of the ICCPR; and
- the right to work and rights at work in Article 6(1) of the *International Covenant on Economic, Social and Cultural Rights* (ICESCR).

The right to a fair trial and fair hearing: presumption of innocence

Article 14 of the ICCPR provides that in the determination of a criminal charge, everyone shall be entitled to a fair and public hearing by a competent, independent and impartial tribunal established by law. Further, in criminal proceedings, people are entitled to a range of protections including minimum guarantees as set out in Article 14(3) and following of the ICCPR.

The presumption of innocence in Article 14(2) imposes on the prosecution the burden of proving the charge and guarantees that no guilt can be presumed until the charge has been proven beyond reasonable doubt. For the charge to be proven beyond reasonable doubt, the legal and evidential burden is on the prosecution.

Strict liability offence provisions

There are 61 offences of strict liability prescribed in the Regulations.

Strict liability offences engage the presumption of innocence through the imposition of liability without the need to prove fault. A strict liability offence will not impermissibly limit the right to the presumption of innocence if the offence pursues a legitimate aim and is reasonable, necessary and proportionate to that aim.

Nature of strict liability provisions

Subpart 138.B provides strict liability offence provisions relating to certification to conduct aerial work operations, including in relation to:

- the requirement for certification for certain operations
- compliance with conditions of aerial work certificates
- changes relating to aerial work operators

- compliance with CASA directions
- organisation and personnel requirements
- management of personnel fatigue
- operations manuals requirements
- requirements relating to personnel training records and other documents
- qualifications of pilots in command
- maintaining a reference library
- use of foreign registered aircraft in Australian territory.

Subpart 138.C provides strict liability offence provisions relating to general flight limitations in aerial work operations, including:

- permitted categories of aircraft
- compliance with flight manual instructions
- availability of operational documents and checklists.

Subpart 138.D provides strict liability offence provisions relating to operational procedures for aerial work operations, including:

- flight preparation and required flight planning instruments and journey logs
- requirements for flight planning information
- fuel requirements
- carriage of aerial work passengers
- night vision equipment and supplementary oxygen
- risk management
- seatbelts and other restraint devices
- additional rules for external load operations, dispensing operations and task specialist operations.

Subpart 138.F provides strict liability offence provisions relating to aircraft performance in aerial work operations, including:

- take-off and landing weights
- adherence to aircraft performance class requirements.

Subpart 138.J provides strict liability offence provisions relating to the weight and balance requirements for aircraft used in aerial work operations, including:

- loading of aircraft and the required procedures
- required weight and balance documents.

Subpart 138.K provides a strict liability offence provision relating to instruments, indicators, equipment and systems that are required to be fitted or carried for aerial work operations.

Subpart 138.N provides strict liability offence provisions relating to flight crew used on aerial work operations, including:

- the composition, number, qualification and training requirements
- required training for new or inexperienced flight crew members
- competence requirements
- assignment to duty of pilot in command and the requirements of the position
- additional qualifications and training requirements for certain operators.

Subpart 138.P provides strict liability offence provisions relating to air crew members and aerial work specialists for aerial work operations, including in relation to:

- the composition, number, qualification and training requirements
- required training for new or inexperienced air crew members and aerial work specialists
- competence requirements.

Reasonableness, necessity and proportionality

The strict liability offences relate to administrative and safety requirements that must be adhered to by regulated individuals and operators involved in the aviation industry to ensure the integrity of the aviation safety system. The imposition of strict liability offences in the amendments limits the right to the presumption of innocence. However, the limitation is necessary to ensure that operators and pilots in command of aircraft, and other listed individuals, are subject to appropriate safety-related obligations in relation to aerial work operations under Part 138. The limitations also ensure that CASA retains oversight over such persons as is necessary to ensure the safety of air navigation.

The rationale is that people who perform activities that engage with safety risk should be expected to be aware of their duties and obligations. In the context of aerial work operations, a defendant can reasonably be expected to know what conduct is required by the law, and the mental, or fault, element can justifiably be excluded.

Further, the defence of honest and reasonable mistake, as set out in section 9.2 of the *Criminal Code Act 1995*, will be available to the defendant in all offence provisions. If relied upon, this is an evidential burden on the defence to prove, on the balance of probabilities, that the accused had an honest and reasonable mistaken belief of fact which, if those facts existed, would not have constituted an offence.

The strict liability offences in this instrument are considered reasonable, necessary and proportionate to the objective of ensuring aviation safety. The offences are regulatory in nature and their aim is to ensure reasonable compliance with regulated safety standards by those conducting activities which are otherwise intrinsically or potentially unsafe unless such high standards of compliance are met. Not having to prove fault in the relevant circumstances aims to provide a strong deterrent. To this extent, and in this context, they are consistent with other safety-focused regulatory regimes and do not unreasonably or impermissibly limit the presumption of innocence. The offences are designed to achieve the legitimate objective of ensuring the safety and integrity of the aviation industry and the public.

The offences are also proportionate in that they fall at the lower end of the penalty scale, not exceeding 50 penalty units, and are otherwise consistent with the guidance in *A Guide to Framing Commonwealth Offences, Infringement Notices and Enforcement Powers*, September 2011 (AGD Guide).

Reversal of burden of proof provisions

A total of 3 of the strict liability offence provisions impose a reversed burden of evidential proof on the accused. The nature of these provisions can be found in Table 1 below.

The burden of proof has been reversed only to establish a defence to an offence provision, once prosecution discharges the legal and evidential burden of proof in establishing the offence. The burden of adducing or pointing to evidence must only suggest a reasonable possibility that the matter exists or does not exist. This is in accordance with subsection 13(3)(6) of the Criminal Code.

Aim

The aim of CASA and its regulatory framework, including Part 138 of the Civil Aviation Safety Regulations, is to uphold aviation safety by prescribing the conduct of persons involved in civil aviation operations.

The provisions reversing the burden of proof pursue this aim as they are each attached to a defence to a strict liability offence in circumstances where the defence relates to a safe aviation practice.

Reasonableness, necessity and proportionality

The AGD Guide states that provisions that reverse the evidential burden of proof are permissible for either or both of the following justifications:

- the relevant information or evidence is peculiarly within the knowledge of the defendant;
- it is significantly more difficult and costly for the prosecution to disprove the matter than for the defendant to establish.

Each reversal of onus provision in the Regulations affords a defendant the opportunity to adduce evidence of specific aviation practices, of a kind contemplated by the offence provisions, that are safe despite contravening the general rule in the offence provision.

The table below details each defence provision giving rise to a reversal of the evidential burden of proof, describes the factual matter that is the subject of the reversal of the burden, and sets out the justification for the reversal of the burden.

The factual matters may not be the subject of documentary evidence, for example because they relate to matters of judgement by the defendant, or are matters relating to a particular flight that are subject to actions only. In each case, due to the nature of the information, it is significantly easier for the defendant to establish the defence as it relates to information within the control of the defendant, and/or is a matter peculiarly within the knowledge of the defendant.

In addition:

- the offence provisions to which a defence with the reversed onus is provided carry relatively low penalties, not exceeding 50 penalty units

- the proscribed conduct relates to the safe operation of aircraft or the integrity of the regulatory scheme for the safety of air navigation, and therefore relates to matters that potentially pose a danger to public safety
- CASA expects that in each case the facts in relation to a defence can be readily and cheaply provided by the defendant.

For example, in item 1 of the table, the matter is that circumstances prescribed by the Part 138 Manual of Standards exist for the flight in relation to a requirement or limitation in an aircraft flight manual, where the requirement or limitation is of a kind prescribed by the Part 138 Manual of Standards for those circumstances. Whether or not those circumstances exist in a particular case to justify the action to avoid criminal liability may not be known to, and not readily ascertainable by, CASA, and would not generally be set out in documentation regulated by CASA. In these circumstances it would be relatively impractical for CASA to disprove all such circumstances. Further, it is a matter of judgment for the defendant, and within the knowledge of the defendant in relation to the particular case.

Due to the nature of the matter and the knowledge of the defendant, the matter will be difficult and costly for the prosecution to disprove, and significantly cheaper for the defendant to establish.

Exemptions to offences, and justification of the reversed burden of proof		
Item	Provision description	Justification for reversal of evidential burden of proof
1	Subregulation 138.210(3) provides that subregulation 138.210(2) does not apply to a requirement or limitation in aircraft flight manual instructions if circumstances prescribed by the Part 138 Manual of Standards apply to the aircraft for the flight.	Whether or not a particular circumstances exists for a particular requirement or limitation in a case will be peculiarly within the knowledge of the defendant. It will be significantly more difficult and costly for the prosecution to disprove all such circumstances than for the defendant to establish any one of them.
2	Subregulation 138.315(2) provides subregulation 138.315(1) does not apply if circumstances prescribed by the Part 138 Manual of Standards for the purposes of this subregulation apply to the aircraft and the operation.	Whether or not a prescribed circumstances apply for the carriage of more than 9 aerial work passengers on a particular flight will be

Exemptions to offences, and justification of the reversed burden of proof		
Item	Provision description	Justification for reversal of evidential burden of proof
		peculiarly within the knowledge of the defendant for the flight. It will be significantly more difficult and costly for the prosecution to disprove the existence of all such circumstances than for the defendant to establish any one of them.
3	Subregulation 138.415(3) provides subregulation 138.415(2) does not apply if the dispensing operation is of a kind prescribed by the Part 138 Manual of Standards.	Whether or not a particular circumstances exists for a particular dispensing operation will be peculiarly within the knowledge of the defendant. It will be significantly more difficult and costly for the prosecution to disprove the existence of all prescribed circumstances than for the defendant to establish any one of them.

Implication on right to presumption of innocence

The provisions reversing the evidential burden of proof are consistent with the presumption of innocence, as they are within reasonable limits which take into account the importance of the objective being sought while maintaining the defendant's right to a defence. In particular, the burden is only reversed where the matter to be established is peculiarly within the knowledge of the defendant in particular circumstances, and/or the matter is costly for the prosecution to disprove and significantly cheaper for the defendant to establish.

The right to a fair trial and fair hearing: right to an effective remedy

A person affected by decisions under the Regulations has rights of merit review in accordance with regulation 201.004 of CASR, in addition to administrative law rights under the *Administrative Decisions (Judicial Review) Act 1977* (Cth) and general principles of Australian administrative law. As such, the rights of persons under the Regulations are linked to existing mechanisms that promote an individual's right to an effective remedy.

Right to protection against arbitrary and unlawful interference with privacy

Article 17 of the ICCPR provides that no one shall be subjected to arbitrary or unlawful interference with their privacy, family, home or correspondence, or to unlawful attacks on honour and reputation. It further provides that everyone has the right to the protection of the law against such interference or attacks.

Regulation 138.130 prescribes a training and checking system must be included for flight crew. If the operator has a contract with a person for the person to conduct the training or checking of the operator's personnel, the training and checking system must include details of the person. The information is required so that documents that identify who has conducted training and checking activities are available for safety regulatory purposes. The person may be a natural person, but will usually be a body corporate.

Regulation 138.140 prescribes a training and checking system for operational safety-critical personnel who are not flight crew. If the operator has a contract with a person for the person to conduct the training or checking of other operational safety-critical personnel for the operator, the training and checking system must include details of the person. The information is required so that documents that identify who has conducted training and checking activities are available for safety regulatory purposes. The person may be a natural person, but will usually be a body corporate.

Regulation 138.170 prescribes the making of documents about training records, qualifications, certificates and experience relating to flight crew members. The information is required so that documents that demonstrate whether a person is authorised and competent to act as a flight crew member for a Part 133 operation are available for checking by operators for quality assurance purposes and by CASA for safety regulatory purposes.

Regulation 138.175 makes provision for the disclosure of documents about training records, qualifications, certificates and experience relating to flight crew members, either to the flight crew member or to another aerial work operator with the person's authority. This is to enable flight crew members to transfer their records between potential employers.

Regulation 138.180 makes provision for an aerial work operator to retain copies of the medical certificate and flight crew licence of its flight crew members. The information is required so that documents that demonstrate whether a person is authorised to act as a flight crew member for a Part 133 operation are available for checking by operators for quality assurance purposes and by CASA for safety regulatory purposes.

The requirements in the abovementioned regulations involve activities of one or more of the collecting, recording and storing of personal information. For the reasons stated above in relation to each provision, the requirements are reasonable, necessary and proportionate to achieve the fulfilment of specific safety objectives, including the protection the protection of the integrity of the safety regulatory scheme by ensuring that information is available about who is performing activities affecting safety and demonstrating that they are appropriately authorised and competent.

The protections afforded by the *Privacy Act 1988* continue to apply.

To the extent that the Regulations limit the privacy-related rights in Article 17 of the ICCPR, those limitations are reasonable, necessary and proportionate for safety purposes, consistent with the objects of the Act.

Right to work and rights at work

The Regulations may engage the right to work that is protected under Article 6 (1) of ICESCR. This right includes the right of everyone to the opportunity to gain their living by work which they freely choose or accept.

The right to work may be engaged by subregulation 138.065(2) under which CASA may, by written notice given to an aerial work operator, direct the operator to remove any of the operator's key personnel from the person's position if satisfied that the person is either not carrying out their prescribed safety responsibilities, or, if the person is the chief executive officer (CEO), the person is not properly managing the prescribed safety matters for which he or she is responsible and therefore accountable. Under subregulation 138.065(4) and (5), an aerial work operator commits a strict liability offence if CASA gives the operator a direction under subregulation 138.065(2) and the operator does not comply with the direction within the time specified in the written notice.

An aerial work operator's key personnel, in particular its CEO, have fundamental and critical responsibilities which go to ensure the safety of the operator's operations. For example, under regulation 138.085, the CEO has responsibilities and accountabilities in relation to safety policy, safety performance, management structure, adequacy of finances, competency of personnel, compliance with aviation safety laws, and any safety management system. The CEO is accountable to CASA for the safety of the operations.

Other key safety-related responsibilities imposed on key personnel in the form of the head of operations (regulation 138.095), the head of training and checking (regulation 138.105), the safety manager (regulation 138.115). The Regulations prescribe requirements that key personnel must satisfied to ensure that they are highly qualified and experienced for the performance of their crucial roles.

Failure by any of the key personnel to properly and prudently discharge their responsibilities would place the safety of flying operations, flight crews, aerial work passengers and persons and property on the ground in jeopardy. A key person must be removed and replaced if he or she fails, for whatever reason, to properly and prudently discharge their responsibilities. Given the nature and status of the persons involved most responsible operators will take prompt removal action of their own initiative in the interests of the safety of their operations.

However, in the interests of aviation safety CASA requires power to direct the removal of a key person where there is a failure to discharge their safety responsibilities under the regulations, regardless of any action that an operator may or may not have taken.

This is, in the circumstances, a reasonable, necessary and proportionate requirement under aviation safety law to ensure compliance with the regulations and the integrity of the aviation safety system. The right of relevant persons to the opportunity to gain their living by work is recognised, however, that right would be lost if the person fails to carry out their responsibilities in such a safety-critical industry as aviation. Accordingly, any potential limitation on the right to work is necessary, reasonable and proportionate in achieving the aim of protecting and improving aviation safety.

Conclusion

This legislative instrument is compatible with human rights and, to the extent that it may limit human rights, those limitations are reasonable, necessary and proportionate to ensure the safety of aviation operations and to promote the integrity of the aviation safety system.

Attachment C**Details of the *Civil Aviation Safety Amendment (Part 138) Regulations 2018*****Section 1 – Name of Regulations**

Section 1 provides that the title of the Regulations is the *Civil Aviation Safety Amendment (Part 138) Regulations 2018*.

Section 2 – Commencement

Section 2 provides for the Regulations to commence on 25 March 2021.

Section 3 – Authority

Section 3 provides that the *Civil Aviation Safety Amendment (Part 138) Regulations 2018* is made under the *Civil Aviation Act 1988*.

Section 4 – Schedules

Section 4 provides that each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.

Schedule 1 - Amendments**Part 1 Main Amendments**

Civil Aviation Safety Regulations 1998

Item 1 – Part 138

Item 1 repeals the existing Part 138 – Search and rescue operations that is reserved for future use and substitutes a new Part 138 – Aerial work operations that comprises 9 Subparts listed in the Table of Contents.

Subpart 138.A—Preliminary

This Subpart provides the application, key definitions, approvals processes and empowerment to issue a Manual of Standards (MOS) for Part 138.

Regulation 138.005 – Application of Part 138

Subregulation 138.005(1) prescribes that this Part applies in relation to the operation of an aircraft for an aerial work operation if the aircraft is an aeroplane or rotorcraft, and Part 101 does not apply to the operation of the aircraft.

Subregulation 138.005(2) prescribes that a provision of this Part does not apply in relation to the operation of an aircraft if the aircraft is engaged in a police, national security or customs operation, or a search and rescue operation conducted by or at the request of a search and rescue body, and in the circumstances, it is reasonable that the provision does not apply to the operation.

Subregulation 138.005(3) prescribes that a provision of this Part, or the Part 138 MOS, applies in relation to an operator of an aircraft for an aerial work operation only if the operator holds an aerial work certificate.

Subregulation 138.005(4) prescribes that, despite subregulation (3), a provision of this Part, or the Part 138 MOS, applies in relation to an operator or an aircraft for an aerial work operation if the provision is expressed to apply, whether or not the operator holds an aerial work certificate.

Regulation 138.010 – Definition of *aerial work operation* etc.

Subregulation 138.010(1) prescribes that *aerial work operation* means one or more of the following kinds of operation: an external load operation, a dispensing operation, a task specialist operation.

Subregulation 138.010(2) prescribes that *external load operation* means carrying or towing a load outside an aircraft in flight and includes training for such an operation.

Subregulation 138.010(3) prescribes that *dispensing operation* means dropping or releasing any substance or object from an aircraft in flight and includes training for such an operation.

Subregulation 138.010(4) prescribes that *task specialist operation* means carrying out a specialised activity using an aircraft in flight and includes training for such an activity.

Subregulation 138.010(5) prescribes that an *aerial work operation* does not include the following: a medical transport operation; an external load operation involving winching a person if the operation is conducted as part of an air transport operation; glider towing; a person undertaking a parachute descent; an aerial application operation conducted under Part 137 (including any external load operation undertaken as part of that operation) to apply fire retardants or oil or chemical dispersants; any other aerial application operation; any other operation of a kind prescribed by the Part 138 MOS.

The significant variability of operational purposes and methods of conducting aerial work operations requires a level of flexibility to be constructed within this prescription of what is not an aerial work operation. It is for this purpose that the subregulation provides for the Part 138 MOS to prescribe other operations that are not be an aerial work operation.

Regulation 138.015 – Definition of *aerial work specialist*

Subregulation 138.015(1) prescribes that an *aerial work specialist*, for an aerial work operation, means 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.

Subregulation 138.015(2) prescribes that despite subregulation (1), an *aerial work specialist* includes a crew member of a kind prescribed by the Part 138 MOS and does not include a crew member of a kind prescribed by the Part 138 MOS.

The significant variability of operational purposes and methods of conducting aerial work operations requires a level of flexibility to be constructed within this prescription of the crew members that are, and are not, aerial work specialists. It is for this purpose that the regulation provides for the Part 138 MOS to prescribe specific variables of crew members that would, and would not, become aerial work specialists under subregulation (1).

Regulation 138.020 prescribes that, for subsection 98(5A) of the Civil Aviation Act, CASA may issue a MOS for this Part, prescribing matters required or permitted by Part 138 to be prescribed by the Part 138 MOS, or necessary or convenient to be prescribed for carrying out or giving effect to Part 138.

Regulation 138.025 – Approvals by CASA for Part 138

Subregulation 138.025(1) prescribes that if a provision of this Part refers to a person holding an approval under this regulation, the person may apply to CASA, in writing for the approval.

Subregulation 138.025(2) prescribes that subject to regulation 11.055, CASA must grant the approval.

Subregulation 138.025(3) prescribes that subregulation 11.055(1B) applies to the granting of an approval under this regulation for either paragraph 138.090(2)(a) or 138.100(3)(a).

Subpart 138.B – Certification

This Subpart provides the certification mechanism, key personnel requirements, operations manual requirements, training and checking requirements and safety management system requirements and other ancillary matters pertaining to the holding of the civil aviation authorisation that is an aerial work certificate.

Division 138.B.1—Requirement for certification for certain operations

Regulation 138.030 – Requirement to hold aerial work certificate

Subregulation 138.030(1) prescribes that a person contravenes this subregulation if the person conducts an aerial work operation (other than an aerial work operation covered by subregulation 138.030(2)) and the person does not hold an aerial work certificate that authorises the person to conduct the operation.

Subregulation 138.030(2) prescribes that an aerial work operation is covered by this subregulation if either or both of the following apply. Firstly, the operation is spotting or photography and no remuneration is received by either the pilot, the person mentioned in subregulation 138.030(3) or a person or organisation on whose behalf the operation is conducted. Secondly, the operation is conducted over land owned or occupied by the person mentioned in subregulation 138.030(3) and is not conducted over a populous area or public gathering and is not an external load operation involving the carriage of a person as an external load.

Subregulation 138.030(3) prescribes that the person is, if the aircraft is required to be registered – the registered operator of the aircraft or, otherwise – the owner of the aircraft.

Subregulation 138.030(4) prescribes that a person commits an offence if the person contravenes subregulation 138.030(1). This is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.B.2—Aerial work certificates

Regulation 138.035 – Application for aerial work certificate

Subregulation 138.035(1) prescribes that a person may apply to CASA, in writing, for an aerial work certificate.

Subregulation 138.035(2) prescribes that what must be included in the application.

Subregulation 138.035(3) prescribes what must accompany the application.

Subregulation 138.035(4) prescribes that the application must be signed by the person appointed, or proposed to be appointed, as the chief executive officer of the applicant's organisation.

Regulation 138.040 – Issue of aerial work certificate

Subregulation 138.040(1) prescribes, subject to regulation 11.055, the items which CASA must be satisfied the application meets to issue the certificate.

Subregulation 138.040(2) prescribes, without limiting the matters CASA may consider, the matters CASA must consider for paragraph 138.040(1)(b).

Subregulation 138.040(3) prescribes, for subparagraph 138.040(1)(h)(i), that the matters that CASA may consider in deciding whether a person is a fit and proper person include the matters mentioned in subregulation 11.055(4).

Subregulation 138.040(4) prescribes that if CASA decides to issue the certificate, CASA must determine the aerial work operations the applicant is authorised to conduct, including any limitations or conditions in relation to the aerial work operations.

Subregulation 138.040(5) prescribes that the certificate has to include the matters mentioned in subregulation 138.040(4) and a certificate reference number determined by CASA.

Regulation 138.045 prescribes that CASA is taken to have approved the applicant's proposed operations manual, training and checking manual (if any), and safety management system manual (if any), if CASA issues the certificate to the applicant.

Regulation 138.050 – Conditions of aerial work certificates

Subregulation 138.050(1) prescribes the conditions of an aerial work certificate issued to an aerial work operator.

Subregulation 138.050(2) prescribes, for subparagraphs 138.050(1)(g)(i) and (ii), the period of time the positions of chief executive officer and the safety manager may be occupied by the same person, or the period of time the positions of head of operations and safety manager may be occupied by the same person. The period is either no more than 7 consecutive days for each unforeseen circumstance or, if the operator holds an approval under regulation 138.025 in relation to an unforeseen circumstance, the period mentioned in the approval for the unforeseen circumstance.

Regulation 138.055 – Compliance with conditions of aerial work certificates

Subregulation 138.055(1) prescribes that an aerial work operator contravenes this regulation if the operator contravened a condition of its aerial work certificate.

Subregulation 138.055(2) prescribes that a person commits an offence if the person contravenes subregulation 138.055(1). This is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.B.3—Changes relating to aerial work operations

Regulation 138.060 – Operator must keep operations manual up-to-date

Subregulation 138.060(1) prescribes that an aerial work operator contravenes this regulation if the operator does not keep the operator's operations manual up-to-date.

Subregulation 138.060(2) prescribes that a person commits an offence if the person contravenes subregulation 138.060(1). This is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.065 – CASA directions relating to operations manual or key personnel

This regulation prescribes the directions which CASA may provide to an operator to amend their operations manual or key personnel.

Subregulation 138.065(1) prescribes that if CASA is satisfied that it was necessary in the interests of aviation safety, they may direct an aerial work operation to change its operations manual to remove, include or revise or vary particular information, procedures or instructions with respect to the operation manual.

Subregulation 138.065(2) prescribes that CASA may direct an aerial work operator to remove any of the operator's key personnel from the person's position if satisfied that the person is not carrying out the responsibilities of the position, or, in the case of the chief executive officer, is not properly managing matters for which the person is accountable.

Subregulation 138.065(3) prescribes that a direction under this regulation must be in writing and state the time within which the direction must be complied with.

Subregulation 138.065(4) prescribes that an aerial work operator contravenes this subregulation if CASA gave the operator a direction under this regulation and the operator does not comply with the direction within the time stated in the direction.

Subregulation 138.065(5) prescribes that contravention of subregulation 138.065(4) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.B.4—Organisation and personnel

Regulation 138.070 – Organisation and personnel

Subregulation 138.070(1) prescribes that an aerial work operator must maintain an organisational structure that effectively manages the operator's aerial work operations, considering the size, nature and complexity of the operations.

Subregulation 138.070(2) prescribes that an aerial work operator contravenes this subregulation if any of the operator's key personnel carries out a responsibility of the person's position in a way that contravenes the operator's operations manual or Subpart 138.B.

Subregulation 138.070(3) prescribes that a person commits an offence if the person contravenes subregulation 138.070(2). This is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.075 – Key personnel cannot carry out responsibilities

Subregulation 138.075(1) prescribes that an aerial work operator contravenes this subregulation if the operator becomes aware that any of its key personnel cannot carry out, or is likely to be unable to carry out, the person's responsibilities for a period of longer than 30 days, and the operator does not tell CASA of this within the time mentioned in subregulation 138.075(2).

Subregulation 138.075(2) prescribes that the time is 24 hours after the operator becomes aware of the matter (if there is not another person authorised to carry out the responsibilities for all or part of the period), or 3 days after the operator became aware of the matter (if there is another person authorised to carry out the responsibilities for all or part of the period).

Subregulation 138.075(3) prescribes that contravention of subregulation 138.075(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This regulation prescribes the requirements for an aerial work operator to prevent key personnel from not carrying out responsibilities.

Regulation 138.080 prescribes that an aerial work operator must ensure that, before a person is appointed as any of the operator's key personnel began to carry out the responsibilities of the position, the person has completed any training necessary to familiarise the person with the responsibilities.

Regulation 138.085 – Responsibilities and accountabilities of chief executive officer

Subregulation 138.085(1) prescribes the responsibilities of the chief executive officer.

Subregulation 138.085(2) provides that the chief executive officer is accountable to the operator and CASA for ensuring the responsibilities mentioned in subregulation 138.085(1) are carried out effectively.

Regulation 138.090 – Qualifications and experience of head of operations

Subregulation 138.090(1) prescribes the qualifications, experience and other matters required for the head of operations of an aerial work operator.

Subregulation 138.090(2) prescribes, for paragraph 138.090(1)(c), that the experience required is:

- if the operator holds an approval under regulation 138.025, the experience mentioned in paragraph 138.090(3)(a) or (b); or
- if the operator does not hold an approval under regulation 138.025, the experience mentioned in both paragraphs 138.090(3)(a) and (b).

Subregulation 138.090(3) prescribes that the experience mentioned in subregulation 138.090(2) is the following:

- (a) at least 300 hours flight time on an aircraft of the category (within the meaning of Part 61 of CASR) used to conduct the greatest proportion of the operator's aerial work operations
- (b) at least 6 months experience in the conduct or management of air operations.

Subregulation 138.090(4) prescribes that CASA may give written notice to a head of operations or a proposed head of operations of an aerial work operator directing the person to undertake an assessment mentioned in subregulation 138.090(5).

Subregulation 138.090(5) prescribes that the assessment for subregulation 138.090(4) is an assessment conducted by CASA or a person nominated by CASA to demonstrate a person's suitability as head of operations for the operator and may include assessment in an aircraft or flight simulation training device.

Subregulation 138.090(6) prescribes the meaning of *category* for this regulation.

Regulation 138.095 – Responsibilities of head of operations

Subregulation 138.095(1) prescribes that the head of operations of an aerial work operator must safely manage the operator's aerial work operations.

Subregulation 138.095(2) prescribes, without limiting subregulation 138.095(1), a non-exhaustive list of the responsibilities of the head of operations for an aerial work operation.

Regulation 138.100 – Qualifications and experience of head of training and checking

Subregulation 138.100(1) prescribes that this regulation applies to an aerial work operator that is required by regulation 138.125 to have a head of training and checking.

Subregulation 138.100(2) prescribes the qualifications, experience and other matters required for the head of training and checking.

Subregulation 138.100(3) prescribes, for paragraph 138.100(2)(c), that the experience required is either:

- if the operator holds an approval under regulation 138.025, the experience mentioned in paragraph 138.100(4)(a) or (b)
- if the operator does not hold an approval under regulation 138.025, the experience mentioned in both paragraphs 138.100(3)(a) and (b).

Subregulation 138.100(4) prescribes that the experience mentioned in subregulation 138.100(3) is the following:

- (a) at least 300 hours flight time conducting training in an aircraft of the category (within the meaning of Part 61 of CASR) used to conduct the greatest proportion of the operator's aerial work operations
- (b) at least 6 months experience in the conduct or management of air operations.

Subregulation 138.100(5) prescribes that CASA may give written notice to a head of training and checking or a proposed head of training and checking of an aerial work operator directing the person to undertake an assessment mentioned in subregulation 138.100(6).

Subregulation 138.100(6) prescribes that the assessment for subregulation 138.100(5) is an assessment conducted by CASA or a person nominated by CASA to demonstrate suitability as head of training and checking for the operator and may include assessment in an aircraft or flight simulation training device.

Subregulation 138.100(7) prescribes the meaning of *category* for this regulation.

Regulation 138.105 – Responsibilities of head of training and checking

Subregulation 138.105(1) prescribes that this regulation applies to an aerial work operator that is required by regulation 138.125 to have a training and checking system.

Subregulation 138.105(2) prescribes that the head of training and checking must safely manage the recurrent training and checking activities of the operator for the operator's flight crew.

Subregulation 138.105(3) prescribes, without limiting subregulation 138.105(2), a non-exhaustive list of the responsibilities of the head of training and checking.

Regulation 138.110 – Experience of safety manager

Subregulation 138.110(1) prescribes that this regulation applies to an aerial work operator that is required by regulation 138.140 to have a safety management system.

Subregulation 138.110(2) prescribes that the experience and other requirements for the operator's safety manager.

Regulation 138.115 – Responsibilities of safety manager

Subregulation 138.115(1) prescribes that this regulation applies to an aerial work operator that is required by regulation 138.140 to have a safety management system.

Subregulation 138.115(2) prescribes that the safety manager must manage the operator's safety management system.

Subregulation 138.115(3) prescribes, without limiting subregulation 138.115(2), a non-exhaustive list of the responsibilities of the safety manager.

Regulation 138.120 – Additional qualifications and experience requirements for key personnel

Subregulation 138.120(1) prescribes that this regulation applies to an applicant for an aerial work certificate, or to an aerial work operator.

Subregulation 138.120(2) prescribes that CASA may, by written notice given to the applicant or operator, direct that any of the key personnel of the applicant or operator must have stated additional qualifications or experience to those otherwise required under this Subpart.

Subregulation 138.120(3) prescribes that CASA may, if satisfied that it is necessary in the interests of aviation safety, by written notice given to a person who is, or is proposed to be, any of the key personnel of the applicant or operator, direct the person to undertake a stated examination, be interviewed by CASA or complete a stated training course.

Subregulation 138.120(4) prescribes that, in deciding whether to give a direction under this regulation, CASA must have regard to, but is not limited to considering, a number of prescribed criteria.

Division 138.B.5—Training and checking

Regulation 138.125 – Operators who are required to have a training and checking system

Subregulation 138.125(1) prescribes that an aerial work operator who conducts certain matters prescribed in this subregulation or by the Part 138 MOS, must have a training and checking system.

Subregulation 138.125(2) prescribes that despite subregulation (1), an aerial work operator is not required to have a training and checking system if circumstances prescribed by the Part 138 MOS applies to the aeroplane or rotorcraft and the operation.

Subregulation 138.125(3) prescribes that the training and checking system must meet the requirements of regulations 138.130 and 138.135.

The significant variability of aerial work operations requires a level of future flexibility to be constructed within this regulation regarding which aerial work operators is required to have a training and checking system. It is for this purpose that subregulation 138.125(2) provides for the Part 138 MOS to prescribe aerial work operators that are not required to have a training and checking system.

Regulation 138.130 – Requirements for flight crew

Subregulation 138.130(1) prescribes that this regulation applies to an operator of an aeroplane or rotorcraft that is required by regulation 138.125 to have a training and checking system.

Subregulation 138.130(2) prescribes that, despite subregulation (1), the regulation does not apply to training that the operator is authorised to conduct as a Part 141 operator, or to training or checking that the operator is authorised to conduct as a Part 142 operator.

Subregulation 138.130(3) prescribes that that the training and checking for flight crew, including recurrent training and line checking, must include the matters mentioned in subregulation (4).

Subregulation 138.130(4) prescribes the matters that must be included in the training and checking system.

Subregulation 138.130(5) prescribes that, without limiting paragraph 138.130(4)(a), the description of the operator's training and checking system must include the matters listed in this subregulation.

Regulation 138.135 – Requirements for other operational safety-critical personnel

Subregulation 138.135(1) prescribes the matters that must be included in the training and checking system in relation to operational safety-critical personnel who are not flight crew.

Subregulation 138.135(2) prescribes that, without limiting paragraph (1)(a), the description of how training and checking, including recurrent training, for the relevant personnel is conducted by or for the operator must include the matters listed in this subregulation.

Division 138.B.6—Safety management system

Regulation 138.140 – Operators who are required to have a safety management system

Subregulation 138.140(1) prescribes that an aerial work operator who conducts one or more of the listed aerial work operations must have a safety management system.

Subregulation 138.140(2) prescribes that an aerial work operator is not required to have a safety management system for an aerial work operation that is conducted in an aeroplane or rotorcraft if circumstances prescribed by the Part 138 MOS apply to the aeroplane or rotorcraft and the operation.

Subregulation 138.140(3) prescribes that the safety management system must meet the requirements of regulation 138.145.

Regulation 138.145 prescribes the matters that must be included in a safety management system.

Division 138.B.7—Personnel fatigue management

Regulation 138.150 – Operators who are required to have a crew fatigue management system

Subregulation 138.150(1) prescribes that this regulation applies to an aerial work operator that conducts aerial work operations of a kind prescribed by the Part 138 MOS for this subregulation.

Subregulation 138.150(2) prescribes that the aerial work operator must have a system for managing crew fatigue that meets the requirements prescribed by the Part 138 MOS for the purposes of this regulation.

Subregulation 138.150(3) prescribes that a person commits an offence if they contravene subregulation 138.150(2). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Division 138.B.8—Operations manuals

Regulation 138.155 – Content of operations manual

Subregulation 138.155(1) prescribes that the operations manual for an aerial work operator must include any matter prescribed by the Part 138 MOS or required to be included in the operations manual by CAR or CASR.

Subregulation 138.155(2) prescribes that an aerial work operator contravenes this subregulation if the operator's operations manual does not comply with subregulation 138.155(1).

Subregulation 138.155(3) prescribes that a person commits an offence if they contravene subregulation 138.155(2). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Regulation 138.160 – Compliance with operations manual by personnel

Subregulation 138.160(1) prescribes that a member of the aerial work operator's personnel contravenes this subregulation if the member is subject to a requirement in relation to the aircraft under the operator's operations manual, and the requirement relates to the operation of the aircraft, or to the safety of the aircraft, a person on board the aircraft or a person in the vicinity of the aircraft, and the member does not meet the requirement.

Subregulation 138.160(2) prescribes that an aerial work operator contravenes this subregulation if a member of the aerial work operator's personnel is subject to a requirement in relation to the aircraft under the operator's operations manual, and the requirement relates to the operation of the aircraft, or to the safety of the aircraft, a person on board the aircraft, or a person in the vicinity of the aircraft, and the member does not meet the requirement.

Subregulation 138.160(3) prescribes that a person commits an offence if they contravene subregulation 138.160(1) or (2). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Regulation 138.165 – Providing personnel with operations manual

Subregulation 138.165(1) prescribes that an aerial work operator contravenes this subregulation if the operator’s operations manual relates to a duty or responsibility of a person who is a member of the operator’s personnel, and the operator does not make available the part of the operations manual that relates to the duty or responsibility available to the person before the person first begins to carry out the duty or responsibility.

Subregulation 138.165(2) prescribes that a person commits an offence if they contravene subregulation 138.165(1). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Division 138.B.9—Records and documents

Regulation 138.170 – Personnel training and checking records

Subregulation 138.170(1) prescribes that an aerial work operator contravenes this subregulation if a person who is a member of the operator’s personnel undertakes a training activity, obtains a qualification or certificate relating to aerial work operations or gains flying experience, and specified records are not made within 21 days after the person undertakes the activity, obtains the qualification or certificate, or gains the experience.

Subregulation 138.170(2) prescribes that a person commits an offence if they contravene subregulation 138.170(1). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Regulation 138.175 – Availability of records

Subregulation 138.175(1) prescribes that an aerial work operator contravenes this subregulation if the operator makes a record about a person under regulation 138.170, the person requests that record be made available to the person, and the operator does not make the record available to the person within 7 days after receiving the request.

Subregulation 138.175(2) prescribes that an aerial work operator contravenes this subregulation if a record was made under 138.170, the operator receives a request from another aerial work operator for a copy of the record, the operator holds a written authority from the person to whom the record relates to provide a copy of the person’s records to another aerial work operator if requested, and the operator does not give a copy of the record to the other aerial work operator within 7 days after receiving the request.

Subregulation 138.175(3) prescribes that contravention of subregulation 138.175(1) or (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.180 – Copies of flight crew licenses and medical certificates

Subregulation 138.180(1) prescribes that an aerial work operator contravenes this subregulation if a person who is a flight crew member of the operator’s personnel exercises a privilege of the person’s flight crew licence for the operator, and the operator does not have a copy of the person’s flight crew licence and medical certificate.

Subregulation 138.180(2) prescribes that a person commits an offence if they contravene subregulation (1). This is an offence of strict liability with a maximum penalty of 50 penalty units.

Regulation 138.185 – Retention periods for personnel records

Subregulation 138.185(1) prescribes that an aerial work operator contravenes this subregulation if the operator is required under regulation 138.170 to make a record about a member of the operator’s personnel, other than a member mentioned in subregulation (2), and the operator does not keep the record for the period beginning when the record was created and ending 5 years after the member ceases to be a member of the operator’s personnel.

Subregulation 138.185(2) prescribes that an aerial work operator contravenes this subregulation if the operator is required under regulation 138.170 to make a record about a member of the operator’s personnel who carried out ground support duties, and the operator does not keep the record for the period beginning when the record is created and ending 1 year after the member ceased to be a member of the operator’s personnel.

Subregulation 138.185(3) prescribes that if a person contravenes subregulation 138.185(1) or (2) it is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.B.10—Miscellaneous

Regulation 138.190 – Pilot in command to be authorised under Part 61

Subregulation 138.190(1) prescribes that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.190(2) prescribes that the operator of an aircraft involving an aerial work operation contravenes this subregulation if a person flies the aircraft as pilot in command (PIC) and the person is not authorised under Part 61 to fly the aircraft as PIC in the operation.

Subregulation 138.190(3) prescribes that if a person contravenes subregulation 138.190(2) it is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.195 – Reference library

Subregulation 138.195(1) prescribes that an aerial work operator contravenes this subregulation if the operator does not maintain a reference library that complies with subregulation (2).

Subregulation 138.195(2) prescribes that a reference library must: include the listed documents; be readily available to all members of the operator’s personnel; be up-to-date and in a readily accessible form; and include a system for notifying the operator’s personnel of any updates to the documents.

Subregulation 138.195(3) prescribes that if a person contravenes subregulation 138.195(1) it is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.200 – Maximum period for use of foreign registered aircraft in Australian territory

Subregulation 138.200(1) prescribes that an aerial work operator contravenes this subregulation if, in a period mentioned in subregulation (2), the operator used a particular foreign registered aircraft to conduct aerial work operations in Australian territory for more than: 90 consecutive days; or, if the operator holds an approval under regulation 138.025 in relation to the aircraft, the number of consecutive days mentioned in the approval for the aircraft.

Subregulation 138.200(2) prescribes that the periods are the 12-month period from the day the foreign registered aircraft first becomes available to conduct the aerial work operation in Australian territory, and each subsequent 12-month period.

Subregulation 138.200(3) prescribes that if a person contravenes subregulation 138.200(1) it is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subpart 138.C—General

The Subpart prescribes the permitted categories of aircraft, operational documents required by the operator of an aircraft, flight-related documents required by the operator of an aircraft, requirements for reporting and recording defects and incidents, requirements for emergency and survival equipment, and other miscellaneous requirements.

Division 138.C.1—General flight limitations

Regulation 138.205 – Permitted categories of aircraft for aerial work operations

Subregulation 138.205(1) provides that an operator of an aircraft contravenes this subregulation if: the aircraft is operated for a flight involving an aerial work operation; and, if the operation is covered by subregulation 138.205(2) – the aircraft is not type certificated in the normal, commuter or transport category; and, if the operation is not covered by subregulation (2) – the aircraft is not type certificated in the normal, commuter, transport or restricted category.

Subregulation 138.205(2) provides that an operation is covered by this subregulation if the operation is one in which the aircraft carries an aerial work passenger.

Subregulation 138.205(3) provides that a contravention of subregulation 138.205(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This provision ensures that an aircraft has an appropriate type certificate prior to any flight. A type certificate satisfies CASA that the aircraft complies with certain design requirements. Operations involving the carriage of aerial work passengers are not permitted to use restricted category aircraft due to the higher certification risk associated with these forms of type certificate. This decision is in line with CAR provisions to be repealed as part of the introduction of Parts 91 and 138 of CASR.

Division 138.C.2—Operational documents

Regulation 138.210 – Compliance with flight manual

Subregulation 138.210(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation whether or not the operator holds an aerial work certificate.

Subregulation 138.210(2) provides that the operator and PIC of an aircraft for a flight involving an aerial work operation each contravene this subregulation if the aircraft is operated in a way during the flight that does not meet a requirement or limitation that is set out in the aircraft flight manual instructions for the aircraft and relates to the operation of the aircraft.

Subregulation 138.210(3) provides that subregulation 138.210(2) does not apply to a requirement or limitation if circumstances prescribed by the Part 138 MOS apply to the aircraft for the flight.

Subregulation 138.210(4) provides that a contravention of subregulation 138.210(2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subregulation 138.210(2) enables the Part 138 MOS to prescribe limited circumstances where the general principle of compliance with a requirement or limitation of the aircraft flight manual instructions can be modified. The unique nature of certain operations when compared to the original certification basis of an aircraft, could necessitate an exception to be made to the general principle mentioned.

Regulation 138.215 – Availability of checklists

Subregulation 138.215(1) provides that an operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if the requirement in subregulation 138.215(2) is not met for the flight.

Subregulation 138.215(2) provides that, before a crew member for the aircraft began to carry out a duty for the flight, the operator has to make available to the member each checklist of normal, abnormal and emergency procedures for the aircraft that is relevant for that member's duty.

Subregulation 138.215(3) provides that a contravention of subregulation 138.215(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

These provisions ensure that the operator of an aircraft provides appropriate checklists for the crew members. Checklists are provided to ensure crew action items are not missed at critical stages of the aircraft operation. These provisions will increase the safety of the aircraft operation.

Division 138.C.3—Flight related documents

Regulation 138.220 provides that if a document is required to be carried on a flight of an aircraft under this Division then an electronic copy of the document satisfies that requirement.

Regulation 138.225 – Availability of parts of operations manual

Subregulation 138.225(1) provides that the operator of an aircraft for a flight has to make available to a crew member a part of the operations manual that is relevant to the duties of the crew member for the flight, and a part that is required for the conduct of the flight.

Subregulation 138.225(2) provides that a contravention of subregulation 138.225(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This provision ensures the operator is responsible for providing the appropriate instructions from the operations manual to the crew. This provides the requisite level of safety assurance that the operator is ensuring the crew members conduct the operation in accordance with the operators approved instructions.

Division 138.C.4—Reporting and recording defects and incidents etc.

Regulation 138.230 provides that procedures for the reporting and recording of abnormal instrument indications, abnormal aircraft behaviour, exceedance of certain operating limits and aircraft defects, by a flight crew member, has to be included in an aerial work operator's operations manual.

This provision is to ensure the operator has procedures in the operations manual for the reporting and recording of certain abnormal aircraft matters by flight crew members with the aim of enabling effective defect reporting which is essential to the safe operation and maintenance of aircraft.

Regulation 138.235 provides that an aerial work operator's operations manual has to include procedures for the reporting and recording by crew members of incidents relating to the flight of an aircraft that endangers, or could endanger, the safe operation of the aircraft.

This provision is to enable effective incident reporting which is essential in preventing further incidents and occurrences and ensuring the safe operation of aircraft.

Division 138.C.5—Search and rescue services and emergency and survival equipment

This Division is reserved for future use.

Division 138.C.6—Miscellaneous requirements

This Division is reserved for future use.

Subpart 138.D – Operational procedures

This Subpart prescribes the operational procedures for the operator and PIC of an aircraft.

Division 138.D.1—Operational control

This Division is reserved for future use.

Division 138.D.2—Flight preparation

Regulation 138.265 requires an aerial work operator to include in their operations manual procedures for complying with the flight planning (weather assessments) requirements, and flight planning (alternate aerodromes) requirements.

Division 138.D.3—Flight planning

Regulation 138.270 – Availability of flight planning information

Subregulation 138.270(1) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if a requirement mentioned in subregulation 138.270(2) is not met for the flight.

Subregulation 138.270(2) provides the requirements for subregulation 138.270(1), which includes references to the information required in subregulation 138.270(3).

Subregulation 138.270(3) prescribes that the information required for a flight.

Subregulation 138.270(4) prescribes that a contravention of subregulation 138.270(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This regulation prescribes the required availability of flight planning information.

Division 138.D.4—Flight rules

Regulation 138.275 prescribes that regulations 91.305, 91.310, 91.315 or 91.320 do not apply to a PIC of an aircraft for a flight involving an aerial work operation if circumstances prescribed by the Part 138 MOS apply to the aircraft and the operation.

Division 138.D.5—Take-offs and landings

Regulation 138.280 prescribes that an aerial work operator's operations manual must include procedures that ensure the safety of persons in the vicinity of an aircraft when: a person is embarking or disembarking the aircraft; the aircraft is being loaded or unloaded; the aircraft is on the ground with its engine or engines running; or the aircraft is landing or taking off at an aerodrome that is not a certified aerodrome.

Certified aerodromes under Part 139 of CASR are required to have procedures to ensure limited access to any operational areas. Therefore, one of the aspects of this regulation is targeted at aerodromes that are not certified and have less control over persons and things in the vicinity of aircraft. The regulation requires the operator to compensate for this elevated level of risk with procedures in their operations manual.

Division 138.D.6—Fuel requirements

Regulation 138.285 provides that an aerial work operator's operations manual has to include procedures to ensure that the flight of an aircraft operated by the operator is conducted in accordance with the requirements mentioned in subregulation 138.295.

This provision is part of the scheme to ensure there is sufficient fuel for a flight.

Regulation 138.290 – Oil requirements

Subregulation 138.290(1) provides that the operator and the PIC for a flight each contravene this subregulation if, when the flight began, the aircraft is not carrying sufficient oil to complete the flight safely.

Subregulation 138.290(2) provides that contravention of subregulation 138.290(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.295 – Fuel requirements

Subregulation 138.295(1) provides that Part 138 MOS may prescribe requirements relating to fuel for aircraft and includes a non-exhaustive list of requirements.

Subregulation 138.295(2) provides that the PIC of an aircraft for a flight contravenes this subregulation if the pilot was subject to a requirement mentioned in subregulation (1) for the flight and the requirement is not met for the flight.

Subregulation 138.295(3) provides that the operator of an aircraft for a flight contravenes this subregulation if the operator was subject to a requirement mentioned in subregulation (1) for the flight and the requirement is not met for the flight.

Subregulation 138.295(4) provides that a contravention of subregulation 138.295(2) or (3) is an offence of strict liability, with a maximum penalty of 50 penalty units.

These provisions ensure the operator and PIC meet certain requirements in relation to ensuring there is sufficient fuel to complete a flight safely. The provisions include requirements for assessing the amount of fuel required and the procedures for monitoring the fuel when in flight. Additional detailed requirements are proposed to be prescribed in the Part 138 MOS.

Regulation 138.300 – Hot fuelling

Subregulation 138.300(1) provides that the operator and PIC of an aircraft for a flight each contravene this subregulation if the aircraft is hot fuelled and the following matters are not set out in the aircraft flight manual instructions for the aircraft or the operator's operations manual: procedures for hot fuelling of the aircraft; the circumstances in which the aircraft can be hot fuelled; the procedures to be followed if an emergency occurred during hot fuelling; and the procedures to ensure that a person involved in hot fuelling the aircraft is trained and competent to be involved in hot fuelling the aircraft.

Subregulation 138.300(2) provides that the PIC of an aircraft for a flight contravenes this subregulation if a requirement of certain procedures mentioned in subregulation 138.300(1) is not met in relation to the fuelling of the aircraft for the flight, or the aircraft is fuelled in a circumstance not mentioned in the operations manual in accordance with subparagraph 138.300(1)(b)(ii).

Subregulation 138.300(3) provides that contravention of subregulation 138.300(1) or (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Hot fuelling is the refuelling – not defueling – of an aircraft whilst an engine or engines of the aircraft are running. This includes the operation of an auxiliary power unit fitted to the aircraft. The elevated likelihood of adverse outcomes involved in the practice of hot fuelling requires increased procedural controls to be put in place to reduce the likelihood levels acceptable for aerial work operations.

Division 138.D.7—Carriage of aerial work passengers or cargo

Regulation 138.305 – Carriage of aerial work passengers—general

Subregulation 138.305(1) prescribes that the operator of an aircraft involving an aerial work operation contravenes this subregulation if a passenger was carried on the aircraft for the flight and the passenger is not an *aerial work passenger*.

Subregulation 138.305(2) prescribes that the operator and PIC of an aircraft for a flight involving an aerial work operation each contravene this subregulation if a passenger was carried on the flight and a requirement mentioned in subregulation 138.305(3) is not met.

Subregulation 138.305(3) prescribes the requirements that: the operator's operations manual must include procedures to ensure the safety of passengers carried on flights involving the aerial work operations; and those procedures must be complied with for the flight.

Subregulation 138.305(4) prescribes that contravention of subregulation 138.305(1) or (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This regulation provides for ensuring that the special class of passenger defined as an *aerial work passenger* is the only type of passenger that can be carried on flights of aircraft involving aerial work operations.

Regulation 138.310 – Carriage of aerial work passengers—IFR flights and VFR flights at night

Subregulation 138.310(1) prescribes that the operator of an aircraft involving an aerial work operation contravenes this subregulation if an aerial work passenger is carried on the flight, the flight is an IFR flight, and the aircraft is not of a kind prescribed by the Part 138 MOS.

Subregulation 138.310(2) prescribes that the operator of an aircraft involving an aerial work operation contravenes this subregulation if more than 2 aerial work passengers are carried on the flight, the flight is a VFR flight at night, and a requirement mentioned in subregulation 138.310(3) is not met.

Subregulation 138.310(3) prescribes that, for subregulation (2), the requirements are that: the aircraft must be of a kind prescribed by the Part 138 MOS; if the aircraft is an aeroplane with a maximum take-off weight of more than 5 700 kg, each pilot must be authorised under Part 61 to conduct an IFR flight; and, for any other kind of aircraft (that is prescribed by the Part 138 MOS), at least 1 pilot must be authorised under Part 61 to conduct an IFR flight.

Subregulation 138.310(4) prescribes that contravention of subregulation 138.310(1) or (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.315 – Limit of 9 aerial work passengers

Subregulation 138.315(1) prescribes that the operator and the PIC of an aircraft for a flight involving an aerial work operation are each in contravention if, during the flight, the aircraft carries more than 9 aerial work passengers.

Subregulation 138.315(2) prescribes that subregulation 138.315(1) does not apply if circumstances prescribed by the Part 138 MOS apply to the aircraft and the operation for the purposes of this subregulation.

Subregulation 138.315(3) prescribes that contravention of subregulation 138.315(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This regulation ensures that the total number of aerial work passengers does not exceed 9, except under specialised circumstances prescribed in the Part 138 MOS. Due to the slightly lower safety protections applicable to aerial work operations compared to air transport operations, the carriage of passengers is constrained to an acceptable risk consequence level.

Regulation 138.320 – Procedures for carriage of restricted persons

Subregulation 138.320(1) prescribes that an aerial work operator's operation manual must state whether the operator would carry *restricted persons* as part of aerial work operations.

Subregulation 138.320(2) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if the operator's operations manual states that the operator will not carry a restricted person on the flight and a restricted person is carried on the flight.

Subregulation 138.320(3) prescribes that the aerial work operator's operational manual must include procedures for carrying any restricted person mentioned in the operations manual to

be carried on the aircraft, and procedures to inform each crew member of the aircraft about the carriage of the restricted person.

Subregulation 138.320(4) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if a restricted person is carried on the flight and a procedure mentioned in subregulation 138.320(3) is not complied with.

Subregulation 138.320(5) prescribes that contravention of subregulation 138.320(2) or (4) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.325 prescribes that an aerial work operator that conducts operations involving the carriage of aerial work passengers must include procedures in the operator's operations manual for the safe and secure stowage of equipment and personal items.

Regulation 138.330 prescribes that an aerial work operator's operations manual must include procedures for the carriage of animals for a flight of an aircraft operated by the operator.

Division 138.D.8—Instruments, indicators, equipment and systems

Regulation 138.335 – Airborne weather radar equipment

Subregulation 138.335(1) prescribes that this regulation applies to an aircraft if it is, or will be, used to conduct a flight involving an aerial work operation for which airborne weather radar equipment is required under Subpart 138.K, or by the aircraft flight manual instructions for the aircraft, to be fitted to the aircraft.

Subregulation 138.335(2) prescribes that an aerial work operator's operations manual must include procedures for using equipment during a flight of an aircraft mentioned in subregulation 138.335(1), and procedures for conducting a flight of an aircraft mentioned in subregulation 138.335(1) without the equipment if the equipment is inoperative.

Regulation 138.340 – Head-up displays, enhanced vision systems and synthetic vision systems

Subregulation 138.340(1) prescribes that this regulation applies to an aircraft for a flight that involved an aerial work operation if the aircraft is fitted with a head-up display, enhanced vision system, or a synthetic vision system, and the flight was an IFR flight, or a VFR flight at night.

Subregulation 138.340(2) prescribes that an aerial work operator's operations manual must include procedures for using each system mentioned in subregulation (1) that was fitted to an aircraft for a flight mentioned in the subregulation, and procedures for conducting such flights without an element of the system that is inoperative.

Regulation 138.345 – Survival equipment procedures

Subregulation 138.345(1) provides the application of this regulation. It applies to a flight: that is in, or through, an area prescribed as a remote area by the Part 91 MOS; or that is in an aircraft required under Subpart 138.K to carry a life raft for the flight.

Subregulation 138.345(2) provides that, if an aircraft is, or will be, used to conduct a flight to which this regulation applies, an aerial work operator's operations manual must include the prescribed procedures.

These provisions provided for the safety of aircraft operating in designated remote areas or for aircraft that are required to carry a life raft for the flight. Such operator's operations manuals are required to have information for determining what survival equipment (including pyrotechnic signals) must be carried.

Regulation 138.350 – NVIS flights

Subregulation 138.350(1) provides that this regulation applies to a flight of an aircraft if the flight involves the use of a night vision imaging system (NVIS) and the flight is either an IFR flight or a VFR flight at night.

Subregulation 138.350(2) provides that an aerial work operator's operations manual must include procedures for using the NVIS during either an IFR flight or a VFR flight at night. The operations manual must also include procedures for the conduct of both an IFR flight or VFR flight at night without an element of the NVIS if the element is inoperative.

Subregulation 138.350(3) provides that the Part 138 MOS may prescribe requirements for the use of a NVIS for the flight of an aircraft.

Subregulation 138.350(4) provides that the operator and the PIC for a flight each contravene this subregulation if a NVIS is used during the flight and a requirement in subregulation 138.350(3) is not met for the flight.

Subregulation 138.350(5) provides that contravention of subregulation 138.350(4) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.355 provides that an aerial work operator's operations manual must include procedures for identifying items of moveable equipment that must be stowed securely on board an aircraft while the aircraft is taking off, while the aircraft is landing, and any other time that the PIC directs, and must also include procedures for stowing the items.

Regulation 138.360 – Supplemental oxygen equipment

Subregulation 138.360(1) prescribes that the Part 138 MOS may prescribe requirements relating to the carriage and use of equipment to supply supplemental oxygen during a flight of an aircraft involving an aerial work operation.

Subregulation 138.360(2) prescribes that if requirements are prescribed under subregulation 138.360(1), an aerial work operator's operations manual must include procedures relating to the carriage and use of supplemental oxygen during a flight of an aircraft involving an aerial work operation.

Subregulation 138.360(3) provides that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if a requirement mentioned in subregulation 138.360(1) is not complied with for the flight.

Subregulation 138.360(4) provides that contravention of subregulation 138.360(3) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.D.9—Miscellaneous

Regulation 138.370 – Operator must conduct risk assessments

Subregulation 138.370(1) prescribes that the Part 138 MOS may prescribe requirements relating to risk criteria that must be met to conduct an aerial work operation, and risk

assessment and mitigation processes to be undertaken before conducting an aerial work operation.

Subregulation 138.370(2) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if a requirement mentioned in subregulation (1) applies to the flight and the requirement is not met for the flight.

Subregulation 138.370(3) prescribes that contravention of subregulation 138.370(2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.375 – Wearing of seatbelts and other restraint devices

Subregulation 138.375(1) prescribes that the Part 138 MOS may prescribe requirements relating to the wearing of seatbelts or other restraint devices during aerial work operations.

Subregulation 138.375(2) prescribes that a person contravenes this subregulation if the person was subject to a requirement mentioned in subregulation (1) and the person does not comply with the requirement.

Subregulation 138.375(3) prescribes that contravention of subregulation (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.380 prescribes that an aerial work operator's operations manual must include procedures for: the inspection of the aircraft by the PIC before a flight for which frost or freezing conditions exist or are forecast; carrying out de-icing measures before a flight for which these measures are necessary; and using de-icing and anti-icing equipment during a flight.

Regulation 138.385 – Procedures in relation to polar operations

Subregulation 138.385(1) prescribes that this regulation applies to an aircraft if it is used to conduct a flight to or from an aerodrome in a polar region.

Subregulation 138.385(2) prescribes that the aerial work operator's operations manual must include procedures for various matters relating to operations to and from aerodromes within the polar region.

Subregulation (2) mentions requirements in relation to "support personnel". The term is intended to be interpreted broadly as any person used to support the operation of the aircraft in the polar region whether employed by the operator, engaged by the operator, employed by an entity that contracted (or similar) the operator, or another party that provides support to the operation of the aircraft. The key aspect of whether a person would constitute support personnel is that the person has to be able to support the survival of persons on board the aircraft in the event of a normal or emergency landing if these persons were not wearing a serviceable, cold-weather, anti-exposure suit.

Division 138.D.10—Additional rules for external load operations

Regulation 138.390 – Requirements if persons carried as external loads

Subregulation 138.390(1) prescribes that the operator and the PIC would each contravene this subregulation if a person were carried on or in a part of the aircraft that is not designed to carry crew members or passengers, is carried on or in a thing attached to the aircraft, or is picked up or set down by the aircraft during the flight, and a requirement mentioned in subregulation 138.390(2) is not met.

Subregulation 138.390(2) prescribes that the requirements for subregulation 138.390(1).

Subregulation 138.390(3) prescribes that contravention of subregulation 138.390(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

This regulation prescribes the requirements for the carriage of persons as external loads for a flight.

Regulation 138.395 – Certain loads must be able to be jettisoned

Subregulation 138.395(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.395(2) provides that the operator and the PIC of an aeroplane for a flight involving an aerial work operation contravene this subregulation if, during the flight, the aeroplane is towing a load outside of the aeroplane and the load is not able to be jettisoned.

Subregulation 138.395(3) provides that the operator and the PIC of a rotorcraft for a flight involving an aerial work operation contravene this subregulation if, during the flight, the rotorcraft carries an external load that extends below the landing gear of the rotorcraft and the load is not able to be jettisoned.

Subregulation 138.395(4) prescribes that contravention of subregulation (2) or (3) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.400 – Certain night operations prohibited unless operation is an emergency service operation or approved by CASA

Subregulation 138.400(1) provides that the operator and the PIC of an aircraft for a flight involving an aerial work operation contravene this subregulation if: the operation is an external load operation at night; and the operation is not conducted as part of an emergency service operation; and the requirement in subregulation 138.400(2) is not met.

Subregulation 138.400(2) provides that the requirement mentioned in subregulation 138.400(1) is that operator must hold an approval under regulation 138.025.

Subregulation 138.400(3) prescribes that contravention of subregulation 138.400(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.405 – Night operations over land must have adequately illuminated external objects etc.

Subregulation 138.405(1) provides that the operator and the PIC of a rotorcraft for a flight involving an aerial work operation contravene this subregulation if the operation is an external load operation at night over land and the position of the rotorcraft cannot be maintained by reference to adequately illuminated external objects.

Subregulation 138.405(2) provides that the operator and the PIC of a rotorcraft for a flight involving an aerial work operation contravene this subregulation if the operation is an external load operation at night over water and a requirement prescribed by the Part 138 MOS is not complied with for the flight.

Subregulation 138.405(3) prescribes that contravention of subregulation 138.405(1) or (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.410 – MOS may prescribe additional requirements for external load operations

Subregulation 138.410(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.410(2) provides that the Part 138 MOS may prescribe additional requirements relating to the flights of aircraft involving external load operations.

Subregulation 138.410(3) provides that, without limiting subregulation 138.410(2), the Part 138 MOS may prescribe classes of external loads.

Subregulation 138.410(4) provides that the PIC of an aircraft for a flight contravenes this subregulation if the pilot is subject to a requirement mentioned in subregulation 138.410(2) for the flight and the requirement is not met for the flight.

Subregulation 138.410(5) provides that the operator of an aircraft for a flight contravenes this subregulation if the operator is subject to a requirement mentioned in subregulation 138.410(2) for the flight and the requirement is not met for the flight.

Subregulation 138.410(6) prescribes that contravention of subregulation 138.410(4) or (5) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.D.11—Additional rules for dispensing operations

Regulation 138.415 – Dispensing operations – VMC required

Subregulation 138.415(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.415(2) provides that the operator and the PIC of an aircraft for a flight involving an aerial work operation contravene this subregulation if the operation is a dispensing operation and the operation does not occur in visual meteorological conditions (VMC).

Subregulation 138.415(3) provides that subregulation (2) does not apply if the dispensing operation is of a kind prescribed by the Part 138 MOS.

Subregulation 138.415(4) prescribes that contravention of subregulation (2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.420 – Possessing and discharging firearms

Subregulation 138.420(1) provides that the operator and the PIC of an aircraft a flight involving an aerial work operation contravene this subregulation if a person carries or otherwise possesses a firearm on an aircraft, or a person discharges a firearm whilst on an aircraft, and a requirement prescribed by the Part 138 MOS for the purposes of paragraph (1)(b) is not met for the flight.

Subregulation 138.420(2) prescribes that contravention of subregulation 138.420(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subregulation 138.420(3) provides that this regulation applies despite regulations 91.160 (Possessing firearm on aircraft), 91.165 (Discharging firearm on aircraft) and 91.190 (Dropping things from aircraft).

Regulation 138.425 – Manual of Standards may prescribe additional requirements for dispensing operations

Subregulation 138.425(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.425(2) provides that the Part 138 MOS may prescribe additional requirements relating to dispensing operations.

Subregulation 138.425(3) provides that the PIC of an aircraft for a flight contravenes this subregulation if the pilot is subject to a requirement mentioned in subregulation 138.425(2) for the flight and the requirement is not met for the flight.

Subregulation 138.425(4) provides that the operator of an aircraft for a flight contravenes this subregulation if the operator is subject to a requirement mentioned in subregulation 138.425(2) for the flight and the requirement is not met for the flight.

Subregulation 138.425(5) prescribes that contravention of subregulation 138.425(3) or (4) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Division 138.D.12—Additional rules for task specialist operations

Regulation 138.430 – Manual of Standards may prescribe additional requirements for task specialist operations

Subregulation 138.430(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation, whether or not the operator holds an aerial work certificate.

Subregulation 138.430(2) provides that the Part 138 MOS may prescribe additional requirements relating to flights of aircraft involving task specialist operations.

Subregulation 138.430(3) provides that the PIC of an aircraft for a flight contravenes this subregulation if the pilot is subject to a requirement mentioned in subregulation 138.430(2) for the flight and the requirement is not met for the flight.

Subregulation 138.430(4) provides that the operator of an aircraft for a flight contravenes this subregulation if the operator is subject to a requirement mentioned in subregulation 138.430(2) for the flight and the requirement is not met for the flight.

Subregulation 138.430(5) prescribes that contravention of subregulation 138.430(3) or (4) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subpart 138.F—Performance

This Subpart prescribes the take-off and landing weight regulations for aircraft aerial work operations and the performance class requirements for rotorcraft aerial work operations.

Regulation 138.435 – Take-off weights

Subregulation 138.435(1) provides that the operator and PIC of an aircraft for a flight each contravene this subregulation if the aircraft's take-off weight is greater than the maximum take-off weight for the aircraft or, if the circumstances prescribed under paragraph 138.435(2)(a) apply, the weight for the aircraft determined by the method prescribed under paragraph 138.435(2)(b).

Subregulation 138.435(2) provides the prescriptions which the Part 138 MOS may make for subregulation (1). The Part 138 MOS may prescribe the circumstances in which the weight for an aircraft must be calculated under this subregulation, and the methods for calculating that weight.

Subregulation 138.435(3) provides for further circumstances and methods that the Part 138 MOS may prescribe, without limiting the scope of subregulation (2), which relate to the take-off weight of an aircraft.

Subregulation 138.435(4) provides that a person who contravenes subregulation (1) commits an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.440 – Landing weights

Subregulation 138.440(1) provides that the operator and PIC of an aircraft for a flight each contravene this subregulation if the aircraft's landing weight is greater than the maximum landing weight for the aircraft or, if the circumstances prescribed under paragraph 138.440(2)(a) apply, the weight for the aircraft determined by the method prescribed under paragraph 138.440(2)(b).

Subregulation 138.440(2) provides the prescriptions which the Part 138 MOS may make for subregulation (1). The Part 138 MOS may prescribe the circumstances in which the weight for an aircraft must be calculated under this subregulation, and the methods for calculating that weight.

Subregulation 138.440(3) provides for further circumstances and methods that the Part 138 MOS may prescribe, without limiting the scope of subregulation (2), which relate to the landing weight of an aircraft.

Subregulation 138.440(4) provides that a person who contravenes subregulation 138.440(1) commits an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.445 – Flight in a performance class

Subregulation 138.445(1) provides that the operator and PIC of a rotorcraft for a flight each contravene this subregulation if, during any stage of the flight, the rotorcraft is flown in a performance class and a requirement prescribed under subregulation (2) for that performance class is not met.

Subregulation 138.445(2) prescribes that the Part 138 MOS may prescribe requirements for a performance class for a flight of a rotorcraft.

Subregulation 138.445(3) provides that a contravention under subregulation 138.445(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subpart 138.J – Weight and balance

This Subpart prescribes the procedures for loading aircraft and requirements for weight and balance documents for aircraft operations.

Regulation 138.450 – Loading of aircraft

Subregulation 138.450(1) provides that this regulation applies to the operator of an aircraft for an aerial work operation whether or not the operator holds an aerial work certificate.

Subregulation 138.450(2) provides that the operator and PIC of an aircraft for a flight involving an aerial work operation each contravene this subregulation if, when the flight began, the aircraft is loaded in a way that contravenes the aircraft's weight and balance limits.

Subregulation 138.450(3) provides that the operator and PIC of an aircraft for a flight involving an aerial work operation each contravene this subregulation if, during the flight, the aircraft ceases to be loaded in accordance with the aircraft's weight and balance limits.

Subregulation 138.450(4) provides that a contravention of subregulation (2) or (3) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.455 provides that an aerial work operator's operations manual must include procedures for loading aircraft to comply with regulation 138.450 and, if required by the Part 138 MOS, procedures in relation to the carriage, or availability, of weight and balance documents for flights.

Regulation 138.460 – Weight and balance documents

Subregulation 138.460(1) prescribes that the Part 138 MOS may prescribe the weight and balance documents that are required for flights involving aerial work operations, and requirements in relation to those documents.

Subregulation 138.460(2) provides that the operator and PIC of an aircraft for a flight involving an aerial work operation each contravene this subregulation if, when the flight begins, weight and balance documents are required for the flight by the Part 138 MOS and either there are no weight and balance documents for the flight or the weight and balance documents for the flight do not comply with the requirements prescribed by the Part 138 MOS.

Subregulation 138.460(3) provides that a contravention of subregulation 138.460(2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Subpart 138.K – Instruments, indicators, equipment and systems

This Subpart prescribes the requirements for instruments, indicators, equipment and systems that must be fitted to or carried on, or must not be fitted to or carried on, an aircraft for an aerial work operation. It may also provide for circumstances to be prescribed when a flight may be begun with an instrument, indicator, equipment or system inoperative.

Regulation 138.465 – Instruments, indicators, equipment and systems – requirements

Subregulation 138.465(1) provides that the Part 138MOS may prescribe instruments, indicators, items of equipment or systems that must or must not be fitted to, or carried on, an aircraft, and the requirements in relation to an instrument, indicator, item of equipment or system that is fitted to, or carried on, an aircraft.

Subregulation 138.465(2) provides that the operator and the PIC of an aircraft contravene this subregulation if when a flight begins an instrument, indicator, item of equipment or system prescribed by the Part 138 MOS to be fitted to or carried on, or not fitted to or not carried on, the aircraft in breach of a prescription under subregulation (1).

Subregulation 138.465(3) provides a crew member of an aircraft for a flight contravenes this subregulation if the crew member is subject to a requirement mentioned in paragraph 138.465(1)(c) for the flight and the requirement is not met for the flight.

Subregulation 138.465(4) provides that contravention of subregulation (2) or (3) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.470 provides that if an instrument, indicator, item of equipment or system is required under regulation 138.465 to be fitted to, or carried on, an aircraft for a flight, the aircraft may begin the flight with the instrument, indicator, item of equipment or system inoperative if circumstances prescribed by the Part 138 MOS for the purposes of this regulation apply to the flight.

Subpart 138.N – Flight crew

Division 138.N.1—General requirements

Regulation 138.475 – Composition, number, qualifications and training

Subregulation 138.475(1) provides that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if, when the flight begins, a requirement mentioned in subregulation 138.475(2) is not met.

Subregulation 138.475(2) provides the circumstances and relevant requirements that an operator of an aircraft must comply with for subregulation (1), which relate to flight crew composition, number, qualifications and training.

Subregulation 138.475(3) provides that the Part 138 MOS may prescribe requirements relating to training and checking that must be completed by a flight crew member for a flight.

Subregulation 138.475(4) provides that a contravention of subregulation 138.475(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.480 – Training for new or inexperienced flight crew members

Subregulation 138.480(1) prescribes that an aerial work operator's operations manual must include the requirements that must be met before new or inexperienced flight crew members are assigned to duty on the aircraft for an aerial work operation conducted by the operator.

Subregulation 138.480(2) provides that an aerial work operator contravenes this subregulation if the operator assigns a new or inexperienced flight crew member to duty on the aircraft for an aerial work operation conducted by the operator, and a requirement mentioned in subregulation 138.480(1) is not met.

Subregulation 138.480(3) provides that a contravention of subregulation 138.480(2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.485 – Competence

Subregulation 138.485(1) prescribes that the operator of an aircraft involving an aerial work operation contravenes this subregulation if the operator assigns a person to duty as a flight crew member for the flight and the person has not been assessed by the operator as competent to perform the duties assigned to the person for the flight in accordance with the operator's operation manual.

Subregulation 138.485(2) provides that a contravention of subregulation 138.485(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.490 – Assignment to duty of pilot in command

Subregulation 138.490(1) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if, when the flight begins, none of the pilots assigned as flight crew members for the flight is assigned to duty as the PIC of the aircraft for the flight.

Subregulation 138.490(2) provides that a contravention of subregulation 138.490(1) is an offence of strict liability, with a penalty of 50 penalty units.

This regulation provides for operators to conduct an inflight relief of the PIC. Under all circumstances and at all times during the conduct of a flight involving an aerial work operation, it is expected that one PIC will be assigned by the operator. No more than one pilot may be assigned to be PIC at any single moment in time.

Regulation 138.495 – Pilot in command

Subregulation 138.495(1) prescribes that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if the operator assigns a pilot to duty as PIC of the aircraft for the flight, and the pilot is not qualified under regulation 138.500 as PIC for the flight.

Subregulation 138.495(2) provides that a contravention of subregulation 138.495(1) is an offence of strict liability, with a penalty of 50 penalty units.

Regulation 138.500 – Qualification as pilot in command

Subregulation 138.500(1) prescribes the qualifications required for a pilot to be a PIC.

Subregulation 138.500(2) prescribes that the PIC for a flight involving an aerial work operation contravenes this subregulation if the pilot performs a duty as PIC for the flight and the pilot is not qualified under subregulation (1) as PIC for the flight.

Subregulation 138.500(3) provides that a contravention of subregulation (2) is an offence of strict liability, with a penalty of 50 penalty units.

Division 138.N.2—Additional requirements for certain operators

Regulation 138.505 provides that this Division applies in relation to an operator of an aircraft if the operator is required, under regulation 138.125, to have a training and checking system.

Regulation 138.510 – Qualifications and training

Subregulation 138.510(1) provides that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if, when the flight begins, a requirement mentioned in subregulation 138.510(2) is not met.

Subregulation 138.510(2) provides the requirements that an operator of an aircraft must comply with, before a flight involving an aerial work operation begins, regarding a flight crew member's qualifications and training. The subregulation does not apply in relation to flight crew members to whom subregulation 138.510(3) applies.

Subregulation 138.510(3) provides that the subregulation applies to a flight crew member if the flight crew member is on board the aircraft for the purpose of receiving training or

checking in relation to the requirements mentioned in subregulation 138.510(2), and the flight crew member is being supervised for the flight by another flight crew member who meets those requirements for the flight.

Subregulation 138.510(4) provides that a contravention of subregulation 138.510(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.515 – Training and checking to be conducted by certain persons

Subregulation 138.515(1) provides that the operator of an aircraft contravenes this subregulation if a flight crew member of the operator's personnel undertakes training or a check mentioned in Subpart 138.N, and the training or check is conducted other than in accordance with subregulation 138.515(2).

Subregulation 138.515(2) provides that the training or check must be conducted: by an individual who is engaged by the operator to conduct the training or check and who meets the requirements prescribed by the Part 138 MOS; or by a Part 142 operator with which the operator has a contract for the Part 142 operator to conduct the training or check for the operator.

Subregulation 138.515(3) provides that a contravention of subregulation 138.515(1) is an offence of strict liability, with a penalty of 50 penalty units.

Regulation 138.520 – Meeting initial training requirements

Subregulation 138.520(1) provides that a flight crew member meets the initial training requirements for the operator of an aircraft and an aerial work operation if: the flight crew member has completed the operator's initial training for a flight crew member; and the training includes the matters mentioned in subregulation 138.520(2); and the flight crew member has successfully completed an initial training check in accordance with the operator's training and checking manual.

Subregulation 138.520(2) provides the initial training that has to be conducted by a flight crew member.

Regulation 138.525 – Meeting conversion training requirements

Subregulation 138.525(1) provides that a flight crew member meets the conversion training requirements for an operator, an aircraft and an aerial work operation if the flight crew member has successfully completed the operator's conversion training for an aircraft of that kind and the training includes the matters mentioned in subregulation 138.525(2).

Subregulation 138.525(2) provides the conversion training matters that have to be conducted by a flight crew member.

Regulation 138.530 – Meeting differences training requirements

Subregulation 138.530(1) provides that a flight crew member meets the differences training requirements for an operator and an aircraft if the flight crew member has successfully completed the operator's differences training for an aircraft of that kind and the differences training included the matters mentioned in subregulation 138.530(2).

Subregulation 138.530(2) provides the differences training matters that have to be conducted by a flight crew member as referred to in subregulation 138.530(1).

Subpart 138.P – Air crew members and aerial work specialists

Division 138.P.1—Air crew members

Regulation 138.535 prescribes that this Division applies in relation to an operator of an aircraft for a flight involving an aerial work operation if an air crew member is carried on the aircraft for the flight.

Regulation 138.540 – Composition, number, qualifications and training

Subregulation 138.540(1) provides that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if, when the flight begins, a requirement mentioned in subregulation (2) is not met.

Subregulation 138.540(2) provides the circumstances and relevant requirements that an operator of an aircraft must comply with, which relate to air crew member composition, number, qualifications and training.

Subregulation 138.540(3) provides, for the purpose of paragraph 138.540(2)(c), that the subregulation applies to an air crew member if the air crew member is on board the aircraft for the purpose of receiving training or checking in relation to the requirements mentioned in paragraph 138.540(2)(c) and the air crew member is being supervised for the flight by another air crew member who meets those requirements for the flight.

Subregulation 138.540(4) provides that a contravention of subregulation 138.540(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.545 – Training for new or inexperienced flight crew members

Subregulation 138.545(1) prescribes that an aerial work operator's operations manual must include the requirements that must be met before new or inexperienced air crew members can be assigned to duty on the aircraft for an aerial work operation conducted by the operator.

Subregulation 138.545(2) provides that an aerial work operator contravenes this subregulation if the operator assigns a new or inexperienced air crew member to duty on the aircraft for an aerial work operation conducted by the operator, and a requirement mentioned in subregulation 138.545(1) is not met.

Subregulation 138.545(3) provides that a contravention of subregulation 138.545(2) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.550 Training and checking to be conducted by certain persons

Subregulation 138.550(1) provides that the operator of an aircraft for a flight involving an aerial work operation contravenes this subregulation if training or a check for an air crew member is conducted other than in accordance with subregulation 138.550(2).

Subregulation 138.550(2) provides that the training or check must be conducted by an individual engaged by the operator and who meets the requirements set out in the Part 138 MOS.

Subregulation 138.550(3) provides that a contravention of subregulation 138.550(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.555 – Proficiency checks

Subregulation 138.555(1) provides that an operator’s proficiency check for an air crew member of the aircraft for a flight involving an aerial work operation must, in accordance with any requirements prescribed by the Part 138 MOS, check the competence of the air crew member in carrying out normal, abnormal and emergency procedures for that kind of aircraft and aerial work operation.

Subregulation 138.555(2) provides that, subject to subregulation 138.555(3), a proficiency check is valid for the period beginning on the day on which the check is completed and ending at the end of the 12 month period beginning at the end of the month in which the check is completed.

Subregulation 138.555(3) provides that if a person’s proficiency check (the *existing check*) for an aircraft and an aerial work operation is valid in accordance with subregulation 138.555(2), and the person successfully completes another proficiency check (the *new check*) for the aircraft and aerial work operation in accordance with subregulation 138.555(1) less than three months before the day on which the existing check is due to expire, then the new check is valid for the period of 12 months beginning at the end of the day on which the existing check expires.

This regulation provides for simplicity of administration of proficiency checks by allowing a check to be valid until the end of a month instead of expiring exactly 12 months after it was completed and also allowing for flexibility in the date of the next check by allowing a check to be conducted up to three months in advance without affecting subsequent 12 month expiry dates. If this regulation is not in place, the expiry date of a person’s check is continually pulled forward and would not ever last for a full 12 months.

Regulation 138.560 – Meeting initial training requirements

Subregulation 138.560(1) provides that an air crew member meets the initial training requirements for the operator of an aircraft and an aerial work operation if the air crew member has completed the operator’s initial training for an air crew member that includes the matters mentioned in subregulation 138.560(2), and the air crew member has successfully completed an initial training check in accordance with the operator’s training and checking manual.

Subregulation 138.560(2) provides the initial training that is to be conducted by an air crew member.

Regulation 138.565 – Meeting conversion training requirements

Subregulation 138.565(1) provides that an air crew member meets the conversion training requirements for the operator of an aircraft, the aircraft and an aerial work operation if the air crew member has successfully completed the operator’s conversion training for an aircraft of that kind and the training includes the matters mentioned in subregulation 138.565(2).

Subregulation 138.565(2) provides the conversion training matters that are to be conducted by an air crew member.

Regulation 138.570 – Meeting differences training requirements

Subregulation 138.570(1) provides that an air crew member meets the differences training requirements for the operator of an aircraft and the aircraft if the air crew member has

successfully completed the operator's differences training for an aircraft of that kind and the differences training includes the matters mentioned in subregulation (2).

Subregulation 138.570(2) provides the differences training matters that are to be conducted by an air crew member.

Division 138.P.2—Aerial work specialists

Regulation 138.575 provides that this Division applies in relation to an operator of an aircraft for a flight involving an aerial work operation that carries an aerial work specialist.

Regulation 138.580 – Qualifications and training

Subregulation 138.580(1) provides that the operator of an aircraft for a flight of an aircraft involving an aerial work operation, which carries an aerial work specialist, contravenes this subregulation if, when the flight begins, a requirement mentioned in subregulation 138.580(2) is not met.

Subregulation 138.580(2) provides the requirements that an operator of an aircraft must comply with for subregulation (1), which related to an aerial work specialist's qualifications and training.

Subregulation 138.580(3) provides, for the purpose of paragraph 138.580(2)(c), that the subregulation applies to an aerial work specialist if the aerial work specialist is on board the aircraft for the purpose of receiving training or checking in relation to the requirements mentioned in paragraph 138.580(2)(c) and the aerial work specialist is being supervised for the flight by another aerial work specialist who meets those requirements for the flight.

Subregulation 138.580(4) provides that a contravention of subregulation 138.580(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.585 – Competence

Subregulation 138.585(1) provides that the operator of an aircraft involving an aerial work operation contravenes this subregulation if the operator authorised an aerial work specialist to be carried for the flight and the aerial work specialist has not been assessed by the operator as competent to perform the duties assigned to the aerial work specialist for the flight in accordance with the operator's operation manual.

Subregulation 138.585(2) provides that a contravention of subregulation 138.585(1) is an offence of strict liability, with a maximum penalty of 50 penalty units.

Regulation 138.590 – Training and checking to be conducted by certain persons

Subregulation 138.590(1) provides that the operator of an aircraft contravenes this subregulation if an aerial work specialist of the operator's personnel undertakes training or a check mentioned in Subpart 138.P, and the training or check is conducted other than in accordance with subregulation 138.590(2).

Subregulation 138.590(2) provides that the training or check must be conducted by an individual who is engaged by the operator to conduct the training or check, and who meets the requirements prescribed by the Part 138 MOS.

Subregulation 138.590(3) provides that a contravention of subregulation 138.590(1) is an offence of strict liability, with a penalty of 50 penalty units.

Regulation 138.595 – Competency check

Subregulation 138.595(1) provides that an operator's competency check for an aerial work specialist for a flight involving an aerial work operation must check the competence of the aerial work specialist in carrying out normal, abnormal and emergency procedures for that kind of aircraft and aerial work operation (to the extent the procedures are relevant to the aerial work specialist's duties for the flight), and be conducted in accordance with any requirements prescribed by the Part 138 MOS.

Subregulation 138.595(2) provides that, subject to subregulation 138.595(3), a competency check is valid for the period beginning on the day on which the check is completed and ending at the end of the 12-month period beginning at the end of the month in which the check is completed.

Subregulation 138.595(3) provides that if a person's competency check (the *existing check*) for an aircraft and an aerial work operation is valid in accordance with subregulation 138.595(2), and the person successfully completes another competency check (the *new check*) for the aircraft and aerial work operation in accordance with paragraphs 138.595(1)(a) and (b) less than three months before the day on which the existing check is due to expire, then the new check is valid for the period of 12 months beginning at the end of the day on which the existing check expires.

This regulation provides for simplicity of administration of competency checks by allowing a check to be valid until the end of a month instead of expiring exactly 12 months after it was completed and also allowing for flexibility in the date of the next check by allowing a check to be conducted up to three months in advance without affecting subsequent 12 month expiry dates. If this regulation is in place, the expiry date of a person's check is continually pulled forward and will never last for a full 12 months.

Regulation 138.600 – Meeting initial training requirements

Subregulation 138.600(1) provides that an aerial work specialist meets the initial training requirements for the operator of an aircraft and an aerial work operation if: the aerial work specialist has completed the operator's initial training for an aerial work specialist that includes the matters mentioned in subregulation (2); and the aerial work specialist has successfully completed an initial training check in accordance with the operator's training and checking manual.

Subregulation 138.600(2) provides the initial training that has to be conducted by an aerial work specialist, to the extent that the training is relevant to the aerial work specialist's duties for the flight.