

## **Explanatory Statement**

### **Acts Interpretation Act 1901**

### **Civil Aviation Safety Regulations 1998**

### **Part 121 (Australian Air Transport Operations – Larger Aeroplanes) Manual of Standards 2020**

#### **Purpose**

The *Part 121 (Australian Air Transport Operations – Larger Aeroplanes) Manual of Standards 2020* (the MOS) sets out the standards for the operational, procedural and safety risk management standards for the conduct of Australian Air Transport operations in larger aeroplanes.

The MOS is made under Part 121 of the *Civil Aviation Safety Regulations 1998 (CASR)*. The MOS consolidates the existing rules of the air and contains some new rules to enhance operational flexibility, improve aviation safety and bring Australian requirements more in line with the Standards and Recommended Practices (*SARPs*) of the International Civil Aviation Organization (*ICAO*).

#### **Legislation**

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. The *Civil Aviation Regulations 1988 (CAR)* and CASR are made under the Act.

The *Civil Aviation Safety Amendment (Part 121) Regulations 2018 (Part 121 of CASR)* was registered on 18 December 2018 and amended by the *Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020* registered on 21 October 2020. Part 121 of CASR commences on 2 December 2021. Under regulation 121.015, the Civil Aviation Safety Authority (*CASA*) may issue a Manual of Standards for Part 121 of CASR that prescribes matters required or permitted by that Part to be prescribed, or necessary or convenient for carrying out or giving effect to Part 121. This power is complemented by other provisions throughout Part 121 that empower CASA to prescribe specific matters in the MOS.

Under regulation 11.068, and for subsection 98(5A) of the Act, CASA may issue a legislative instrument that imposes a condition relating to a matter mentioned in that subsection on a specified class of authorisations.

Section 4 of the *Acts Interpretation Act 1901* (the *AIA*) as applied by section 13 of the *Legislation Act 2003*, provides, among other things, that if an Act (including a regulation) is enacted and at a time after its enactment (the *start time*) the Act will confer power to make an instrument, that power may be exercised before the start time as if the relevant commencement had occurred. However, in general terms, the exercise of this power does not confer a power or right to impose an obligation on a person before the relevant commencement. Using section 4 of the *AIA*, the MOS is made under regulation 121.015 of CASR, a regulation that will not commence until 2 December 2021.

## Background

Part 121 of CASR establishes a regulatory model that is designed to:

- provide more transparent and comprehensible aviation safety requirements by consolidating the rules for Australian air transport operations for larger aeroplanes;
- modernise the regulatory framework by recognising developments in technology and international standards;
- introduce certain new rules to enhance operational flexibility;
- enhance aviation safety by providing a more active regulatory focus on managing the safety risks associated with passenger transport operations and achieve required safety outcomes in a manner that is best suited to the operator;
- bring Australian requirements more in line with ICAO SARPs.

The MOS is issued to prescribe matters required, or permitted, by Part 121 of CASR, or matters that are necessary or convenient for carrying out or giving effect to Part 121 and thereby achieve the new regulatory model for the continued safe conduct of flights.

Division 5 of Chapter 2 of the MOS also imposes conditions, under regulation 11.068 of CASR, on the holders of an EDTO approval for the purpose of conducting extended diversion time operations.

### The Part 121 MOS

The MOS sets out detailed requirements and safety standards for the conduct of larger aeroplane air transport operations, including medical transport, and are designed to mitigate the risks that might have an impact on the continued safe conduct of flight.

In support of the MOS, and before it commences on 2 December 2021, CASA will publish free and easily accessible guidance materials that will offer practical guidance on many discrete issues dealt with in the MOS. This guidance will further explain technical requirements of the MOS and clarify acceptable means of compliance for some of the matters dealt with the MOS.

The MOS encompasses the larger aeroplane air transport operations in Australia for Australian and foreign-registered civil and state aircraft. The following provides a summary overview of the structure and content of the 13 Chapters of the Part 121 MOS:

- Chapter 1 provides the name, commencement, authority, and scope of the MOS. It also provides definitions and abbreviations, and addresses how certain documents are applied, adopted, or incorporated.
- Chapter 2 prescribes the requirements for extended diversion time operations (EDTO).
- Chapter 3 makes the prescriptions required for the carriage and updating of certain documents and for information concerning emergency and survival equipment.
- Chapter 4 prescribes the requirements for flight preparation and alternate aerodromes.
- Chapter 5 prescribes the requirements for operational flight plans.
- Chapter 6 prescribes the requirements for narrow runway width calculations.
- Chapter 7 prescribes the fuel requirements.
- Chapter 8 prescribes the requirements for safety briefings and instructions.
- Chapter 9 prescribes the performance requirements for air transport – larger aeroplanes.
- Chapter 10 prescribes the weight and balance requirements.
- Chapter 11 prescribes the requirements for equipment.
- Chapter 12 prescribes the requirements for flight crew member training and checking.
- Chapter 13 prescribes the requirements for cabin crew member training and checking.
- Chapter 14 prescribes the prescribes requirements for emergency evacuation procedures.

Division 5 of Chapter 2 of the MOS also imposes conditions, using regulation 11.068 of CASR, on the holder of an approval authorising the person to conduct extended diversion time operations (EDTO).

More details on the MOS are in Appendix 2 of this Explanatory Statement, which sets out the notes on clauses.

### ***Legislation Act 2003***

Under subsection 8(4) of the LA, an instrument is a legislative instrument if it is made under a power delegated by the Parliament, and any provision determines the law or alters the content of the law, and it has the direct or indirect effect of affecting a privilege or interest, imposing an obligation, creating a right, or varying or removing an obligation or right. The MOS satisfies these requirements. Under paragraphs 98(5A) (a) and 98(5AA) (a) of the *Civil Aviation Act*, an instrument made under regulations is a legislative instrument if it is issued in relation to matters affecting the safe navigation and operation of aircraft, and is expressed to apply to classes of persons. On each of these criteria, the MOS is a legislative instrument subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the LA.

### **Incorporations by reference**

Under subsection 98(5D) of the Act, the MOS may apply, adopt or incorporate any matter contained in any instrument or other writing. A non-legislative instrument may be incorporated into a legislative instrument made under the Act, as that non-legislative instrument exists or is in force at a particular time or from time to time (including a non-legislative instrument that does not exist when the legislative instrument is made).

Under paragraph 15J(2)(c) of the LA, the Explanatory Statement must contain a description of the incorporated documents and indicate how they may be obtained.

The MOS is empowered by Part 121 of CASR and provisions in the MOS make reference to provisions in other parts of the same legislative framework, for example, the following Parts of CASR, in force from time to time, and freely available on the Federal Register of Legislation:

- Part 11, which sets out the administrative provisions for the regulation of civil aviation, including approvals;
- Part 21, which sets out the certification and airworthiness requirements for aircraft and aircraft equipment;
- Part 61, which sets out the requirements and standards for the issue of flight crew licences and ratings, and their privileges;
- Part 91, which sets out certain standards, including rules of the air, that are applicable to all operations (unless an alternative rule is stated to apply);
- Part 92, which sets out the standards for the consignment and carriage of dangerous goods by air;
- Part 119, which sets out the certification and management requirements for Australian air transport operators; and
- Part 139, which sets out the standards for certified aerodromes.

Subsection 11.47(1) of the MOS is transitional in nature and incorporates the matters in regulation 252A of CAR, as in force from time to time, until immediately before 2 December 2023. Regulation 252A sets out the standards for emergency locator transmitters and is freely available on the Federal Register of Legislation.

The table below identifies other instruments and documents that have been applied, adopted, or incorporated into the MOS, describes the manner of their incorporation and identifies how the incorporated material may be obtained.

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
1	<i>Civil Aviation Order 20.4 Instrument</i>	<p>This instrument sets out the requirements for the provision and use of oxygen and protective breathing equipment on an aircraft.</p> <p>This document is incorporated by section 11.40 of the MOS. Section 11.47 is transitional in nature and incorporates the matters only until immediately before 2 December 2023.</p>	As in force immediately before commencement of the MOS.	The instrument is legislative and freely available on the Federal Register of Legislation.
2	<i>Civil Aviation Order 20.11 Instrument</i>	<p>This instrument sets out the standards for emergency and lifesaving equipment and passenger control in emergencies.</p> <p>Subsection 6 of the instrument is incorporated by section 11.47 of the MOS. Section 11.47 is transitional in nature and incorporates the matters only until immediately before 2 December 2023.</p>	As in force immediately before commencement of the MOS.	The instrument is legislative and freely available on the Federal Register of Legislation.
3	<i>Civil Aviation Order 100.7 Instrument 2015</i>	<p>This instrument sets out the standards for the administration and procedures to ensure weight control of an aeroplane.</p> <p>Subsection 2 of the instrument is incorporated for the purposes of the definitions of <i>empty weight</i> and <i>removable</i> equipment in section 1.04 of the MOS.</p>	As in force from time to time.	The instrument is legislative and freely is available on the Federal Register of Legislation.
4	<i>Civil Aviation Order 103.19 Instrument 2007</i>	<p>This instrument sets out the standards for flight data recorders.</p> <p>The instrument is incorporated by section 11.32 of the MOS.</p>	As in force or existing from time to time.	The instrument is legislative and freely available on the Federal Register of Legislation.

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5	<i>Civil Aviation Order 103.20 Instrument 2007</i>	<p>This instrument sets out the standards for cockpit voice recorders.</p> <p>The instrument is incorporated by section 11.32 of the MOS.</p>	As in force from time to time.	The instrument is legislative and freely available on the Federal Register of Legislation.
6	<i>Civil Aviation Order 108.26 Instrument 2007</i>	<p>This instrument sets out the standards for system specifications for oxygen systems.</p> <p>This document is incorporated by section 11.46 of the MOS. Section 11.46 is transitional in nature and incorporates the matters only until immediately before 2 December 2023.</p>	As in force immediately before commencement of the MOS.	The instrument is legislative and freely available on the Federal Register of Legislation.
7	Annex 2 to the Chicago Convention – Rules of the Air	<p>Annex 2 sets out general rules, visual flight rules and instrument flight rules and applies to a contracting State to the Chicago Convention.</p> <p>The instrument is incorporated for the purposes of definitions in section 1.04 of the MOS related to an <i>alternate aerodrome</i>. Also, Appendix 1 of Annex 2 is incorporated by section 11.13 of the MOS.</p> <p>Subsection 1.04(4) provides that Annexes to the Chicago convention are incorporated as in force from time to time.</p>	As in force from time to time.	Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee ( <a href="https://store.icao.int/">https://store.icao.int/</a> ) – see below for further information.

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8	Annex 3 to the Chicago Convention	<p>Annex 3 sets out the meteorological service requirements for international civil aviation.</p> <p>Standard 6.2 of Annex 3 is incorporated for the purposes of the definition of <i>aerodrome forecast</i>, and standard 6.3 for the purposes of the definitions of <i>GAMET area forecast</i> and <i>ICAO landing forecast</i>, in section 1.04 of the MOS.</p>	As in force or existing from time to time.	Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee ( <a href="https://store.icao.int/">https://store.icao.int/</a> ) – see below for further information.
9	Annex 8 to the Chicago Convention	<p>Annex 8 sets out the airworthiness requirements of aircraft for international civil aviation.</p> <p>The Annex is incorporated for the purposes of the definition of <i>SFAR 41 aeroplane</i> in section 1.04 of the MOS.</p>	As in force or existing from time to time.	Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee ( <a href="https://store.icao.int/">https://store.icao.int/</a> ) – see below for further information.
10	Annex 10 to the Chicago Convention	<p>Annex 10 sets out the aeronautical communications, navigation, and surveillance requirements for international civil aviation.</p> <p>Appendix 1, Chapter 5, Part II of the Annex is incorporated by section 11.49.</p> <p>Section 11.68 of the MOS incorporates various requirements of the Annex related to Surveillance and Collision Avoidance Systems.</p>	As in force or existing from time to time.	Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee ( <a href="https://store.icao.int/">https://store.icao.int/</a> ) – see below for further information.

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	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
11	<i>Determination of Airspace and Controlled Aerodromes Etc. (Designated Airspace Handbook) Instrument</i>	<p>This instrument determines relevant volumes of airspace as flight information regions and areas, as classifications of airspace, and as control zones, and determines relevant controlled aerodromes.</p> <p>Sections 11.08 and 11.67, together with subsection 1.04(3) incorporate the Determination.</p>	As in force from time to time.	Available for free on the Federal Register of Legislation.
12	Aeronautical Information Publication (AIP)	<p>The AIP is published by Airservices Australia to disseminate information relevant to aviation participants on matters essential to safe air navigation.</p> <p>Various provisions of the MOS incorporate AIP requirements.</p>	As in force or existing from time to time.	The AIP is available for free on the Airservices Australia website <a href="http://www.airservicesaustralia.com/aip/aip.asp">www.airservicesaustralia.com/aip/aip.asp</a> .
13	Aircraft flight manual	<p>An aircraft flight manual contains information required to safely operate the specific aircraft.</p> <p>Various provisions of the MOS incorporate aircraft flight manual requirements.</p>	As in force or existing from time to time.	The aircraft flight manual of an aeroplane is publicly available but not for free. An aircraft flight manual is the proprietary property of the owner of the aircraft design (usually the manufacturer). The incorporated requirements of the aircraft flight manual are at the aircraft-specific level, and instructions are required to be provided to owners or registered operators of aircraft. Where available, and by prior arrangement, CASA will make an aircraft flight manual available for inspection at any CASA office.

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
14	Aircraft flight manual instructions	<p>The aircraft flight manual instructions include 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.</p> <p>Various provisions of the MOS incorporate aircraft flight manual instructions requirements.</p>	As in force or existing from time to time	<p>The aircraft flight manual instructions for an aircraft is proprietary to the owner of the aircraft design (usually the manufacturer). The instructions are publicly available but not for free. The incorporated requirements of an instructions are at the aircraft-specific level, and instructions are required to be provided to owners of aircraft. Where available, and by prior arrangement, CASA will make aircraft flight manual instructions available for inspection at any CASA office.</p>
15	ICAO Document 8896 – Manual of Aeronautical Meteorological Practices	<p>This document provides guidance on practices to be used in the provision of meteorological service to air navigation.</p> <p>Various provisions of the MOS incorporate ICAO Document 8896.</p>	As in force or existing from time to time.	<p>Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee (<a href="https://store.icao.int/">https://store.icao.int/</a>) – see below for further information.</p>
16	ICAO Document 8168, Volume 1	<p>This document sets out the operational procedures recommended for the guidance of flight operations personnel.</p> <p>Various provisions of the MOS incorporate ICAO Document 8168.</p>	As in force or existing from time to time.	<p>Publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee (<a href="https://store.icao.int/">https://store.icao.int/</a>) – see below for further information.</p>
17	Federal Aviation Regulations (FAR) 25	<p>FAR 25 sets out the airworthiness standards of the Federal Aviation Administration of the US (FAA) for transport category aeroplanes.</p> <p>Section 11.05 incorporates FAR 25.857, and section 14.05 incorporates FAR 25.803, into the MOS.</p>	As in force or existing from time to time.	<p>Available for free on the Electronic Code of Federal Regulations website  <a href="https://www.ecfr.gov/cgi-bin/text-idx?SID=24e75b7361a31df6fc7b4b34c9208c66&amp;mc=true&amp;tpl=/ecfrbrowse/Title14/14tab_02.tpl">https://www.ecfr.gov/cgi-bin/text-idx?SID=24e75b7361a31df6fc7b4b34c9208c66&amp;mc=true&amp;tpl=/ecfrbrowse/Title14/14tab_02.tpl</a>.</p>



<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
18	14 CFR 91.227	<p>FAR 91 sets out the FAA general operating and flight rules. 14 CFR 91.227 sets out, within FAR 91, the FAA requirements for ADS-B equipment performance and pre-flight performance based on an ADS-B Out equipment.</p> <p>The document is incorporated by section 11.70 of the MOS.</p>	As in force or existing from time to time.	<p>Available for free on the Electronic Code of Federal Regulations website  <a href="https://www.ecfr.gov/cgi-bin/text-idx?SID=24e75b7361a31df6fc7b4b34c9208c66&amp;mc=true&amp;tpl=/ecfrbrowse/Title14/14tab_02.tpl">https://www.ecfr.gov/cgi-bin/text-idx?SID=24e75b7361a31df6fc7b4b34c9208c66&amp;mc=true&amp;tpl=/ecfrbrowse/Title14/14tab_02.tpl</a>.</p>
19	AS/NZS 4280.1:2003, <i>406 MHz satellite distress beacons - Marine emergency position-indicating radio beacons (EPIRBs)</i>	<p>AS/NZS 4280:2017 Part 1 sets out the minimum radiofrequency and environmental requirements to comply with the Australia and New Zealand radiofrequency spectrum and maritime regulatory requirements.</p> <p>This Standards document is incorporated by section 11.51 (together with section 1.05) of the MOS.</p>	As in force or existing from time to time.	<p>Publicly available but subject to copyright that belongs to Standards Australia. It is made available by Standards Australia for a fee (<a href="https://shop.standards.govt.nz/catalog/4280.1%3A2003%28AS%7CNZS%29/view">https://shop.standards.govt.nz/catalog/4280.1%3A2003%28AS%7CNZS%29/view</a>).</p>
20	AS/NZS 4280.2:2003, <i>406 MHz satellite distress beacons - Personal locator beacons (PLBs)</i>	<p>This Standards document sets out the minimum radiofrequency and environmental requirements to comply with Australian and New Zealand radiofrequency spectrum, and maritime and aviation regulatory requirements.</p> <p>The Standard is incorporated by section 11.51 (together with section 1.05) of the MOS.</p>	As in force or existing from time to time.	<p>Publicly available but subject to copyright that belongs to Standards Australia. It is made available by Standards Australia for a fee (<a href="https://shop.standards.govt.nz/catalog/4280.2%3A2003%28AS%7CNZS%29/view">https://shop.standards.govt.nz/catalog/4280.2%3A2003%28AS%7CNZS%29/view</a>).</p>

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21	ATSO-1C74c <i>Airborne ATC Transponder Equipment</i>	<p>This document prescribes the requirements that a manufacturer of airborne air traffic control (ATC) transponder equipment must meet in order for the equipment to be identified with the applicable ATSO marking and for the equipment to be an approved article.</p> <p>This document is incorporated for the purposes of the definition of definition of <b><i>approved Mode A/C transponder</i></b> in section 11.65 of the MOS.</p>	This version of the document, as existing or in force immediately before commencement of the MOS	Available for free on the Federal Register of Legislation, contained within the <i>Part 21 Manual of Standards Instrument 2016</i> ( <a href="https://www.legislation.gov.au/Details/F2017C01160/Html/Text#_Toc500486105">https://www.legislation.gov.au/Details/F2017C01160/Html/Text#_Toc500486105</a> ).
22	ETSO-C74d <i>Airborne ATC Transponder Equipment</i>	<p>This document provides the EASA standards for airborne ATC transponder equipment.</p> <p>This document is incorporated for the purposes of the definition of <b><i>approved Mode A/C transponder</i></b> in section 11.65 of the MOS.</p>	This version and any later version is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
23	TSO-C74c <i>Airborne ATC Transponder Equipment</i>	<p>This document provides the FAA standards for airborne ATC transponder equipment.</p> <p>This document is incorporated for the purposes of the definition of <b><i>approved Mode A/C transponder</i></b> in section 11.65 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20GuidanceLibrary/rgTSO.nsf/MailFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MailFrame?OpenFrameSet</a> ).
24	ETSO-C88a <i>Automatic Pressure Altitude Reporting Code Generating Equipment</i>	<p>This document provides the EASA requirements which automatic pressure altitude reporting code generating equipment must meet in order to be identified with the applicable ETSO marking.</p> <p>The document is incorporated by section 11.67 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).

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25	TSO-C88a <i>Automatic Pressure Altitude Reporting Code Generating Equipment</i>	This document provides the FAA requirements automatic pressure altitude reporting code generating equipment must meet in order to be identified with the applicable TSO marking.  The document is incorporated by section 11.67 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
26	ETSO-2C91a <i>Emergency Locator Transmitter (ELT) Equipment</i>	This document sets the EASA requirements which emergency locator transmitter equipment must meet in order to be identified with the applicable ETSO marking.  The document is incorporated by sections 11.50 and 11.51 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
27	ETSO-C112a Air <i>Traffic Control Radar Beacon System/Mode Select (Atrbs/Mode S) Airborne Equipment</i>	This document provides the EASA requirements which a secondary surveillance radar mode S transponder must meet in order to be identified with the applicable ETSO marking.  The document is incorporated for the purposes of the definition of <b>approved Mode S transponder</b> in section 11.65 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
28	TSO-C112 Air <i>Traffic Control Radar Beacon System/Mode Select (Atrbs/Mode S) Airborne Equipment</i>	This document provides the FAA requirements which ATCRBS/Mode S airborne equipment must meet for identification with the applicable TSO marking.  The document is incorporated for the purposes of the definition of <b>approved Mode S transponder</b> in section 11.65 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).

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29	ETSO -C119c <i>Traffic Alert And Collision Avoidance System (TCAS) Airborne Equipment, TCAS II</i>	<p>This document provides the EASA requirements that new models of traffic alert and collision avoidance system airborne equipment must meet to be identified with the applicable ETSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved ACAS</b> in section 11.21 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
30	<i>TSO-C119c Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II with Optional Hybrid Surveillance</i>	<p>This document provides the minimum FAA performance standards (MPS) traffic alert and collision avoidance system II (TCAS II) must meet for approval and identification with the applicable TSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved ACAS</b> in section 11.21 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory_and_Guidance_Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory_and_Guidance_Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
31	ETSO-C121b <i>Underwater Locating Device (Acoustic) (Self-Powered)</i>	<p>This document gives the EASA requirements which Underwater Locating Device (Acoustic) (Self-Powered) that are manufactured on or after the date of this ETSO must meet to be identified with the applicable ETSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved ULD</b> in section 11.64 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
32	TSO-C121b <i>Underwater Locating Devices (Acoustic) (Self-Powered)</i>	<p>This document provides the minimum FAA performance standards (MPS) which underwater locating devices (acoustic) (self-powered) must meet for approval and identification with the applicable TSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved ULD</b> in section 11.64 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
33	ETSO - C123a <i>Cockpit Voice Recorder Systems</i>	<p>This document gives the requirements that new models of cockpit voice recorder systems that are manufactured on or after the date of this ETSO must meet to be identified with applicable ETSO marking.</p> <p>The document is incorporated by section 11.32 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
34	TSO-C123a <i>Cockpit Voice Recorder Systems</i>	<p>This document provides the minimum FAA performance standard that cockpit voice recorder systems must meet to be identified with the applicable TSO marking.</p> <p>The document is incorporated by section 11.32 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
35	ETSO - C124a <i>Flight Data Recorder Systems</i>	<p>This document gives the requirements that new models of flight data recorder systems that are manufactured on or after the date of this ETSO must meet to be identified with applicable ETSO marking.</p> <p>The document is incorporated by section 11.32 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
36	TSO - C124a <i>Flight Data Recorder Systems</i>	This document provides the minimum FAA performance standard that flight data recorder systems must meet to be identified with the applicable TSO marking.  The document is incorporated by section 11.32 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
37	ETSO-2C126 406 <i>MHz Emergency Locator Transmitter (ELT)</i>	This document sets the EASA requirements for 406 MHz emergency locator transmitters (ELT).  This document is incorporated by sections 11.50 and 11.51 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> )
38	TSO-C126 406 <i>MHz Emergency Locator Transmitter (ELT)</i>	This document sets the FAA requirements for 406 MHz ELTs.  The document is incorporated by sections 11.50 and 11.51 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20GuidanceLibrary/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
39	ETSO-C129 <i>Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)</i>	This document provides the EASA requirements for airborne supplemental navigation equipment using GPS to be identified with the applicable TSO marking.  The document is incorporated by section 11.09 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Various version of this document are available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
40	TSO-C129 <i>Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)</i>	This document provides the FAA requirements for airborne supplemental navigation equipment using GPS to be identified with the applicable TSO marking.  The document is incorporated by section 11.09 of the MOS.	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Various versions of this document are available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20GuidanceLibrary/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).



<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
41	ETSO-C142a <i>Non-Rechargeable Lithium Cells and Batteries</i>	<p>This document provides the EASA requirements which non-rechargeable lithium cells and batteries must meet.</p> <p>This document is incorporated by section 11.49 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
42	TSO-C142a <i>Non-Rechargeable Lithium Cells and Batteries</i>	<p>This document provides the FAA requirements which non-rechargeable lithium cells and batteries must meet.</p> <p>This document is incorporated by section 11.49 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
43	ETSO-C145 (including ETSO-C145a) <i>Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)</i>	<p>This document provides the EASA requirements for airborne navigation sensors using the GPS augmented by WAAS to be identified with the applicable ETSO marking.</p> <p>This document is incorporated by section 11.09 in the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Various versions of this document are available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
44	TSO-C145 (including TSO-C145a) <i>Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)</i>	<p>This document provides the FAA requirements for airborne navigation sensors using the GPS augmented by WAAS to be identified with the applicable TSO marking.</p> <p>This document is incorporated by section 11.09 in the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	Various versions of this document are available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
45	ETSO-C146 (including ETSO-C146a) <i>Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)</i>	<p>This document provides the EASA requirements for stand-alone airborne navigation equipment using the GPS augmented by the satellite-based augmentation System to be identified with the applicable ETSO marking.</p> <p>The document is incorporated by section 11.09 in the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>Various versions of this document are available for free on the EASA website (<a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a>).</p>
46	TSO-C146 (including TSO-C146a) <i>Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)</i>	<p>This document provides the FAA requirements for stand-alone airborne navigation equipment using the GPS augmented by the WAAS to be identified with the applicable TSO marking.</p> <p>The document is incorporated by section 11.09 in the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>Various versions of this document are available for free on the FAA website (<a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MailFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MailFrame?OpenFrameSet</a>).</p>
47	ETSO-C151b <i>Terrain Awareness and Warning System (Taws)</i>	<p>This document provides the EASA requirements which Terrain awareness and Warning System (TAWS) equipment that is manufactured on or after the date of this ETSO, must meet to be identified with the applicable ETSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved TAWS</b> in section 11.24 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>Various versions of this document are available for free on the EASA website (<a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a>).</p>



<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
48	TSO-C151b <i>Terrain Awareness and Warning System</i>	<p>This document provides the minimum FAA performance standards (MPS) their Terrain Awareness and Warning System (TAWS) equipment must first meet to obtain and be identified with the TSO-C151b Class A, B, or C marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved TAWS</b> in section 11.24 of the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>Various versions of this document are available for free on the FAA website (<a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a>).</p>
49	ETSO-C166 <i>Extended Squitter Automatic Dependent Surveillance - Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)</i>	<p>This document provides the requirements which Extended Squitter Automatic Dependent Surveillance-Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) must meet in order to be identified with the applicable ETSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved Mode S transponder with ADS-B capability</b> in section 11.65 the MOS.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>This document is available for free on the EASA website (<a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a>).</p>
50	TSO-C166 <i>Extended Squitter Automatic Dependent Surveillance - Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)</i>	<p>This document provides the FAA requirements which extended squitter ADS-B and TIS-B equipment operating on the radio frequency of 1090 MHz must meet in order to be identified with the applicable TSO marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved Mode S transponder with ADS-B capability</b> in section 11.65 the MOS</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	<p>This document is available for free on the FAA website (<a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a>).</p>

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
51	ETSO-C196a <i>Airborne Supplemental Navigation Sensors for Global Positioning System Equipment Using Aircraft-Based Augmentation</i>	<p>This document provides the EASA requirements which airborne supplemental navigation sensors for GPS equipment using aircraft-based augmentation must meet in order to be identified with the applicable ETSO marking.</p> <p>The document is incorporated by section 11.09 of the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).
52	TSO-C196a <i>Airborne Supplemental Navigation Sensors for Global Positioning System Equipment using Aircraft-Based Augmentation</i>	<p>This document provides the FAA requirements which airborne supplemental navigation sensors for GPS equipment using aircraft-based augmentation must meet in order to be identified with the applicable TSO marking.</p> <p>The document is incorporated by section 11.09 of the MOS, and for the purposes of the definition of <b>approved GNSS position source</b> in section 11.65.</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance%20Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
53	ETSO - C219	<p>This document is anticipated to provide the minimum EASA performance standards (MPS) airborne collision avoidance system (ACAS) Xa/Xo required to be met meet for approval and identification with the applicable marking.</p> <p>The document is incorporated for the purposes of the definition of <b>approved ACAS</b> in section 11.21 of the MOS</p>	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document will be available for free on the EASA website ( <a href="https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso">https://www.easa.europa.eu/domains/aircraft-products/etso-authorisations/list-of-all-etso</a> ).

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
54	TSO-C219 <i>Airborne Collision Avoidance System (ACAS) Xa/Xo</i>	This document provides the minimum FAA performance standards (MPS) airborne collision avoidance system (ACAS) Xa/Xo meet for approval and identification with the applicable TSO marking.  The document is incorporated for the purposes of the definition of <b>approved ACAS</b> in section 11.21 of the MOS	This version and any later version of the document is incorporated, in accordance with section 1.05 of the MOS.	This document is available for free on the FAA website ( <a href="https://rgl.faa.gov/Regulatory%20and%20Guidance/Library/rgTSO.nsf/MainFrame?OpenFrameSet">https://rgl.faa.gov/Regulatory and Guidance Library/rgTSO.nsf/MainFrame?OpenFrameSet</a> ).
55	EASA AMC 20-24 <i>Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter</i>	This document sets out the EASA acceptable means of compliance for the certification considerations for the enhanced ATS in non-radar areas using ADS-B Surveillance (ADS-B-NRA) application via 1090 MHZ extended squitter.  The document is incorporated by section 11.70 of the MOS.	As in force or existing from time to time.	This document is available for free at <a href="https://www.easa.europa.eu/sites/default/files/dfu/Annex%20II%20-%20AMC%2020-24.pdf">https://www.easa.europa.eu/sites/default/files/dfu/Annex%20II%20-%20AMC%2020-24.pdf</a> .
56	EASA CS ACNS	This document provides the Certification Specifications and acceptable means of compliance for Airborne Communications, Navigation and Surveillance.  The document is incorporated by section 11.70 of the MOS.	As in force or existing from time to time.	This document is available for free at <a href="https://www.easa.europa.eu/sites/default/files/dfu/Annex%20I%20to%20ED%20Decision%202019-011-R%20-%20CS%20ACNS%20Issue%202.pdf">https://www.easa.europa.eu/sites/default/files/dfu/Annex%20I%20to%20ED%20Decision%202019-011-R%20-%20CS%20ACNS%20Issue%202.pdf</a> .
57	RTCA/DO-229D <i>Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment</i>	RTCA/DO -229D sets out the minimum operational performance standards for global positioning system/wide area augmentation system airborne equipment.  The document is incorporated by section 11.69 of the MOS.	As dated 13 December 2006.	This document is publicly available but subject to copyright protection. The document may be purchased from <a href="http://www.rtca.org">www.rtca.org</a> .

<b>Instruments and other documents incorporated into the Part 121 MOS</b>				
	<b>Name of instrument or document</b>	<b>Description</b>	<b>Manner of incorporation</b>	<b>Source</b>
58	RTCA/DO-260 <i>Minimum Operational Performance Standards for 1090 MHz Automatic Dependent Surveillance – Broadcast (ADS-B)</i>	RTCA/DO-260 sets out the minimum operational performance standards for 1090 mhz extended squitter automatic dependent surveillance-broadcast (ads-b) and traffic information services-broadcast (tis-b).  The document is incorporated for the purposes of the definition <b>NUCp</b> in section 11.65 of the MOS.	As dated 13 September 2000.	This document is publicly available but subject to copyright protection. The document may be purchased from <a href="http://www.rtca.org">www.rtca.org</a> .
59	RTCA/DO-260B <i>Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services – Broadcast (TIS-B)</i>	This document contains minimum operational performance standards for airborne equipment for ADS-B and TIS-B utilizing 1090 MHz Mode S Extended Squitter.  This document is incorporated for the purposes of the definitions of <b>NACp</b> and <b>SIL</b> in section 11.65 of the MOS.	As dated 2 December 2009.	This document is publicly available but subject to copyright protection. The document may be purchased from <a href="http://www.rtca.org">www.rtca.org</a> .
60	RTCA/DO-367 <i>Minimum Operational Performance Standards (Mops) For Terrain Awareness And Warning Systems (Taws) Airborne Equipment</i>	This document contains the minimum operational performance standards (MOPS) for a Terrain Awareness and Warning System (TAWS). These standards specify system characteristics that should be useful to designers, manufacturers, installers, and users of the equipment.  The document is incorporated for the purposes of the definitions of <b>TAWS-Class A</b> , and <b>TAWS-Class B</b> in section 11.24 of the MOS.	As dated 31 May 2017.	This document is publicly available but subject to copyright protection. The document may be purchased from <a href="http://www.rtca.org">www.rtca.org</a> .

### **Incorporations by reference—further information**

The following documents are copyright—commercial products for which there is a cost to obtain a copy:

- a) Annex 2, Annex 3, Annex 8 and Annex 10 to the Convention on International Civil Aviation;
- b) ICAO Document 8168, Volume 1 and ICAO Document 8896;
- c) Australian Standard/New Zealand Standards (AS/NZS) 4280.1-2003, 4280.2-2003 and 1754:2004;
- d) Radio Technical Commission for Aeronautics (RTCA) DO – 229D, DO-260 and DO-367

These costs are not considered to be unreasonably onerous for operators to whom they are most relevant, but do involve a modest impost for some others, although academic and other researchers may obtain free access through university library subscriptions.

CASA has no effective control over these costs and it is considered extremely unlikely that the relevant owner of the intellectual property in the documents would sell CASA the copyright at a price that would be an effective and efficient use of CASA's appropriated funds, or would otherwise permit CASA to make the document freely available.

CASA has incorporated the documents in the instrument because, under the Chicago Convention, they are appropriate and necessary to modernise the safety regulatory scheme in the Part 121 MOS, and because no other similar documents that serve the same aviation safety purpose are freely available.

CASA has noted the views of the Senate Standing Committee on Regulations and Ordinances (in its report *Parliamentary scrutiny of delegated legislation*, tabled out of session on 3 June 2019) that:

The incorporation of material by reference (particularly where that material is not publicly available) has been a longstanding concern for the committee. [para 3.65]

and:

The committee appreciates that it may in some cases be costly to provide free, public access to all incorporated Australian and international standards. Nevertheless, the committee reiterates that one of its core functions is to ensure that all persons subject to or interested in the law may readily and freely access its terms. It intends to continue to monitor this issue. Any justification for a failure to provide for public access to incorporated documents, and any action the committee takes in relation to this matter, will be determined on a case-by-case basis. [para 3.75]

CASA appreciates the Committee's concern, and to mitigate the situation as far as currently practicable proposes that where an incorporated document is copyright and not otherwise freely available to the general public, but is available to CASA as a licenced subscriber, CASA will, by prior arrangement, make CASA's copy available, for in-situ viewing, free of charge, at any office of CASA.

### **Consultation**

CASA has developed the Part 121 MOS over a lengthy period of time through the collaborative efforts of the Aviation Safety Advisory Panel (*ASAP*), its Part 121 Technical Working Group (*TWG*) and the wider aviation community.

In June 2018, the Part 121 TWG first convened to evaluate the new CASR Part 121 regulations prior to public consultation on the regulations which occurred from 2 August to 3 September

2018. Dedicated TWG meetings on the MOS began on 19 November 2019, following by 14 meetings between May and November 2020. Three public consultation activities were held for tranches of the Part 121 MOS during 16 June to 16 July, 3 July to 3 August and 27 October to 24 November 2020. These consultations received 3, 6 and 6 responses for each activity respectively.

On 26 November 2020, the TWG convened to review and discuss CASA's response to the feedback received during public consultation and provided their final recommendations to the ASAP. Based on these recommendations the ASAP endorsed making the Part 121 MOS.

### **Regulation Impact Statement**

A Regulation Impact Statement (*RIS*) was prepared by CASA for Part 121 of CASR and this RIS also covered the MOS which the regulations empower. The RIS was assessed by the Office of Best Practice Regulation (*OBPR*) as compliant with the Best Practice Regulation requirements and contained a level of analysis commensurate with the likely impacts (OBPR ID: 24505). A copy of the RIS was included in the Explanatory Statement for the *Civil Aviation Safety Amendment (Part 121) regulations 2018*. [Civil Aviation Safety Amendment \(Part 121\) Regulations 2018 \(legislation.gov.au\)](#)

### **Statement of Compatibility with Human Rights**

A Statement of Compatibility with Human Rights is at Appendix 1. This concludes that the MOS is compatible with human rights and, to the extent that it may also limit human rights in some particular respects, those limitations are reasonable, necessary and proportionate to ensure the safety of aviation operations and to promote the integrity of the aviation safety system.

### **Commencement and making**

The MOS commences immediately after the commencement of Part 121 of CASR on 2 December 2021. The empowerment for the MOS, contained in Part 121, in particular in regulation 121.015, had not commenced when the MOS was made. The making of the MOS before the commencement of Part 121 is permitted under section 4 of the AIA which authorises the anticipatory making of a subordinate instrument in these circumstances, provided the instrument does not commence until (or after) the delayed empowering instrument has itself commenced.

The MOS has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 73 (2) of the Act.

## Statement of Compatibility with Human Rights

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

### Part 121 (Australian Air Transport Operations – Larger Aeroplanes) Manual of Standards 2020

This legislative instrument (the **MOS**) 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 *Part 121 (Australian Air Transport Operations – Larger Aeroplanes) Manual of Standards 2020* (this MOS) is made under Part 121 of the *Civil Aviation Safety Regulations* (the **CASR**). New Part 121 was inserted into CASR by *The Civil Aviation Safety Amendment (Part 121) Regulations 2019*. Those regulations enable CASA to issue a Manual of Standards for the regulation of standards for the Air Transport Operations of Larger Aeroplanes in Australian Territory.

The MOS sets out the standards for the operational, procedural and safety risk management standards for the conduct of Australian Air Transport operations in larger aeroplanes. The MOS consolidates the existing rules of the air and contains some new rules to enhance operational flexibility, improve aviation safety and bring Australian requirements more in line with the Standards and Recommended Practices (**SARPs**) of the International Civil Aviation Organization (**ICAO**).

As might be expected for subject matter encompassing larger aeroplane operations in civil aviation the MOS is highly detailed and prescribes safety standards for a wide range of matters. The following provides a summary overview of its structure and content:

- Chapter 1 provides the name, commencement, authority, and scope of the MOS. It also provides definitions and abbreviations, and addresses how certain documents are applied, adopted, or incorporated (*called up*).
- Chapter 2 prescribes the requirements for extended diversion time operations (EDTO).
- Chapter 3 makes the prescriptions required for the carriage and updating of certain documents and for information concerning emergency and survival equipment.
- Chapter 4 prescribes the requirements for flight preparation and alternate aerodromes.
- Chapter 5 prescribes the requirements for operational flight plans.
- Chapter 6 prescribes the requirements for narrow runway width calculations.
- Chapter 7 prescribes the fuel requirements.
- Chapter 8 prescribes the requirements for safety briefings and instructions.
- Chapter 9 prescribes the performance requirements for air transport – larger aeroplanes.
- Chapter 10 prescribes the weight and balance requirements.
- Chapter 11 prescribes the requirements for equipment.
- Chapter 12 prescribes the requirements for flight crew member training and checking.
- Chapter 13 prescribes the requirements for cabin crew member training and checking.
- Chapter 14 prescribes the requirements for emergency evacuation demonstrations and emergency evacuation procedures.

## **Human rights implications**

The MOS may engage the following human rights:

- the right to life under Article 6 and the right to privacy and reputation under Article 17 of the International Covenant on Civil and Political Rights (the *ICCPR*);
- the right to work under Article 6 (1) and the right to safe and healthy working conditions under Article 7 of the International Covenant on Economic, Social and Cultural Rights (the *ICESCR*).

### ***Right to life under the ICCPR***

#### ***Right to safe and healthy working conditions under the ICESCR***

The MOS may engage these rights. This engagement is in the context of CASA's statutory purpose. The aim of CASA and its regulatory framework, including Part 121 of CASR and its related MOS, is to uphold aviation safety by prescribing the conduct of individuals and organisations involved in large aeroplane air transport operations. It is, therefore, a threshold requirement for all CASA legislative instruments that they preserve, promote and enhance aviation safety. Insofar as the MOS is crafted and intended, as far as practicable, to promote and enhance aviation safety standards for flight operations, it promotes the right to life under Article 6 of the ICCPR by legislating for safer conditions that will minimise the risk of accidents and prevent accidental death. Thus, for Article 7 of the ICESCR, the MOS also promotes the right to safe and healthy working conditions for all pilots and crew of larger aeroplanes.

### ***Right to privacy and reputation under the ICCPR***

The MOS may engage these rights. 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 their honour and reputation. It further provides that everyone has the right to the protection of the law against such interference or attack.

Chapter 3 of the MOS prescribes requirements in relation to the keeping and maintaining of a journey log that must include the aircraft registration, names, place of departure and place of arrival. The information is required so that the crew members can be identified to CASA for safety regulatory purposes, for example, in the course of safety surveillance, inspections and audits or emergencies. If the flight is a passenger transport operation a copy of the passenger list for a flight must be available for immediate communication to a rescue coordination centre.

Under Division 7 of Chapter 11 (about flight recorders), operators of certain turbine powered aeroplanes must fit flight data recorders (FDRs) and cockpit voice recorders (CVRs) to the aeroplane. The FDRs must record and retain the last 25 hours of flight data metrics from the aeroplane's operation. The CVRs must record and retain the last 30 minutes of cockpit voice recording during a flight, before the tape is wiped and the cycle resumes again for the next 30 minutes of flight. Both kinds of recorder are vital instruments for use in the official investigation if the aircraft suffers an accident. Because of the potential that the information recorded on a CVR might potentially infringe the right to privacy of pilots in the cockpit, Part IIIB (about the protection of CVR (cockpit voice recording) information) of the *Civil Aviation Act 1988* makes it an offence to copy or disclose CVR information except for a prescribed purpose (such as a statutory accident investigation, certain criminal proceedings, and civil proceedings but only if a court has made a public interest order). Admissibility of CVR information in court is subject to statutory constraints. No disciplinary action may be taken against a person on the basis of CVR information.



Chapters 12 and 13 of the MOS prescribe requirements in relation to keeping and maintaining records of training and checking for flight crew and cabin crew members. The information is required so that crew members can be identified to CASA for safety regulatory purposes, for example, during safety surveillance, inspections and audits.

The requirements in the provisions mentioned above involve activities of one or more of: collecting, recording and storing personal information. For the reasons stated above, the requirements are reasonable, necessary and proportionate to achieve the fulfilment of specific aviation safety objectives, including the protection of the safety of individuals and the protection of the integrity of the aviation safety regulatory scheme by ensuring that information is available about who is performing activities affecting safety and demonstrating, where relevant, that they are appropriately authorised. CVR requirements are often indispensable for accident investigation because they are designed to help to identify causes and facilitate remedies that will reduce or eliminate the risk of a similar accident occurring again, thereby protecting the right to life.

The protections afforded by the *Privacy Act 1988* and by Part IIIB of the *Civil Aviation Act 1988*, continue to apply to the information. These two Acts embody the protections that the Australian Parliament currently regards as suitable for the protection of the relevant personal information.

To the extent that the MOS may limit the privacy-related rights in Article 17 of the ICCPR, those limitations are, therefore, reasonable, necessary and proportionate to ensure the safety of air navigation, consistent with the objects of the *Civil Aviation Act 1988*, CASR and, in particular, Part 121 of CASR in relation to safe operation in flight.

### ***Right to work***

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

The MOS does not directly address the right to work. However, its numerous provisions may have an impact on the way that the work involved in safely operating an aircraft is carried out. Many obligations of care, skill, technique and procedure are imposed on pilots to this end. Failure to follow the relevant requirements of the MOS when flying an aircraft could result in the loss of a licence or the loss of continued employment. However, in the interests of aviation safety, it is necessary that pilots follow the flying rules.

Therefore, in the circumstances, the obligations arising under the MOS are reasonable, necessary and proportionate requirements under aviation safety law to ensure aviation safety.

Accordingly, any potential limitation on the right to work is itself necessary, reasonable and proportionate in achieving the aim of protecting and improving aviation safety consistent with the objects of the Act and the regulations.

### **Conclusion**

The MOS is a legislative instrument that is compatible with human rights and, to the extent that it may also limit human rights, those limitations are reasonable, necessary and proportionate to ensure the safety and of the integrity of the aviation safety system which all aviation operations rely.

## **Details of the *Part 121 (Australian Air Transport Operations – Larger Aeroplanes) Manual of Standards 2020***

### **Chapter 1—Preliminary**

#### **Section 1.01**

Section 1.01 is the citation provision. Under subsection (1), the instrument may be cited as the *Part 121 (Australian Air Transport Operations—Larger Aeroplanes) Manual of Standards 2020*. Under subsection (2), the instrument may also be cited as the Part 121 Manual of Standards or the Part 121 MOS.

#### **Section 1.02**

Section 1.02 provides that the commencement of the instrument is immediately after the commencement of Part 121 of CASR. Part 121 of CASR, inserted into CASR by the *Civil Aviation Safety Amendment (Part 121) Regulations 2018* was registered on 18 December 2018 and will commence on 2 December 2021.

#### **Section 1.03**

Section 1.03 provides that the MOS is made under the *Civil Aviation Safety Regulations 1998*. The note to the section explains that the instrument is issued under regulation 121.015.

#### **Section 1.04**

Section 1.04 is the general definitions sections that contains, in subsection (1), the definitions for the MOS or provides signposts to where a definition is defined in the MOS or in another place. Other than the definitions contained in section 11.65 (see subsection 1.04(2)), section 1.04 contains or signposts each expression defined for the purpose of the instrument (including a number of abbreviations), and signposts a small number of significant definitions contained in the CASR Dictionary.

The note to the section heading explains that a number of expressions used in the instrument are defined in the Dictionary at the end of CASR, or in section 3 of the *Civil Aviation Act 1988*. The note also explains that some such definitions may be repeated in the instrument for ease of reference.

Subsection 1.04(2) provides that some definitions of terms defined for the instrument are contained in Division 13 of Chapter 11. The Division (about transponders and surveillance equipment) is very technical in nature and contains many definitions more accessible to a reader if located nearer to the provisions using the defined terms.

Subsection 1.04(3) provides that a reference to a class of airspace is a reference to the classes of airspace determined by CASA in or under the *Determination of Airspace and Controlled Aerodromes Etc. (Designated Airspace Handbook) Instrument*. The provision incorporates the Determination as in force from time to time.

Subsection 1.04(4) provides that an Annex to the Chicago Convention mentioned in the instrument is incorporated as in force from time to time.

**Section 1.05**

Section 1.05 provides that an AS/NZS standard incorporated into the instrument is incorporated as in force from time to time, unless a contrary intention appears (in another provision of the instrument).

The section also provides for the incorporation of certain technical standard orders. Unless a contrary intention appears, a reference to a particular TSO (a Technical Standard Order issued by the FAA) or to an ETSO (a European Technical Standard Order issued by EASA) is a reference to that TSO or ETSO or to a later version of the TSO or the ETSO. A later version of the document does not displace an earlier version that is provided for in the instrument. A provision requiring a person to meet the requirements of a particular TSO would satisfy the provision if the person met the requirements of the TSO version mentioned in the provision or any later version. Notes 2 and 4 provide examples to illustrate this.

**Section 1.06**

Section 1.06 provides that a reference to ETOPS in a flight manual, type certificate data sheet or supplement, or a CMP document (defined in section 1.04), is for the purpose of this instrument to be taken as a reference to extended diversion time operations or “EDTO”. The expression ETOPS is an acronym for “extended operations” that is used in some of those documents instead of the phrase “extended diversion time operation” for the same kind of operation.

**Chapter 2—Extended diversion time operations (EDTO)****Division 1—Criteria for the grant of EDTO approval****Section 2.01**

This section provides for the scope of this Division, which prescribes, for the purposes of paragraph 121.035(2) of CASR, criteria for the grant of an approval to fly an aeroplane in extended diversion time operations.

**Section 2.02**

Section 2.02 limits the application of extended diversion time operations to turbine-engine aeroplanes.

**Section 2.03**

Subsection 2.03(1) prescribes that section 2.03 applies if the airworthiness standards for an aeroplane require the type design of the aeroplane to be approved for the conduct of extended diversion time operations with the diversion time limit requested by the aeroplane operator in an application for EDTO approval.

Subsection 2.03(1) prescribes that the type design of the aeroplane must, having been approved under relevant certification requirements for extended diversion time operations, have that approval and the diversion time limit for the aeroplane contained in any of the documents listed. Further, subsection 2.03(1) requires that the diversion time limit requested by an operator in an application for EDTO approval shall not exceed the diversion time limit used as evidence within the documents listed.

Subsection 2.03(2) sets out the kinds of information in relation to airframe/engine combination and extended diversion time operations that must be contained in at least one of the certification documents identified for the purpose in subsection 2.03(1). Further, information about the equipment and flight crew procedures required for the conduct of an EDTO with the diversion

time limit requested and the diversion time capability of the aeroplane as limited by any time-limited system for the aeroplane must be included.

#### **Section 2.04**

Section 2.04 sets out the matters in relation to an application for EDTO approval for which CASA must be satisfied, which relate to the general capability of the aeroplane to be used to conduct extended diversion time operations.

#### **Section 2.05**

Subsection 2.05(1) provides that CASA must be satisfied that the operator has the capability to ensure that certain equipment and systems of an aeroplane (the subject of an application for EDTO approval) would be serviceable for dispatch on an EDTO flight under the approval. These include one-engine-inoperative auto-land capability for a 2-engine aeroplane, and automated external defibrillators for operations in the polar region.

Subsection 2.05(2) provides that CASA must be satisfied of certain matters to do with the serviceability of the aeroplane's fuel quantity indicating system and cargo fire suppression system for a flight, and, if the minimum equipment list for the aeroplane (an MEL) permits the aeroplane to be operated with the system unserviceable, that any relevant conditions and limitations of the MEL could be complied with for a flight.

Subsections 2.05(3) and (4) provide for equipment and systems that CASA must be satisfied would be serviceable for dispatch for a flight in relation to an EDTO approval requesting a diversion time of more than 180 minutes. These include certain matters regarding auxiliary power units, communication systems and, for 2-engine aeroplanes, the auto-throttle system.

Subsection 2.05(5) disapplies the auxiliary power unit requirement of paragraph 2.05(4)(a) where the aeroplane is a 2-engine aeroplane for which the type design and certification documents identified in subsection 2.03(2) do not require the aeroplane to have an APU for the conduct of EDTO flights; or where the aeroplane is a 3- or 4-engine aeroplane, the APU is not required for the specified conditions.

#### **Section 2.06**

Subsection 2.06(1) provides that the section applies to an application to conduct extended diversion time operations using a 2-engine aeroplane.

Subsection 2.06(2) sets out the limits of the three conditional elements from which the most limiting value is applied to determine the diversion time limit that can be approved for the aeroplane.

Subsection 2.06(3) provides that the aeroplane cargo fire suppression system does not apply as one of the limiting cases in subsection 2.06(2) if none of the type design and certification documents mentioned in subsection 2.03(2) specify a cargo fire suppression system limit for the aeroplane.

Subsection 2.06(4) provides that the aeroplane's most EDTO significant time-limited system (other than the cargo fire suppression system), does not apply as one of the limiting cases in subsection 2.06(2) if none of the type design and certification documents mentioned in subsection 2.03(2) specify a time limit for the most EDTO significant time-limited system (that is other than the cargo fire suppression system).

**Section 2.07**

Subsection 2.07(1) provides that the section applies to an application to conduct extended diversion time operations using a 3- or 4-engine aeroplane.

Subsection 2.07(2) sets out the limits of the two conditional elements from which the most limiting value is applied to determine the diversion time limit that can be approved for the aeroplane.

Subsection 2.07(3) provides that the aeroplane cargo fire suppression system does not apply as one of the limiting cases in subsection 2.07(2) if the none of the type design and certification documents mentioned in subsection 2.03(2) specify a cargo fire suppression system limit for the aeroplane.

Subsection 2.07(4) provides that the aeroplane's most EDTO significant time-limited system (other than the cargo fire suppression system), does not apply as one of the limiting cases in subsection 2.07(2) if none of the type design and certification documents mentioned in subsection 2.03(2) specify a time limit for the most EDTO significant time-limited system (that is other than the cargo fire suppression system).

**Section 2.08**

Section 2.08 specifies that if an application for EDTO approval involves conducting the extended diversion time operations through or within the polar region that the aeroplane must be equipped with an automated external defibrillator, and the MEL for the aeroplane must sufficiently cover the requested EDTO operations.

**Section 2.09**

Subsection 2.09(1) provides that the section applies to an application for approval to conduct extended diversion time operations with a diversion time greater than 180 minutes or through or within the polar region.

Subsection 2.09(2) requires that CASA must be satisfied that the operator can ensure the care and safety of passengers and crew following a landing at an EDTO en-route alternate aerodrome.

Subsection 2.09(3) sets out the matters that CASA must consider in determining whether it is satisfied that the operator can ensure the care and safety of passengers and crew following a landing at an EDTO en-route alternate aerodrome.

**Division 2—Form of application for EDTO approval****Section 2.10**

Section 2.10 sets out the scope of the Division, being to prescribe for the purposes of paragraph 121.035(2)(b) of CASR, the form in which an application for EDTO approval must be made.

**Section 2.11**

Subsection 2.11(1) prescribes that an application for EDTO approval for a particular aeroplane and airframe/engine combination must be made to CASA in writing.

Subsection 2.11(2) sets out the information that must be included in an application for EDTO approval.

Subsection 2.11(3) requires that where an application for EDTO approval requests a diversion time greater than 180 minutes or involves flight through or within the polar region, the application must also include details of how the operator will ensure the care and safety of a full

complement of passengers and crew following a landing at an EDTO en-route alternate aerodrome.

### **Division 3—Factors to be considered by CASA in approving EDTO**

#### **Section 2.12**

Section 2.12 provides for the scope of the Division. The Division is made for the purposes of paragraph 121.035(2)(c) of CASR, and prescribes factors to be considered by CASA in deciding whether or not to grant an approval to an operator to conduct extended diversion time operations in relation to a particular aeroplane and airframe/engine combination.

#### **Section 2.13**

Section 2.13 sets out the safety compensating factors that CASA must take into account in considering an application by an operator to conduct extended diversion time operations using a particular aeroplane and airframe/engine combination.

#### **Section 2.14**

Subsection 2.14(1) requires that CASA must consider the capability and competence of the operator to safely conduct and adequately support the intended operations, when assessing an application by an operator to conduct extended diversion time operations using a particular aeroplane and airframe/engine combination.

Subsection 2.14(2) sets out the contingencies that CASA may take into consideration when assessing the capability and competence of an operator to safely conduct the intended EDTO operations.

### **Division 4—Requirements for conduct of EDTO**

#### **Section 2.15**

Section 2.15 provides for the scope of the Division. The Division is made under paragraph 121.035(3)(a) of CASA and prescribes requirements in relation to conducting EDTO flights.

#### **Section 2.16**

Subsection 2.16(1) requires that the flight plan routes for an aeroplane used to conduct an EDTO flight must be limited to those for which the diversion time to an EDTO en-route alternate aerodrome for the flight, at the speed specified for the purpose does not exceed the maximum diversion time, in ISA and still air conditions.

Subsection 2.16(2) sets out the criteria for the specification of speeds required by subsection 2.16(1) in the operator's exposition for the purpose.

#### **Section 2.17**

Subsection 2.17(1) limits the application of the section to an EDTO with a maximum diversion time greater than 180 minutes.

Subsection 2.17(2) requires that for all aeroplanes conducting an EDTO with a diversion time beyond 180 minutes, the time required to fly the distance to a planned EDTO en-route alternate aerodrome at the normal cruising speed specified in the operator's exposition and corrected for forecast wind and temperature does not exceed the time limit for the cargo fire suppression system specified in any of the documents mentioned in subsection 2.03(2), minus a safety margin of 15 minutes.

Subsection 2.17(3) requires that for 2-engine aeroplanes conducting an EDTO with a diversion time beyond 180 minutes, the time required to fly the distance to a planned EDTO en-route alternate aerodrome at the one-engine-inoperative cruising speed specified in the operator's exposition and corrected for forecast wind and temperature does not exceed the time limit for the aeroplane's most limited time-limited system (other than the cargo fire suppression system), specified in any of the documents mentioned in subsection 2.03(2), minus a safety margin of 15 minutes.

### **Section 2.18**

Subsection 2.18(1) sets out the general flight dispatch requirements that must be satisfied prior to the commencement of an EDTO flight.

Subsection 2.18(2) prescribes the additional specific aeroplane systems and equipment that must be serviceable in order for an EDTO flight to be commenced. These concern one-engine-inoperative auto-land capability for a 2-engine aeroplane, automated external defibrillators for operations in the polar region, and the fuel quantity indicating system and cargo fire suppression system (which may be unserviceable for a flight but only if permissible under the MEL and if the conditions and limitations of the MEL regarding the unserviceability are complied with).

Subsection 2.18(3) requires that an EDTO flight must not commence unless the flight dispatch release document has been prepared and it specifies the EDTO en-route alternate aerodromes for the flight and the EDTO capability of the aeroplane in terms of diversion time.

Subsection 2.18(4) requires that an EDTO flight must not commence unless the performance data prescribed is contained in the aircraft flight manual instructions for the aeroplane and available in the manner prescribed.

Subsection 2.18(5) details the performance data required to satisfy the paragraph 2.18(4)(b) prescription.

Subsection 2.18(6) establishes that the performance data specified paragraph 2.18(4)(b) and described in detail in subsection 2.18(5) that include altitudes, airspeeds, thrust settings and fuel flow, used in establishing the EDTO area of operations for the airframe/engine combination, must be used when determining whether the obstacle clearance performance requirements for the en-route phase of flight contained in sections 9.07 and 9.08 can be met.

### **Section 2.19**

Subsection 2.19(1) limits the application of the section to an EDTO with a maximum diversion time greater than 180 minutes.

Subsection 2.19(2) sets out the required aeroplane systems which must be serviceable for dispatch. These are the auto-throttle system for a 2-engine aeroplane, the auxiliary power unit in certain circumstances and communication systems.

### **Section 2.20**

Subsection 2.20(1) sets out the conditions that constitute a significant change where they occur on a flight planned to be an EDTO flight before the EDTO entry point and that must be evaluated by the pilot-in-command as soon as practicable.

Subsection 2.20(2) requires that where a significant change mentioned in subsection 2.20(1) occurs prior to the EDTO entry point, the pilot in command must select an EDTO en-route alternate aerodrome additional to the aerodrome effected by the significant change, so that a safe approach and landing can be made in the event of a diversion.

Subsection 2.20(3) prescribes the assistance to the flight crew required from the flight dispatcher in the circumstance where a failure or degradation of an EDTO significant system prior to the EDTO entry point for a flight. The subsection also requires that all available means of communication must be used to ensure that assistance is provided.

Subsection 2.20(4) sets out the requirements that must be satisfied before the pilot in command of an aeroplane conducting an EDTO flight may proceed beyond the EDTO entry point.

Subsection 2.20(5) requires that the pilot-in-command of a 2-engine aeroplane conducting an EDTO flight must not proceed beyond the EDTO entry point unless the aeroplane complies with the in-flight operational requirements of the CMP document for the EDTO flight.

Subsection 2.20(6) sets out the conditions that constitute a significant change at an EDTO en-route alternate aerodrome that apply during an EDTO flight when the aeroplane is in the EDTO sector; that is when beyond the EDTO entry point and prior to the EDTO exit point.

Subsection 2.20(7) requires that when an aeroplane is in the EDTO sector; beyond the EDTO entry point and prior to the EDTO exit point, significant changes described in subsection 2.20(6) must be evaluated to ensure the flight is continued as planned only if the pilot-in-command is satisfied that doing so would be no less safe than an alternative course of action.

Subsection 2.20(8) prescribes that in the event of an in-flight shutdown of an engine, the pilot-in-command is required to promptly initiate a diversion to the nearest aerodrome that is determined by the pilot-in-command to be suitable taking account of the safe operation of the aeroplane. The nearest aerodrome is to be determined by the time it would take to fly to the aerodrome.

Subsection 2.20(9) prescribes that in the event of a single or multiple primary system failure during the flight, the pilot-in-command is required to initiate a diversion to the nearest aerodrome that is determined by the pilot-in-command to be suitable taking account of the safe operation of the aeroplane unless the pilot-in-command determines no substantial degradation of safety would result from continuing the planned flight. The nearest aerodrome is to be determined by the time it would take to fly to the aerodrome.

## **Division 5—General conditions on EDTO approvals**

### **Section 2.21**

Under section 2.21, the Division imposes conditions on EDTO approvals using the legislative instrument-making power in regulation 11.068 of CASR.

### **Section 2.22**

Subsection 2.22(1) makes it a condition on an EDTO approval issued to an aeroplane operator that the operator must have procedures in the operator's exposition to ensure that, during flight planning for an EDTO flight of an aeroplane, the flight dispatcher meets the requirement set out in subsection 2.22(2).

Subsection 2.22(2) requires that the flight dispatcher must consider the potential routes and altitudes that would be necessary for a diversion to an EDTO en-route alternate aerodrome when determining whether immediate satellite-based communications required by subsection 11.08(3) are available for the flight.

### **Section 2.23**

Subsection 2.23(1) makes it a condition on an EDTO approval issued to an aeroplane operator,



that the operator must ensure that any flight dispatcher who has responsibilities for the dispatch of the aeroplane on an EDTO flight, has received the training required by section 2.23 for the person before carrying out the duties and responsibilities of a flight dispatcher for the flight.

Subsection 2.23(2) sets out the content required to be covered in relation to a flight dispatcher, that the operator must ensure is included in the training and checking mentioned in paragraph 119.170(4)(a) of CASR.

#### **Section 2.24**

Subsection 2.24(1) makes it a condition on an EDTO approval issued to an aeroplane operator operating a 2-engine aeroplane, that the operator must prepare a summary report, in respect of an aeroplane used to conduct EDTO under the approval, available to CASA on request, for the times specified, that will report on the matters set out in subsection 2.24(2) for each aeroplane of that type, model and airframe/engine combination operated by the operator under the approval

Subsection 2.24(2) sets out the matters required to be reported under the requirements of subsection 2.24(1).

Subsection 2.24(3) requires that if a summary report for a 3-month period is requested by CASA, the operator must make the report available within 14 days of CASA's request.

Subsection 2.24(4) sets out criteria relating to an approved reliability program that, if met by the operator, satisfies the requirement to prepare a summary report in relation to an aeroplane mentioned in subsection 2.24(1).

#### **Section 2.25**

Subsection 2.25(1) makes it a condition on an EDTO approval issued to an aeroplane operator that the operator must ensure that the flight crew members, assigned to duty for an EDTO flight of an aeroplane used to conduct EDTO under the approval, are provided with navigation documents that include at least the information specified.

#### **Section 2.26**

Subsection 2.26(1) makes it a condition on an EDTO approval issued to an aeroplane operator that the operator report to CASA any of the specified events that occur in-flight in relation to an EDTO flight of an aeroplane conducting EDTO under the approval, within 72 hours of the event occurring.

Subsection 2.26(2) requires that, where any of the events mentioned in subsection 2.30(1) occur, the operator must conduct an investigation into the cause of the event, and include in the report to CASA at least the specified information.

## **Chapter 3—Carriage of documents and emergency and survival equipment information**

### **Division 1—Flight related documents**

#### **Section 3.01**

Subsection 3.01(1) prescribes documents required to be carried on all flights for the purposes of paragraph 121.085(1)(a) of CASR.

Subsection 3.01(2) provides that despite the requirement in paragraph 3.01(1)(a) to carry the aircraft flight manual, if the prescribed requirements are satisfied, then another document may be carried on board the aeroplane in place of the flight manual.

Subsection 3.01(3) further provides that if the prescribed requirements are satisfied, then the document may be carried on board the aeroplane in place of a checklist of the aeroplane's normal, abnormal or emergency procedures mentioned in the definition of *aircraft flight manual instructions*.

**Section 3.02** prescribes documents required to be carried on a flight of an aeroplane that begins or ends at an aerodrome outside Australian territory for the purposes of paragraph 121.095(2)(a).

**Section 3.03** provides that, for the purposes of paragraph 121.100(a) of CASR, if the flight is a passenger transport operation, a copy of the passenger list for the flight is prescribed.

## **Division 2—Emergency and survival equipment**

**Section 3.04** prescribes the information required for certain items of equipment that are required to be carried on the flight for the purposes of subregulation 121.135(1) of CASR.

## **Chapter 4—Flight preparation (Part 121 alternate aerodromes) requirements**

### **Division 1—Preliminary**

**Section 4.01** sets out that the Division is made under subregulation 121.170(2) of CASR and prescribes the flight preparation (Part 121 alternate aerodromes) requirements.

**Section 4.02** provides for the definitions of *relevant weather conditions* and *relevant minima*, which are defined for Chapter 4.

#### **Section 4.03**

Subsection 4.03(1) defines an *isolated destination aerodrome* for an aeroplane as a planned destination aerodrome from which the nearest aerodrome that would meet the requirements for a destination alternate aerodrome for the aeroplane under the civil aviation legislation, is located at a distance from the planned destination aerodrome that would require an amount of fuel, when calculated as set out in subsection 4.03(2) that would be more than amount of fuel specified in subsection 4.03(3).

Subsection 4.03(2) prescribes the fuel calculation elements that constitute the amount of fuel required to determine if the nearest aerodrome to the planned destination aerodrome can be reached within the fuel amount specified in subsection 4.03(3).

Subsection 4.03(3) sets out the amount of the fuel value that is required to be used as the criteria to determine whether a planned destination aerodrome is an isolated destination aerodrome.

**Section 4.04** sets out the values of the four criteria elements for determining if the weather conditions constitute *relevant weather conditions*.

**Section 4.05** deems that the expression “estimated time of use” by an aeroplane of an aerodrome, for the purpose of the flight preparation (Part 121 alternate aerodromes) requirements, has the meaning provided for in this section. The table sets out in column 2 a period constituting the estimated time of use of an aeroplane in relation to particular kinds of aerodromes mentioned in column 1.

## **Division 2—Flight preparation (Part 121 alternate aerodrome) requirements**

### **Section 4.06**

Subsection 4.06(1) prescribes that the requirements in section 4.06 apply when assessing an authorised weather forecast for an aerodrome to determine whether relevant weather conditions are forecast to exist for a flight of an aeroplane.

Subsection 4.06(2) requires that when determining whether the cloud is more than scattered (SCT) below the relevant minima for a flight, the criteria specified in relation to cloud values are to be used.

Subsection 4.06(3) sets out the requirements that apply when the change indicator becoming (BECMG) is used in an aerodrome forecast.

Subsection 4.06(4) prescribes the requirements to be applied when an authorised weather forecast includes weather conditions forecast to occur on an intermittent (INTER) or temporary (TEMPO) basis.

Subsection 4.06(5) requires that if an authorised weather forecast includes a probability indicator of 30% or 40% that the weather will be below the relevant minima at any time during the estimated time of use, that the weather conditions are taken to be present in the time period associated with the probability indicator.

Subsection 4.06(6) provides the three criteria that may be disregarded if present in an aerodrome forecast or an ICAO landing forecast for an EDTO en-route alternate aerodrome at the estimated time of use in relation to determining whether relevant weather conditions for cloud ceiling are present under section 4.19.

Subsection 4.06(7) specifies the criteria that can be used to disapply the requirements of subsection 4.06(5).

Subsection 4.06(8) requires that where a flight of an aeroplane is conducted using an aeroplane with an inoperative piece of equipment permitted by a MEL for the aeroplane, any limitation of the MEL specified or consequent to flight with the item inoperative, must be taken into consideration when determining the landing minima or the relevant weather conditions for the flight.

### **Section 4.07**

Subsection 4.07(1) specifies the conditions under which a take-off alternate aerodrome must be planned before a flight commences.

Subsection 4.07(2) requires that in determining whether the relevant weather conditions are forecast to satisfy subsection 4.07(1) the period of time commences 30 minutes before, and ceases 30 minutes after, the aeroplane's estimated time of departure at the aerodrome.

Subsection 4.07(3) prescribes the landing minima criteria for paragraph 4.07(1)(a).

Subsection 4.07(4) specifies the requirements that a take-off alternate aerodrome that is planned for a flight must satisfy.

Subsection 4.07(5) prescribes the criteria for the flight time of a take-off alternate aerodrome from the departure aerodrome required to satisfy a requirement of paragraph 4.07(4)(b).

Subsection 4.07(6) sets out the matters to be taken into account where subparagraph 4.07(5)(c)(ii) applies.

Subsection 4.07(7) prescribes that an aerodrome can only be selected as a take-off alternate aerodrome if the authorised weather forecast for the aerodrome, during the estimated time of use, indicate that the relevant weather conditions will not be present below the landing minima which meet the landing minima requirements and are appropriately adjusted to account for the assumption that the landing at that aerodrome will be conducted with one engine inoperative.

Subsection 4.07(8) provides an alleviation to subsection 4.07(7) by prescribing that when weather conditions of an intermittent or temporary nature, that have a 30% or 40% probability indicator for deterioration, need not be taken into account when considering the weather conditions in the authorised weather forecast for the purpose of selecting a take-off alternate aerodrome.

### **Section 4.08**

Subsection 4.08(1) requires that at least one destination alternate aerodrome must be planned for a flight, before the flight commences unless an exception to that requirement prescribed in subsection 4.08(2) or 4.08(3) applies to the flight; or must be planned if, during the flight, a prescribed exception ceases to apply to the flight. Paragraph 4.08(1)(b) effectively provides that where an exception is used before the flight commences and during the flight a subsequent change to conditions no longer satisfies the criteria for the exception, a destination alternate aerodrome for the flight must be provided, where it is possible to do so.

Subsection 4.08(2) prescribes that it is an exception to the requirement that at least one destination alternate aerodrome be planned, if the planned destination aerodrome is an isolated destination aerodrome.

Subsection 4.08(3) sets out the four criteria elements for an exception to the requirement to plan for at least one destination alternate aerodrome if the planned destination aerodrome, at the estimated time of use, meets all of the prescribed criteria in relation to the planned destination aerodrome.

Subsection 4.08(4) provides an in-flight alleviation to the requirement to plan for at least one destination alternate aerodrome, in the circumstance where the aeroplane is in-flight and within 60 minutes flight time to the aerodrome of intended landing, and the requirements in section 4.09 (about ICAO landing forecasts or a forecast that is a TAF3) are met.

Subsection 4.08(5) specifies the cloud ceiling requirements for paragraph 4.08(3)(a), being that the authorised weather forecast, in relation to the planned destination aerodrome at the estimated time of use is required to indicate that the cloud ceiling will be greater than the values specified for the applicable circumstances.

Subsection 4.08(6) specifies the visibility requirements for paragraph 4.08(3)(b), being that the authorised weather forecast, in relation to the planned destination aerodrome at the estimated time of use is required to indicate that the visibility will be greater than the values specified for the applicable circumstances.

Subsection 4.08(7) specifies the aerodrome lighting requirements for paragraph 4.08(3)(c), being that in the case where the estimated time of use of the planned destination aerodrome includes a period which is night, the aerodrome lighting that is necessary to ensure safe operations is available and used by the flight and any other requirement that applies under section 4.13, 4.15 or 4.17 is met.

**Section 4.09**

Subsection 4.09(1) sets out the requirements in relation to ICAO landing forecast or TAF3 for the purposes of the alleviation to the destination alternate aerodrome alleviation mentioned in subsection 4.08(4).

Subsection 4.09(2) further limits the use of the TAF3 for the purposes of the destination alternate aerodrome alleviation mentioned in subsection 4.08(4) to only being where the first 3 hours of the period of validity of the forecast wholly encompasses the time periods referred to in paragraphs 4.09(1)(b) and 4.09(1)(c).

**Section 4.10**

Subsection 4.10(1) prescribes the application of section 4.10 to being in addition to the requirements of section 4.08.

Subsection 4.10(2) sets out the conditions under which it is a requirement that two destination alternate aerodromes must be planned for a flight of an aeroplane.

Subsection 4.10(3) provides the circumstances under which the requirement in subsection 4.10(1) can be subject to an exception.

**Section 4.11**

Subsection 4.11(1) requires that an aerodrome must not be planned for use as an en-route alternate aerodrome or a destination alternate aerodrome or an isolated destination aerodrome unless during the estimated time of use at the aerodrome, an authorised weather forecast indicates that the cloud and ceiling conditions would be above those values set out in table 4.11 for the applicable approach facility configuration.

Subsection 4.11(2) requires that where an authorised weather forecast for a destination alternate aerodrome or an en-route alternate aerodrome (that is not an EDTO en-route alternate aerodrome), is a GAF or GAMET area forecast, the cloud ceiling and visibility requirements are those specified, not those set out in table 4.11(1).

**Section 4.12**

Subsection 4.12(1) prescribes that the application of section 4.12 is in relation to the flight of an aeroplane to a planned destination aerodrome that is an isolated destination aerodrome.

Subsection 4.12(2) requires that a critical point is calculated before the commencement of the flight.

Subsection 4.12(3) requires that a flight must not be continued beyond the critical point unless the specified criteria are satisfied and in doing so a safe landing can be made at the estimated time of use.

Subsection 4.12(4) requires that when assessing the authorised weather forecast in relation to satisfying the criteria specified in paragraph 4.12(3)(a); if the authorised weather forecast assessed for flight beyond the critical point is an aerodrome forecast or an ICAO landing forecast, the cloud ceiling and visibility requirements for continuing beyond the critical point are those specified in the table in section 4.11.

Subsection 4.12(5) requires that when assessing the authorised weather forecast in relation to satisfying the criteria specified in paragraph 4.12(3)(a); if the authorised weather forecast assessed for flight beyond the critical point is a GAF or GAMET area forecast the cloud ceiling

requirements for the aerodrome is the lowest safe altitude for the last route segment to the aerodrome, plus 500 ft and visibility at the aerodrome must be not less than 8 km.

### **Section 4.13**

Subsection 4.13(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land, in the circumstances where the aerodrome is not an isolated destination aerodrome and the runway is only equipped with portable runway lighting.

Subsection 4.13(2) requires that at least one destination alternate aerodrome must be planned for a flight of the aeroplane, planned to use the aerodrome for landing, unless an exception in subsection 4.13(3) or 4.13(4) applies for the flight.

Subsection 4.13(3) sets out the criteria for the provision of reliable arrangements, for the purpose of enabling a safe landing at night, that can be used as exception to the requirement in subsection 4.13(2).

Subsection 4.13(4) provides that it is an exception to the requirement in subsection 4.13(2) if the aeroplane carries holding fuel sufficient to enable holding until first light plus 10 minutes, at the planned destination aerodrome.

### **Section 4.14**

Subsection 4.14(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land in the circumstances where the aerodrome is an isolated destination aerodrome and the runway is only equipped with portable runway lighting.

Subsection 4.14(2) requires that in planning to use the aerodrome, reliable arrangements with a person satisfying the requirements in subsection 4.14(3) for the purpose of enabling a safe landing at night must be made to set out, activate, and ensure the ongoing correct functioning of, the portable runway lighting at the aerodrome during the period specified.

Subsection 4.14(3) requires that the person mentioned in subsection 4.14(2) must be qualified for, and competent in, setting out and activating the portable lighting at the runway.

Subsection 4.14(4) requires that the pilot-in-command of the aeroplane must not continue the flight to the isolated destination aerodrome, past the critical point, unless the specified criteria are satisfied.

### **Section 4.15**

Subsection 4.15(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land in the circumstances where the aerodrome is not an isolated destination aerodrome and the aerodrome is equipped with electric runway lighting, whether pilot-activated or otherwise, but does not have standby power for the runway lights.

Subsection 4.15(2) requires that at least one destination alternate aerodrome must be planned for a flight of the aeroplane, planned to use the aerodrome for landing, unless an exception in subsection 4.15(3) or 4.15(5) applies for the flight.

Subsection 4.15(3) sets out the criteria for the provision of reliable arrangements for the purpose of enabling a safe landing at night that can be used as exception to the requirement in subsection 4.15(2)

Subsection 4.15(4) requires that the person mentioned in paragraph 4.15(2)(b) must be qualified for, and competent in, setting out and activating the portable lighting at the runway.

Subsection 4.15(5) provides that it is an exception to the requirement in subsection 4.15(2) if the aeroplane carries holding fuel sufficient to enable holding until first light plus 10 minutes, at the aerodrome.

#### **Section 4.16**

Subsection 4.16(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land in the circumstances where the aerodrome is an isolated destination aerodrome and the aerodrome is equipped with electric runway lighting, whether pilot-activated or otherwise, but does not have standby power for the runway lights.

Subsection 4.16(2) prescribes the requirements that apply for the flight of an aeroplane, planned to use the aerodrome for landing.

Subsection 4.16(3) prescribes that the person with whom the reliable arrangements mentioned in paragraph 4.16(2)(b) are to be made, is required to be qualified for, and competent in, setting out and activating the portable lighting at the runway.

Subsection 4.16(4) requires that the pilot-in-command of the aeroplane must not continue the flight to the isolated destination aerodrome, past the critical point, unless the specified criteria are satisfied.

#### **Section 4.17**

Subsection 4.17(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land in the circumstances where the aerodrome is not an isolated destination aerodrome and the aerodrome is equipped with pilot activated lighting and standby power for the runway lights.

Subsection 4.17(2) requires that at least one destination alternate aerodrome must be planned for a flight of the aeroplane, planned to use the aerodrome for landing, unless an exception in subsection 4.17(3) or 4.17(4) applies for the flight.

Subsection 4.17(3) sets out the criteria for the provision of reliable arrangements for the purpose of enabling a safe landing at night that can be used as exception to the requirement in subsection 4.17(2)

Subsection 4.17(4) provides that it is an exception to the requirement in subsection 4.17(2) if the aeroplane carries holding fuel sufficient to enable holding until first light plus 10 minutes, at the aerodrome.

#### **Section 4.18**

Subsection 4.18(1) specifies the application of the section as prescribing the runway lighting necessary to satisfy the requirement in paragraph 121.205(2)(a) of CASR for the aerodrome to be suitable for the aeroplane to land in the circumstances where the aerodrome is an isolated destination aerodrome and the aerodrome is equipped with pilot activated lighting and standby power for the runway lights.

Subsection 4.18(2) requires that in planning to use the aerodrome for a flight of an aeroplane, reliable arrangements must be made for the purpose of enabling a safe landing at night, with a person that satisfied the prescribed criteria.

Subsection 4.18(3) requires that the pilot-in-command of the aeroplane must not continue the flight to the isolated destination aerodrome, past the critical point, unless the specified criteria are satisfied.

### **Section 4.19**

Subsection 4.19(1) sets out the three criteria elements that must each be satisfied for an aerodrome to be selected as an EDTO en-route alternate aerodrome for the flight of an aeroplane at a time before the flight commences.

Subsection 4.19(2) prescribes the aerodrome requirements that must be satisfied to meet the requirement of paragraph 4.09(1)(a).

Subsection 4.19(3) prescribes the performance and equipment requirements that must be satisfied in order to meet the requirement of paragraph 4.09(1)(b).

Subsection 4.19(4) prescribes the planning minima requirements that must be satisfied to meet the requirement of paragraph 4.09(1)(c).

Subsection 4.19(5) requires that the specified elements of the authorised instrument approach procedure selected under paragraph 4.19(4)(b) for planning minima requirements must be increased as necessary to ensure a safe one-engine-inoperative landing can be made under the forecast weather conditions and runway surface conditions at the aerodrome.

Subsection 4.19(6) sets out that for the purposes of subparagraph 4.19(4)(c)(ii), an authorised instrument approach procedure selected under paragraph 4.19(4)(b) has the cloud ceiling value and the visibility value set out in columns 2 and 3 of the item in the table 4.19 that lists the instrument approach procedure in column 1.

Subsection 4.19(7) defines published for the purpose of an item in table 4.19 as meaning published in the authorised aeronautical information for the purposes of the instrument approach procedure mentioned in column 1 that is planned to be used.

Subsection 4.19(8) provides for low visibility EDTO planning minima contained in subsection 4.19(9) alternative to those mentioned in subsection 4.19(4), if the prescribed requirements are satisfied.

Subsection 4.19(9) specifies that where an aerodrome forecast, or ICAO landing forecast, indicates that relevant weather conditions, during any part of the estimated time of use at the aerodrome, are not forecast to exist below the cloud ceiling and visibility values determined in accordance with the values permitted under the EDTO approval.

### **Division 3—Operational variations of the flight preparation (Part 121 alternate aerodromes) requirements**

Subsection 4.21(1) prescribes that an operational variation to a requirement imposed by a provision of Division 2 applies if an operator, who meets the requirement in subsection 4.21(2) holds an approval under Regulation 121.010 of CASR that specifies the operational variation.



Subsection 4.21(2) specifies the criteria to be satisfied to meet the requirement mentioned in subsection 4.21(1) for the purpose.

## **Chapter 5—Operational flight plans**

### **Section 5.01**

Subsection 5.01(1) sets out that the section is made for paragraph 121.175(2)(b) of CASR and prescribes information that must be contained in an operational flight plan.

Subsection 5.01(2) prescribes the information that must be contained in the operational flight plan, including details about the aeroplane, the flight, departure and planned destination aerodromes, fuel, the EDTO en-route alternate aerodrome if required for an EDTO flight, the critical point if required to be calculated for a planned destination aerodrome that is an isolated destination aerodrome.

Subsection 5.01(3) requires that, subject to subsection 5.01(4), if a take-off alternate aerodrome is required by subsection 4.07(1) for the flight, the operational flight plan must include the name, or other identifying information, of the take-off alternate aerodrome.

Subsection 5.01(4) provides that subsection 5.01(3) does not apply if there are procedures in the aeroplane operator's exposition to ensure the pilot in command is notified of the name, or other identifying information, of the take-off alternate aerodrome before the aeroplane takes off for the flight.

Subsection 5.01(5) requires that where a destination alternate aerodrome is required for the flight, the operational flight plan must include the name, or other identifying information, of the destination alternate aerodrome, and the routes or route segments required for a flight to the destination alternate aerodrome, unless all of the prescribed requirements are satisfied.

### **Section 5.02**

Section 5.02 provides that, for the purposes of subregulation 121.175(3) of CASR, the operational flight plan must contain, if waypoints in the flight plan are required under regulation 91.630 to be reported to Air Traffic Services, the estimated time that the aeroplane will fly over the waypoint, as well as the fuel calculations conducted in compliance with the fuel requirements under regulation 121.235 of CASR, and the aerodrome of final landing for the flight.

## **Chapter 6—Narrow runway width calculations**

### **Section 6.01**

Section 6.01 sets out that the Chapter is made for paragraph 121.220(1)(b) of CASR and prescribes the manner of working out the minimum width of a runway for an aeroplane.

### **Section 6.02**

Subsection 6.02(1) defines, for the purposes of section 6.02, the terms *outer main gear wheel span* and *reference field length*.

Subsection 6.02(2) sets out that the minimum width of a runway for an aeroplane is the width, of a homogenous runway surface, shown in the cell of table 6.02(2) that is the intersection of the aeroplane's code letter, worked out under subsection 6.02(3) and the aeroplane's code number, worked out under subsection 6.02(4).

Subsection 6.02(3) prescribes the criteria for determining the code letter for an aeroplane.

Subsection 6.02(4) prescribes the criteria for determining the code number for an aeroplane.

## Chapter 7—Fuel requirements

### Division 1—Preliminary

**Section 7.01** sets out that the Chapter is made for subregulation 121.235(2) of CASR and prescribes requirements relating to fuel for aeroplanes.

#### Section 7.02

Section 7.02 provides for the meaning of *destination alternate fuel*.

Subsection 7.02(1) prescribes that where a destination alternate aerodrome is required for a flight of an aeroplane, the *destination alternate fuel* is the amount of fuel necessary to enable the aeroplane to conduct all of the specified elements.

Subsection 7.02(2) prescribes that where 2 destination alternate aerodromes are required for a flight of the aeroplane, the *destination alternate fuel* is the amount of fuel required to enable the aeroplane to proceed to the destination alternate aerodrome that requires the greater amount of destination alternate fuel under subsection 7.02(1).

Subsection 7.02(3) requires that where the aeroplane is operated without a destination alternate aerodrome (other than because the planned destination aerodrome is an isolated destination aerodrome), the *destination alternate fuel* is the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 1 500 ft above the destination aerodrome elevation in ISA conditions.

Subsection 7.02(4) requires that where the planned destination aerodrome for a flight of the aeroplane is an isolated destination aerodrome, the *destination alternate fuel* is the amount of fuel required to enable the aeroplane to satisfy the criteria specified.

#### Section 7.03

Subsection 7.03(1) defines *contingency fuel* for an aeroplane and a flight, as the amount of fuel required to compensate for unforeseen factors, which must not be less than the amount required under subsection 7.03(2) or 7.03(3).

Subsection 7.03(2) provides for the requirements for contingency fuel for the flight of an aeroplane (other than in the case that a point of in-flight replanning has been specified by the operator for the flight).

Subsection 7.03(3) specifies the requirements for contingency fuel for the flight of an aeroplane where a point of in-flight replanning has been specified by the operator for the flight.

### Division 2—Fuel requirements

#### Section 7.04

Subsection 7.04(1) prescribes that when determining the quantity of usable fuel required under this Chapter for a flight of an aeroplane, the operator and the pilot in command must each use fuel consumption data from either the most recent aeroplane-specific fuel consumption data derived from a fuel consumption monitoring system used by the operator, if available; or the aeroplane manufacturer's data for the aeroplane.

Subsection 7.04(2) requires that the operator and the pilot in command must each consider the effect of the specified matters in determining the quantity of usable fuel required under this Chapter.

### **Section 7.05**

Subsection 7.05(1) requires that the operator and the pilot-in-command of an aeroplane must each ensure that, when a flight of the aeroplane commences, the aeroplane is carrying on board at least the amounts of usable fuel specified.

Subsection 7.05(2) requires that the operator and the pilot-in-command must each ensure that, at any point of in-flight replanning, the aeroplane is carrying on board at least the amounts of usable fuel specified.

Subsection 7.05(3) requires that the operator and the pilot-in-command must each ensure that the aeroplane is carrying on board at least the amounts of usable fuel specified, at any time to continue the flight safely

Subsection 7.05(4) requires that, if after commencement of the flight, fuel is used for a purpose other than that originally intended during pre-flight planning, the pilot-in-command must re-analyse the planned use of fuel for the remainder of the flight and adjust the parameters of the flight, if that is necessary to remain in compliance with the requirements of this Division.

Subsection 7.05(5) provides that subsection 7.05(6) applies if a flight has been unable to land at the planned destination aerodrome and is diverting to the planned destination alternate aerodrome.

Subsection 7.05(6) provides that despite the requirements of subsection 7.05(3), where a flight has been unable to land at the planned destination aerodrome and is diverting to the planned destination alternate aerodrome, the pilot-in-command and the operator must each ensure that the aeroplane is carrying on board at least the amounts of usable fuel specified.

### **Section 7.06**

Subsection 7.06(1) requires that the operator and the pilot-in-command must each ensure that, when a flight of the aeroplane for an EDTO commences, or from the point of in-flight replanning, the aeroplane is carrying at least the amount of usable fuel that is the greatest of the three scenarios specified, plus the fuel mentioned in subsection 7.06(2).

Subsection 7.06(2) prescribes the requirements for the amount of fuel in addition to the fuel amount determined for the purposes of subsection 7.06(1).

Subsection 7.06(3) requires that where an operator is using an authorised weather forecast or an accepted forecast, then the operator and the pilot-in-command must each, in order to account for errors in wind forecasting add a 5% wind speed factor on the actual or forecast wind used in calculating the fuel requirements of paragraphs 7.06(1)(a), 7.06(1)(b) and 7.06(1)(c). Further, the wind speed factor is required to be applied as an increment to a headwind or as a decrement to a tail wind.

Subsection 7.06(4) requires that where the operator is using a weather forecast that is not an authorised weather forecast or an accepted forecast, the operator and the pilot-in-command must each, in order to allow for errors in the model's wind data, ensure the aeroplane carries an additional 5% of the fuel calculated in paragraphs 7.06(1)(a), 7.06(1)(b) and 7.06(1)(c).

Subsection 7.06(5) requires that when calculating the fuel required under subsection 7.06(1), the operator and the pilot-in-command must each compensate for whichever is the greater of the two conditions specified.

Subsection 7.06(6) requires that when calculating the fuel required under paragraphs 7.06(1)(a), 7.06(1)(b) and 7.06(1)(c), the operator and the pilot-in-command must each increase the fuel supply by 5% as a performance deterioration allowance, unless the operator satisfies the prescribed requirements.

Subsection 7.06(7) requires that where an auxiliary power unit is a required power source under the aircraft flight manual instructions, the operator and the pilot-in-command must each account for the fuel consumption of the auxiliary power unit during all phases of flight where it might be used.

Subsection 7.06(8) requires that the operator and the pilot-in-command must each account for any fuel consumption increase due to the minimum equipment list or the configuration deviation list.

Subsection 7.06(9) defines *accepted forecast* for the purpose of this section as meaning a weather forecast made by a person or body that holds an authorisation (however described) granted by an authority of the Contracting State, to provide weather forecasts for aviation purposes. The subsection also defines *performance deterioration allowance*.

Subsection 7.07(1) prescribes the requirements that the operator and pilot-in-command of an aeroplane for a flight must each ensure in relation to determining fuel before, and monitoring fuel during a flight.

Subsection 7.07(2) requires that the pilot-in-command must conduct each of the prescribed actions at each in-flight fuel quantity check.

### **Section 7.08**

Subsection 7.08(1) specifies the required procedures if the pilot-in-command of an aeroplane for a flight becomes aware that the amount of usable fuel in the aeroplane on landing at the destination aerodrome would be less than the fuel required under subsection 7.05(3).

Subsection 7.08(2) requires that the pilot-in-command must request from Air Traffic Services the duration of any likely delay in landing if unforeseen factors could result in the aeroplane landing at the destination aerodrome with less than the prescribed amounts of fuel remaining.

Subsection 7.08(3) prescribes the requirements where the pilot-in-command must declare to Air Traffic Services a “minimum fuel” state.

Subsection 7.08(4) requires that if the pilot-in-command of an aeroplane for a flight becomes aware that the amount of usable fuel remaining on landing at the nearest aerodrome where a safe landing can be made would be less than the final reserve fuel, then the pilot-in-command must declare a situation of “fuel emergency” by broadcasting the distress message “MAYDAY, MAYDAY, MAYDAY FUEL”.

### **Section 7.09**

Subsection 7.09(1) allows that an operator may use an operational variation, specified in the operator’s exposition for the purpose of this section, that relates to the calculation of any of the specified fuel requirements, if the requirements in subsections 7.09(3) and 7.09(5) are met.

Subsection 7.09(2) specifies that to avoid doubt, an operational variation mentioned in subsection 7.09(1) cannot relate to the calculation of holding fuel or final reserve fuel.

Subsection 7.09(3) prescribes that the operator must have submitted to CASA, at least 28 days before using an operational variation, the specified requirements.

Subsection 7.09(4) requires that to satisfy the requirement specified for the purposes of subparagraph 7.09(3)(a)(ii), the specific safety risk assessment must include at least the prescribed elements.

Subsection 7.09(5) requires that for the purposes of subsection 7.09(1), the operator's exposition must include procedures in relation to the use of the operational variation.

## **Chapter 8—Safety briefings and instructions**

### **Division 1—Safety briefing cards**

#### **Section 8.01**

Subsection 8.01(1) provides that, for the purposes of paragraph 121.280(3)(a) of CASR, a safety briefing card for an aeroplane must include the listed information.

Subsection 8.01(2) provides that the information the safety briefing card must include, in relation to passenger operated equipment to dispense oxygen, life jackets or life rafts, where they are required to be carried under Chapter 11, is the location of the equipment and how to use it.

### **Division 2—Requirements for safety briefing, instructions and demonstrations**

#### **Section 8.02**

Section 8.02 sets out that the Division is made for subregulation 121.285(1) of CASR and prescribes requirements for safety briefings, instructions or demonstrations given to a passenger for a flight of an aeroplane.

#### **Section 8.03**

Subsection 8.03(1) provides that a safety briefing, instruction or demonstration mentioned in this section must be given to a passenger before the aeroplane takes off for a flight.

Subsection 8.03(2) provides that the safety briefing, instruction or demonstration must be given in a form that facilitates the application of the procedures applicable in the event of an emergency.

Subsection 8.03(3) provides that a specific safety briefing must be provided directly to any passengers with reduced mobility on the flight, and any person accompanying or assisting the passenger. The safety briefing must include what to do if an emergency evacuation of the aeroplane is necessary and be given in a form appropriate to the passenger and an accompanying person.

Subsection 8.03(4) provides that a specific safety briefing must be provided directly to any passenger responsible for an infant on the flight that outlines when and how the infant must be restrained and the location of infant life jackets.

Subsection 8.03(5) provides that, subject to subsection 8.03(6), a specific safety briefing must be provided directly to any passenger on the flight who is seated in an emergency exit row, that outlines what to do if it becomes necessary to use the exit.

Subsection 8.03(6) provides that subsection 8.03(5) does not apply if a cabin crew member who has been assigned to the flight is seated in a cabin crew seat adjacent to the exit and the cabin crew member has been assigned emergency evacuation responsibilities for the exit in accordance with the operator's exposition.

Subsection 8.03(7) provides that, if life jackets are required to be carried on the aeroplane under paragraph 121.460(1)(a) of CASR, there must be a demonstration of the method of donning and inflating a life jacket.

Subsection 8.03(8) provides that a safety briefing that addresses the listed matters must be given.

### **Section 8.04**

Subsection 8.04(1) provides that the safety instructions to a passenger, mentioned in this section, must be given at a time, before the landing of the aeroplane, at which the passenger could be reasonably expected to remember the instruction before the flight ends.

Subsection 8.04(2) provides that a safety instruction that addresses the listed matters must be given.

## **Chapter 9—Performance**

### **Division 1—Take-off performance requirements**

#### **Section 9.01**

Section 9.01 sets out that the Division is made for subregulation 121.395(1) and prescribes requirements relating to take-off performance for a flight of an aeroplane.

#### **Section 9.02**

Paragraph 9.02(a) provides that the operator and pilot-in-command must each ensure that, at take-off, the weight of the aeroplane must not exceed a weight that would enable the aeroplane to meet the requirements mentioned in sections 9.03, 9.04, 9.05, 9.06, 9.07 and 9.08 (relating to take-off performance).

Under paragraph 9.02(a) and (c), the operator and the pilot in command must also ensure that, at take-off, the weight of an aeroplane must not exceed a weight that will ensure a landing weight that does not exceed the maximum landing weight, or a weight that ensures the landing weight requirements in Division 3 will be complied with.

The note to this section explains that the weight of an aeroplane at take-off is also limited by the **maximum take-off weight** for the aeroplane (defined in the CASR Dictionary) which, for a type-certificated aircraft, means the maximum take-off weight permitted by the aeroplane's flight manual. The note mentions it is an offence under regulation 91.095 and 121.095 if an aeroplane is not operated in accordance with its flight manual.

#### **Section 9.03**

Subsection 9.03(1) prescribes take-off distance requirements that apply, for the purposes of paragraph 9.02(a), assuming that the critical engine fails at  $V_{EF}$  and using a single  $V_1$ .

Subsection 9.03(2) lists the matters that the operator and the pilot-in-command must take into account for the purposes of paragraphs 9.03(1)(a) to 9.03(1)(f).

#### **Section 9.04**

Subsection 9.04(1) provides that it is a requirement, for the purposes of paragraph 9.02(a), that, assuming a failure of the critical engine that is recognised at  $V_1$  appropriate to a dry runway at the aerodrome, the aeroplane vertically clears all obstacles within the net take-off flight path by at least the applicable prescribed conditional values listed.

Subsection 9.04(2) provides that for the purposes of subsection 9.06(1), an obstacle is deemed to be within the net take-off flight path if the lateral distance from the obstacle to the aeroplane's intended flight path does not exceed the two values prescribed, subject to the limitations mentioned in subsection 9.04(3) or 9.04(4) as are applicable.

Subsection 9.04(3) provides that if the intended flight path does not require a track change exceeding  $15^\circ$ , the distance mentioned in paragraph 9.04(2)(a) or 9.04(2)(b) is limited to the applicable prescribed conditional values listed.

Subsection 9.04(4) provides that if the intended flight path requires a track change exceeding  $15^\circ$ , then the distance mentioned in paragraph 9.04(2)(a) or 9.04(2)(b) is limited to the applicable prescribed conditional values listed.

Subsection 9.04(5) provides that **D** (used in the formula in subsection 9.04(2)) means the horizontal distance the aeroplane will travel from the end of the take-off distance available at the aerodrome; or if a turn is scheduled before the end of the take-off distance available, the end of the take-off distance required for the take-off.

Subsection 9.04(6) prescribes the factors that the operator and the pilot-in-command must take into account for the purpose of calculating the net take-off flight path. Further, it requires that the requirements in subsection 9.04(7) must be complied with.

Subsection 9.04(7) specifies the requirements that must be complied with to satisfy paragraph 9.04(6)(b).

#### **Section 9.05**

Subsection 9.05(1) provides, for the purposes of paragraph 9.02(a), that the requirements in subsections 9.05(2) and (3) relating to gross gradients in the take-off configuration, must be met.

Subsection 9.05(2) provides that in the take-off configuration assuming failure of the critical engine recognised at  $V_1$ , the aeroplane must be able to climb, without ground effect and without landing gear retraction, at the speed established as the speed at which the aeroplane becomes airborne, and, in doing so, achieve a gross gradient of climb of at least the applicable prescribed value.

Subsection 9.05(3) provides that in the take-off configuration that exists with the critical engine inoperative and the landing gear fully retracted, the aeroplane at speed  $V_2$  is required to be able to achieve a gross gradient of climb of at least the applicable prescribed value.

#### **Section 9.06**

Subsection 9.06(1) prescribes that subsections 9.06(2) and (3) set out, for the purposes of paragraph 9.02(a), requirements relating to level flight acceleration manoeuvres.

Subsection 9.06(2) requires that the aeroplane may be accelerated in level flight from  $V_2$  speed to final take-off climb speed at a height above the take-off surface that is the greater of the values specified.

Subsection 9.06(3) provides that during the level flight acceleration manoeuvre, the aeroplane, with the critical engine inoperative, must have an available gross gradient of climb of at least the applicable prescribed value.

### **Section 9.07**

Subsection 9.07(1) provides that section 9.07 sets out, for the purposes of paragraph 9.02(a), the requirements relating to gross climb gradients in the en route configuration.

Subsection 9.07(2) provides that in the en route configuration existing at the end of the level flight acceleration manoeuvre, the aeroplane must be able to achieve a gross gradient of climb of at least the applicable prescribed value.

Subsection 9.07(3) provides that for the purposes of subsection 9.07(2), the gradient of climb must be achievable at final take-off climb speed with the critical engine inoperative and the remaining engines at maximum continuous power or thrust.

### **Section 9.08**

Subsection 9.08(1) provides that, for the purposes of paragraph 9.02(a), it is a requirement that the aeroplane, following the critical engine failing at the most critical point along the route, and in accordance with one-engine inoperative net flight path data, is able to comply with subsection (2).

Subsection 9.08(2) provides that for subsection 9.08(1), subject to subsection 9.08(4), the net flight path must satisfy the prescribed requirements.

Subsection 9.08(3) provides the matters that the operator and the pilot in command must take into account to satisfy the requirement contained in subsection 9.08(2).

Subsection 9.08(4) provides that despite subsection 9.08(2), the route width margins mentioned in subparagraph 9.08(2)(a)(i) or 9.08(2)(a)(ii) must be increased to 10 NM if the aeroplane cannot maintain a track using a navigation specification of RNP 2 or better.

Subsection 9.08(5) provides that for the purposes of paragraph 9.02(a), if the aeroplane is a 3- or 4 engine aeroplane, it is a requirement that the route to be flown by the aeroplane is not more than 90 minutes away from an aerodrome where a landing can be made in accordance with Division 3 of Chapter 9.

Subsection 9.08(6) provides that an aeroplane to which 9.08(5) applies may be operated more than 90 minutes away from such an aerodrome if the prescribed requirements are met.

Subsection 9.08(7) provides that the route width margins requirement in 9.08(6)(c) must be increased to 10 nm if the aeroplane cannot maintain a track using a navigation specification of RNP 2 or better.

## **Division 2—Landing performance**

**Section 9.09** sets out that the Division is made for subregulation 121.420(1), and prescribes requirements relating to landing performance for a flight of an aeroplane.



**Section 9.10**

Subsection 9.10(1) provides that the operator and the pilot-in-command of an aeroplane for a flight must each ensure that, when the flight begins, if an authorised weather forecast indicates that the runway at the planned destination aerodrome, and, in the case that a destination alternate aerodrome is required for the flight—the destination alternate aerodrome, at the aeroplane's estimated time of arrival will be dry, the distance required to bring the aeroplane to a stop on the runway will meet the requirements of subsection 9.10(2).

Subsection 9.10(2) provides that, for subsection 9.10(1), the requirements are that the distance required to bring the aeroplane to a stop on a runway at the planned destination aerodrome, and the destination alternate aerodrome (if any), for the flight, is not greater than the prescribed applicable value.

Subsection 9.10(3) provides the matters that the operator and the pilot-in-command of an aeroplane for a flight must each take into account for the purposes of subsection 9.10(2).

**Section 9.11**

Subsection 9.11(1) provides that subject to subsection 9.11(2) the operator and the pilot in command of an aeroplane for a flight must each ensure that, when the flight begins, if an authorised weather forecast indicates that the runway at the planned destination aerodrome, and in the case that a destination alternate aerodrome is required for the flight, the destination alternate aerodrome, at the aeroplane's estimated time of arrival, may be wet, the landing distance available at the aerodrome is at least 115% of the landing distance required under subsection 9.10(1).

Subsection 9.11(2) provides that a landing distance on a wet runway that is shorter than that required under subsection 9.11(1) but not less than that required under subsection 9.10(1) may be used if the performance data, used in accordance with regulation 121.390 of CASR, provides landing distance information for wet runways and the landing distance is calculated in accordance with the information.

Subsection 9.11(3) provides that if an authorised weather forecast indicates that the runway at the planned destination aerodrome or destination alternate aerodrome (if any) at the aeroplane's estimated time of arrival, may be contaminated, the operator and the pilot in command must each ensure that, when the flight begins, the landing distance available at the aerodrome is at least the greater of the prescribed requirements.

**Section 9.12**

Subsection 9.12(1) provides that the operator and the pilot in command of an aeroplane for a flight must each ensure that, when the flight begins, the aeroplane is able to comply with the requirement in subsection 9.12(2) at the aeroplane's estimated time of arrival at the planned destination aerodrome; and if a destination alternate aerodrome is required for the flight, at the destination alternate aerodrome.

Subsection 9.12(2) provides that for subsection 9.12(1), the aeroplane must be able to comply with at least one of the prescribed requirements.

Subsection 9.12(3) prescribes the matters that the operator and the pilot in command must take into account for the purposes of meeting the requirements of subsection 9.12(2).

### **Section 9.13**

Subsection 9.13(1) contains the definition of *actual landing distance*, which means the landing distance required for the actual conditions at an aerodrome using the deceleration devices required to be used for the landing of an aeroplane.

Subsection 9.13(2) provides that subsection 9.13(3) applies during a flight of an aeroplane if performance data used in accordance with regulation 121.390 of CASR contains actual landing distance data, and that data is used when calculating the landing distance required at the aerodrome of intended landing.

Subsection 9.13(3) requires that the pilot in command of the aeroplane must ensure, during the flight and before landing, that the landing distance available at the aerodrome is greater than, or equal to, 115% of the landing distance required to bring the aeroplane to a stop on the runway.

Subsection 9.13(4) provides that subsection 9.13(5) applies if, during a flight of an aeroplane, actual landing distance data is not used when calculating the landing distance required at the aerodrome of intended landing.

Subsection 9.13(5) prescribes that the pilot in command of the aeroplane must ensure, during the flight and before landing, that if a weather report or forecast, or a combination of weather reports and forecasts, indicate that the runway should, at the aeroplane's estimated time of arrival, be dry then the requirements in subsections (6) and (7) must be met. If a weather report or forecast, or a combination of weather reports and forecasts, indicate that the runway should, at the aeroplane's estimated time of arrival, be wet then the requirements in subsection (8) must be met, and if the runway should be contaminated, then the requirements in subsection (10) must be met.

Subsection 9.13(6) provides that for paragraph 9.13(5)(a), the landing distance required to bring the aeroplane to a stop on the runway planned to be used at the aeroplane of intended landing must not be greater than the applicable prescribed value of landing distance available for the runway.

Subsection 9.13(7) prescribes the matters to be taken into account for the purpose of satisfying subsection 9.13(6).

Subsection 9.13(8) prescribes that subject to subsection 9.13(9) the landing distance available at the aerodrome must be at least 115% of the landing distance required under subsection 9.13(6).

Subsection 9.13(9) provides that the landing distance available may be shorter than that required under subsection 9.13(8), but must be no less than the landing distance required under subsection 9.13(6), if the performance data used in accordance with regulation 121.390 of CASR provides landing distance information for wet runways; and the landing distance required is calculated in accordance with the information.

Subsection 9.13(10) provides that for paragraph 9.13(6)(c), the landing distance available must be the greater of the either; the landing distance available, mentioned in subsection 9.13(8); or 115% of the landing distance required, calculated in accordance with the performance data used in accordance with regulation 121.390 of CASR, if the data is specific to operations on contaminated runways.

## **Chapter 10—Weight and balance**

Subsection 10.01(1) prescribes standard weights for the purposes of paragraph 121.440(2)(c) of CASR.

Subsection 10.01(2) prescribes standard weight of carry-on baggage for a person.

Subsection 10.01(3) sets out standard weights permitted by passenger type and maximum operational seating capacity.

Subsection 10.01(4) permits operators to use more conservative weights to reduce the number of distinct passenger types.

Subsection 10.01(5) prescribes the standard weight to be used when the gender of the person is indeterminate, intersex or unspecified.

Subsection 10.01(6) includes definitions for *adolescent* and *adult* for the purposes of this section.

### **Section 10.02**

Subsection 10.02(1) is made for the purposes of subregulation 121.455(1) of CASR, and prescribes the documentation the pilot-in-command must have about aeroplane's weight and balance for a flight.

Subsection 10.02(2) prescribes that certification required by paragraphs 10.02(1), (m) or (n) is not applied when last-minute change referred to in (m) or (n) is specified in the operator's exposition as a last-minute change.

## **Chapter 11—Equipment**

### **Division 1—General**

#### **Section 11.01**

Subsection 11.01(1) provides that, for the purposes of subregulation 121.460(1) of CASR, Chapter 11 prescribes requirements relating to the fitment and non-fitment of equipment to an aeroplane, the carrying of equipment on an aircraft, and equipment that is fitted to, or carried on, an aircraft.

Subsection 11.01(2) provides that, in this Chapter unless the contrary intention appears in or for a particular provision, a reference to a pilot seeing or viewing anything from a pilot's seat is taken to mean that the thing is seen or viewed from the pilot's normal sitting position in the seat. Further, unless the contrary intention appears in or for a particular provision, any mention of feet (or ft) in the context of an altitude is taken to feet above mean sea level (AMSL) unless otherwise stated, and for any reference to the fitment or carriage of equipment, the equipment referred to must be operative.

#### **Section 11.02**

Section 11.02 provides that, in this Chapter, a reference in a provision to a document that is applied, adopted or incorporated for the purposes of the provision is a reference to the document as it exists or is in force from time to time, unless the contrary intention is expressly stated by the reference being to a specifically dated version of the document.

#### **Section 11.03**

Subsection 11.03(1) provides that the operator of an aeroplane must ensure that each requirement set out in Chapter 11 that applies in relation to the aeroplane is met.

Subsection 11.03(2) provides that the pilot-in-command of an aeroplane for a flight must ensure that each of the requirements mentioned in the prescribed provisions is met for the aeroplane and the flight.

Subsection 11.03(3) provides that a person other than the aeroplane operator, or, for the provisions mentioned in subsection 11.03(2), the pilot-in-command of an aeroplane for a flight, may also be subject to a requirement mentioned in a provision of Chapter 11, as specified in the provision setting out the requirement.

## **Division 2—Approvals, visibility and inoperability**

### **Section 11.04**

Subsection 11.04(1) provides that, before a registered aeroplane begins a flight, any equipment that is required to be fitted to, or carried on, the aeroplane under this Chapter must be compliant with the requirements of, or approved under, Part 21 of CASR.

Subsection 11.04(2) provides that subsection 11.04(1) does not apply to the items of equipment listed.

Subsection 11.04(3) provides that, before a foreign-registered aeroplane begins a flight, the equipment fitted to, or carried on, the aeroplane must have been approved by the national aviation authority of the aeroplane's State of registry.

Subsection 11.04(4) makes provision for equipment carried on the aeroplane that is not required under Chapter 11 to be fitted to, or carried by, the aeroplane. In this case, the equipment need not be compliant with the requirements of, or approved under, Part 21 of CASR; the equipment need not have been approved by the national aviation authority of the aeroplane's State of registry (for a foreign-registered aeroplane); no information provided by the equipment may be used by the flight crew to comply with any requirement of this Chapter in relation to equipment that is required to be fitted or carried for communications or navigation; and the equipment, whether functional or otherwise, must not at any time affect the airworthiness of the aeroplane.

### **Section 11.05**

Subsection 11.05(1) provides that the section applies in relation to equipment that is required, under Chapter 11, to be fitted to, or carried on, an aeroplane for a flight.

Subsection 11.05(2) requires that any equipment that is for a pilot's manual or visual use in, or from, the cockpit must be visible to, and usable by, the pilot from the pilot's seat in the aeroplane.

Subsection 11.05(3) requires that emergency equipment that is required to be fitted to, or carried on, an aeroplane for a flight under this Chapter must be easily accessible for immediate use in the event of an emergency.

### **Section 11.06**

Subsection 11.06(1) prescribes that subject to subsection 11.06(2), an aeroplane may begin a flight with equipment that is inoperative, despite a requirement under Chapter 11 that the equipment be fitted to, or carried on, the aeroplane for the flight.

Subsection 11.06(2) provides that subsection 11.06(1) only applies if the aeroplane is operated in accordance with the minimum equipment list (MEL) for the aeroplane, for the flight, in accordance with regulation 91.935 of CASR, or, if the equipment is inoperative because of a defect that has been approved as a permissible unserviceability for the aeroplane for the flight in accordance with regulation 21.007 of CASR—in accordance with the permissible unserviceability.

For Part 42 aircraft, section 11.06 modifies the operation of (a) regulation 42.115 of CASR, for the aircraft's continuing airworthiness management organisation (CAMO), and (b) regulation

42.360 of CASR, for an individual performing maintenance on a Part 42 aircraft, who discovers a defect in the aircraft. The modification of regulation 42.115, is that the CAMO will not be able to permit flight with a defect under the aircraft's configuration deviation list or a special flight permit. The modification of regulation 42.360, is that the individual will not be able to permit flight with a defect under the aircraft's configuration deviation list or an airworthiness directive.

### **Division 3—Flight instruments**

#### **Section 11.07**

Subsection 11.07(1) provides that an aeroplane in an operation under the IFR must be fitted with equipment for measuring and displaying the prescribed flight information.

Subsection 11.07(2) provides that an aeroplane in an operation under the IFR must be fitted with equipment, separate from, and independent of, the corresponding equipment mentioned in subsection 11.07(1), for measuring and displaying the prescribed flight information.

Subsection 11.07(3) provides that despite subsections 11.07(1) and 11.07(2), for an aeroplane in an operation under the IFR, the equipment for measuring and displaying the flight information mentioned in column 1 of an item in table 11.07 must meet the requirements mentioned in column 2 of the item.

### **Division 4—Operational equipment**

#### **Section 11.08**

Subsection 11.08(1) provides that an aeroplane for a flight, in any class of airspace, must be fitted with at least 2 independent radiocommunication systems that satisfy the prescribed requirements.

Subsection 11.08(2) provides that subsection 11.08(3) applies if the aeroplane is a 2-engine aeroplane and has an EDTO approval with a maximum diversion time that is more than 180 minutes.

Subsection 11.08(3) requires that at least one radiocommunication system fitted to the aeroplane, must, for an EDTO flight under the approval, satisfy the prescribed requirements.

Subsection 11.09(1) provides the definition of approved GNSS for the purpose of section 11.09.

#### **Section 11.09**

Subsection 11.09(2) provides that, without affecting the requirements under subsections 11.09(5) and 11.09(6), an aeroplane must be fitted with at least the prescribed navigation equipment.

Subsection 11.09(3) provides that if an approved GNSS unit is provided with the automatic barometric aiding options stated in any of the listed options (the relevant options), then the relevant options must be connected to ensure the automatic barometric aiding functionality.

Subsection 11.09(4) provides that for paragraph 11.09(2)(b) an approved GNSS must not be one authorised in accordance with (E)TSO-C129 unless the aeroplane is manufactured before 6 February 2014 and the approved GNSS fitted to the aeroplane is installed before 6 February 2014.

Subsection 11.09(5) provides that the navigation equipment fitted to an aeroplane must be such that, in the event of the failure of any navigation equipment at any stage of a flight, sufficient navigation equipment remains to enable the aeroplane to navigate in accordance with the

operational flight plan, and the requirements of relevant air traffic services and the airspace in which the aeroplane is planned to be flown.

Subsection 11.09(6) requires that for any aerodrome at which it is planned or intended that an aeroplane may land in IMC, the aeroplane's equipment must be capable of providing guidance to a point from which a safe visual or instrument landing may be conducted.

### **Section 11.10**

Subsection 11.10(1) requires that subject to subsection 11.10(3), an aeroplane must be fitted with an automatic pilot.

Subsection 11.10(2) prescribes that the automatic pilot must have at least an altitude holding mode and a heading mode.

Subsection 11.10(3) provides that subsection 11.10(1) does not apply if the aeroplane is fitted with fully functioning dual controls.

### **Section 11.11**

Subsection 11.11(1) requires that an aeroplane with a maximum take-off weight of more than 5 700 kg must be fitted with equipment to remove precipitation from the area of windshield directly in front of a pilot's seat.

Subsection 11.11(2) provides that an aeroplane with a maximum take-off weight of 5 700 kg or less must meet the requirement under subsection 11.11(1) as if it applied to the aeroplane or must have a windshield whose design is such that moderate rain will not impair the pilot's view for take-off, landing or normal flight.

### **Section 11.12**

Subsection 11.12(1) prescribes that if an aeroplane has either or both an internal door and a curtain through which a passenger in a passenger seat must pass to reach a passenger emergency exit, the door or curtain must be fitted in accordance with section 11.12.

Subsection 11.12(2) requires that an internal door, or curtain, must have a means of being secured open.

Subsection 11.12(3) requires that there must be a placard placed on an internal door indicating that the door must be secured open during take-off and landing; and a means for a crew member to open a door that is normally accessible to, and lockable by, a passenger.

Subsection 11.12(4) provides that there must be a placard adjacent to a curtain indicating that the curtain must be secured open during take-off and landing.

Subsection 11.13(1) provides that a flight of an aeroplane that will be conducted in or through a remote area (within the meaning given by section 26.63 of the Part 91 MOS) must carry survival equipment that is appropriate for sustaining life in the area in or through which the flight will be conducted.

Subsection 11.13(2) requires that a flight of an aeroplane that will be conducted over water where the aeroplane is required to carry a life raft under Division 12 of Chapter 11 must carry the equipment prescribed.

**Section 11.14**

Subsection 11.14(1) provides that an aeroplane for a flight above FL 490 must be fitted with equipment to measure and display, in a unit that is readily visible to a flight crew member piloting the aeroplane, the total cosmic radiation received in the aeroplane's cabin.

Subsection 11.14(2) sets out that for the purposes of subsection 11.14(1), the equipment must continuously measure and display the dose rate of total cosmic radiation being received during the flight and the cumulative dose of total cosmic radiation received on each flight.

Subsection 11.14(3) defines total cosmic radiation for the purpose of section 11.14.

**Division 5—Lighting systems****Section 11.15**

Subsection 11.15(1) requires that an aeroplane operating by night must be fitted with (or carry, as applicable) the lighting equipment prescribed.

Subsection 11.15(2) prescribes the requirements that must be satisfied by cockpit lighting equipment of an aeroplane operating by night.

Subsection 11.15(3) prescribes that cockpit lighting equipment of an aeroplane operating by day must meet the requirements in paragraphs 11.15(2)(a) to 11.15(c) if natural light does not adequately illuminate the items of equipment and documents mentioned in paragraphs 11.15(2)(a) and 11.15(b).

**Section 11.16**

Subsection 11.16(1) requires an aeroplane operating by day or by night to be fitted with anti-collision lights.

Subsection 11.16(2) sets out the minimum configuration of anti-collision light equipment fitted to an aeroplane.

Subsection 11.16(3) requires that for anti-collision light equipment comprising 1 or more red beacon lights only, the lights must be displayed in the prescribed manner.

Subsection 11.16(4) requires that for anti-collision light equipment comprising white strobe lights only, the lights must be displayed in the prescribed manner.

Subsection 11.16(5) requires that for anti-collision light equipment comprising a combination of red beacon lights and white strobe lights, the lights must be displayed in the prescribed manner.

Subsection 11.16(6) provides that subsections 11.16(3), 11.16(4) and 11.16(5) do not apply if the pilot-in-command reasonably believes that, in the circumstances, reflection or glare from the anti-collision light system may cause a hazard to an aircraft.

**Section 11.17**

Section 11.17 requires that an aeroplane operating by night must be fitted with at least 2 landing lights or a single landing light having 2 independent and separately energised illumination sources.

**Section 11.18**

Subsection 11.18(1) requires that an aeroplane operating by night or in poor visibility must be fitted with navigation lights.

Subsection 11.18(2) prescribes that if required to be fitted under subsection 11.18(1), the navigation lights must be displayed during a flight and when operating on the movement area of an aerodrome.

## **Division 6—Alerting and warning system requirements**

### **Section 11.19**

Subsection 11.19(1) requires that the prescribed aeroplanes must be fitted with altitude alerting equipment in accordance with subsection 11.19(2).

Subsection 11.19(2) provides for subsection 11.19(1), the altitude alerting equipment must meet the specified requirements.

Subsection 11.19(3) provides that an aeroplane that is not required to be fitted with altitude alerting equipment under subsection 11.19(1) must be fitted with altitude alerting equipment at least in the form of an assigned altitude indicator.

### **Section 11.20**

Section 11.20 provides that despite section 11.19, altitude alerting equipment may be inoperative at the beginning of a flight only if: the flight begins within 72 hours of the time the equipment was found to be inoperative and is from an aerodrome at which there is no facility for the equipment to be repaired or replaced; and additionally for an aeroplane that is required to be fitted with an ACAS, the ACAS is not also inoperative.

### **Section 11.21**

Subsection 11.21(1) contains, for the purpose of the instrument, the definitions for *approved ACAS*, *resolution advisory* and *traffic advisory*.

Subsection 11.21(2) requires that an aeroplane mentioned in subsection 11.21(3) must be fitted with an approved ACAS.

Subsection 11.21(3) provides for subsection 11.21(2), the aeroplane must be a turbine-engine aeroplane that meets the requirements prescribed.

### **Section 11.22**

Subsection 11.22(1) requires that during the period mentioned in subsection 11.22(2), an approved ACAS fitted to an aeroplane under section 11.21 must be activated in a mode that enables a resolution advisory to be produced.

Subsection 11.22(2) specifies that for subsection 11.22(1), the period begins when the aeroplane commences the take-off for the flight and ends when the aeroplane lands for the flight.

Subsection 11.22(3) prescribes that despite subsection 11.22(1), if the aeroplane's flight manual requires the ACAS to be operated in another mode in specified circumstances, the ACAS may be operated in that mode in those circumstances.

### **Section 11.23**

Subsection 11.23(1) specifies the circumstances under which an approved ACAS may be inoperative at the beginning of a flight.

Subsection 11.23(2) provides a definition of ATS flight plan for the purpose of section 11.23



**Section 11.24**

Subsection 11.24(1) contains definitions for the purposes of section 11.24 (about terrain awareness and warning systems (TAWS)).

Subsection 11.24(2) requires that until immediately before 2 December 2023, a turbine-engine aeroplane and a piston-engine aeroplane must be fitted with a ground proximity warning system (GPWS) but only in accordance with the requirements in subsection 9 of Civil Aviation Order 20.18 as in force immediately before the commencement of the MOS; or for a turbine-engine aeroplane a TAWS-Class A; or for a piston-engine aeroplane a TAWS-Class A or a TAWS-Class B.

Subsection 11.24(3) requires that from the beginning of 2 December 2023, a turbine-engine aeroplane must be fitted with a TAWS-Class A.

Subsection 11.24(4) requires that from the beginning of 2 December 2023, a piston-engine aeroplane must be fitted with a TAWS-Class A or a TAWS-Class B.

**Section 11.25**

Section 11.25 prescribes that a GPWS or a TAWS fitted in accordance with subsection 11.24(2), 11.24(3) or 11.24(4) may be inoperative at the beginning of a flight but only if the flight begins from an aerodrome at which there is no facility for the GPWS or the TAWS to be repaired or replaced; and within 24 hours of the time the GPWS or the TAWS was found to be inoperative.

**Section 11.26**

Section 11.26 requires an aeroplane must be fitted with airborne weather radar equipment.

**Section 11.27**

Subsection 11.27(1) provides that, despite section 11.26, airborne weather radar equipment may be inoperative at the beginning of a flight only if none of the relevant forecasts or reports indicate that potentially hazardous weather conditions exist in the flight path along which the aeroplane will be flown; or if the operational flight plan for the flight includes an alternate aerodrome, in the flight path to the alternate aerodrome.

Subsection 11.27(2) provides the definitions of potentially hazardous weather conditions and relevant forecasts or reports for the purpose of section 11.27.

**Division 7—Flight recorders****Section 11.28**

Section 11.28 contains the definitions, for the purposes of the instrument, relating to flight recorders.

**Section 11.29**

Section 11.29 requires that one flight data recorder must be fitted to an aeroplane that has a maximum take-off weight of more than 5 700 kg and which is turbine-powered and was first issued with a certificate of airworthiness on or after 1 July 1965.

**Section 11.30**

Section 11.30 requires that one cockpit voice recorder (CVR) be fitted to an aeroplane that has a maximum take-off weight of more than 5 700 kg and which is turbine powered and was first issued with a certificate of airworthiness after 1 July 1965. Further, section 11.30 also requires that one CVR must be fitted to a multi-engine turbine-powered aeroplane that has a maximum take-off weight of 5 700 kg or less and is pressurised and is type certificated in its country of

manufacture for operation with more than 11 seats (including seats specifically designed for the use of crew members) that was first issued with a certificate of airworthiness after 1 January 1988.

### **Section 11.31**

Section 11.31 provides that if the combined effect of sections 11.29 and 11.30 is that the aeroplane must be fitted with both 1 flight data recorder (FDR) and 1 CVR, the requirements may be met by the fitment of equipment that satisfies the prescribed requirements.

### **Section 11.32**

Subsection 11.32(1) provides that an FDR or a combination recorder must comply with one of the prescribed requirements.

Subsection 11.32(2) provides that a CVR or a combination recorder must comply with one of the prescribed requirements.

Subsection 11.32(3) provides that the operator of an aeroplane that is required to be fitted with any of the prescribed items must ensure that, at any time, the requirement for the prescribed item's recording or data is satisfied.

### **Section 11.33**

Subsection 11.33(1) provides that subject to subsection 11.33(4), an FDR fitted to an aeroplane under Division 7 must record continuously from the time the aeroplane begins moving under its own power, until the time the flight is terminated and the aeroplane can no longer move under its own power.

Subsection 11.33(2) provides that subject to subsection 11.33(4), a CVR fitted to an aeroplane under this Division must be used and operated in accordance with the prescribed requirements.

Subsection 11.33(3) provides that the FDR and the CVR within a combination recorder fitted to an aeroplane under Division 7 must record continuously during the same periods as an FDR and a CVR are required to operate under subsections 11.33(1) and 11.33(2).

Subsection 11.33(4) provides that where the specified circumstances prevail, a CVR fitted to an aeroplane under Division 7 must record continuously during the period beginning after the engines are started for the flight and ending when the final pilot checklist is completed at the end of the flight.

Subsection 11.33(5) provides that an FDR or combination recorder fitted to an aeroplane under Division 7 must not be operated during maintenance of the aeroplane or of an aeronautical product fitted to the aeroplane, except if the maintenance is to the recorder or an aeroplane engine.

Subsection 11.33(6) provides that for subsection 11.33(5), an auxiliary power unit fitted to the aeroplane is not an aeroplane engine unless it is capable of propelling the aeroplane.

### **Section 11.34**

Subsection 11.34(1) provides that an FDR, CVR or combination recorder fitted onto an aeroplane may be inoperative at the beginning of a flight, only if the flight begins from a departure aerodrome with no facility for the flight recorder to be repaired or replaced and where any requirements that apply under paragraphs 11.34(2)(a) to 11.34(d) are met.

Subsection 11.34(2) prescribes the requirements to be satisfied in order to apply paragraph 11.34(1)(b).

### **Section 11.35**

Subsection 11.35(1) provides that from the beginning of 2 December 2023, section 11.35 applies to an aeroplane that meets the prescribed requirements.

Subsection 11.35(2) requires that the aeroplane data link communications messages must be recorded and that the recording must be on a flight recorder capable of preserving the recordings in the event of any accident to the aeroplane and that the recording must be capable of correlation to the relevant contents of the CVR.

Subsection 11.35(3) provides that the flight recorder mentioned in subsection 11.35(2) must be capable of recording for at least the same duration as the CVR fitted under section 11.30.

Subsection 11.35(4) provides that for the purposes of subsection 11.35(2), the recording of data link communications messages for an application type mentioned in column 1 of an item in table 11.35(4), as described in column 2 of the item, must meet the recording content requirement of each symbol mentioned in column 3 of the item, in accordance with subsection 11.35(5) and as described in table 11.35(5).

Subsection 11.35(5) prescribes that for subsection 11.35(4), the recording content requirement for a symbol mentioned in column 1 of an item in table 11.32(5) is that described in column 2 of the item.

## **Division 8—Aeroplane interior communication systems**

### **Section 11.36**

Subsection 11.36(1) requires that an aeroplane must be fitted with a flight crew intercommunication system that consists of one headset, and one microphone that is not of the hand-held type, for each flight crew member for the flight.

Subsection 11.36(2) requires that the aeroplane must also be fitted with, or carry, either another headset, and another microphone not of the hand-held type, in addition to those carried under subsection 11.36(1) or a hand-held microphone and cockpit speaker that can enable any flight crew member to conduct all required communications within the crew or external to the aeroplane.

### **Section 11.37**

Subsection 11.37(1) provides that section 11.37 applies if a cabin crew member is required to be carried on an aeroplane for a flight or a crew member occupies a crew station remote from the flight deck.

Subsection 11.37(2) provides that an aeroplane must be fitted with a crew interphone system in accordance with this section.

Subsection 11.37(3) requires that the interphone system, other than its handsets, headsets, microphones, selector switches and signalling devices, must operate independently of the flight crew intercommunication system and the public address system.

Subsection 11.37(4) requires that the interphone system must be readily accessible for use by each flight crew member from the flight crew member's seat in the flight crew compartment (cockpit) and each cabin crew member at the cabin crew member's crew station.

Subsection 11.37(5) requires that the interphone system must enable any crew member to activate an in-coming call alert that uses aural or visual signals and distinguishes between normal and emergency calls.

Subsection 11.37(6) provides that the interphone system must provide 2-way communication between the prescribed locations or stations.

### **Section 11.38**

Subsection 11.38(1) requires that an aeroplane must be fitted with a public-address system, in accordance with section 11.38, to enable crew members to address the passengers whether the aeroplane is in flight or on the ground.

Subsection 11.38(2) requires that the public-address system, other than handsets, headsets, microphones, selector switches and signalling devices, must operate independently of the flight crew intercommunication system and the crew interphone system (if any).

Subsection 11.38(3) requires that the public-address system must be readily accessible for use by each flight crew member from the flight crew member's seat in the flight crew compartment.

Subsection 11.38(4) requires that at each emergency exit with an adjacent cabin crew seat on the same level as a passenger compartment (a relevant location) there must be a handset or microphone operable by the cabin crew member while seated.

Subsection 11.38(5) provides that despite subsection 11.38(4), a single handset or microphone may serve more than one relevant location, but only if the 2 relevant locations are so close as to allow unassisted verbal communication between the seated cabin crew members.

Subsection 11.38(6) requires that the public-address system must be operable within 10 seconds of activation by a cabin crew member at each relevant location.

Subsection 11.38(7) requires that announcements made using the public-address system must be audible at all of the prescribed locations or stations.

## **Division 9—Oxygen equipment and oxygen supplies**

### **Section 11.39**

Section 11.39 contains definitions for the purposes of Division 9, including *assisting crew member* and *quick donning mask*.

### **Section 11.40**

Subsection 11.40(1) requires that a pressurised aeroplane operated at a pressure altitude above 10 000 ft (a relevant aeroplane) must be fitted with supplemental oxygen equipment capable of storing and dispensing supplemental oxygen to crew members and passengers.

Subsection 11.40(2) prescribes that a relevant aeroplane must carry sufficient supplemental oxygen to meet the requirements set out in table 11.40.

Subsection 11.40(3) prescribes that for a person mentioned column 1 of an item in table 11.40, supplemental oxygen must be made available through an oxygen dispensing unit in accordance with the supply requirements mentioned for the item in column 2.

Subsection 11.40(4) prescribes that each flight crew member and assisting crew member must use the supplemental oxygen that is made available to each of them in accordance with the supply requirements mentioned in column 2 of item 1 of table 11.40.

#### **Section 11.41**

Subsection 11.41(1) requires that an unpressurised aeroplane operated at a pressure altitude above 10 000 ft (a relevant aeroplane) must be fitted with supplemental oxygen equipment capable of storing and dispensing supplemental oxygen to crew members and passengers.

Subsection 11.41(2) prescribes that a relevant aeroplane must carry sufficient supplemental oxygen to meet the requirements set out in table 11.41.

Subsection 11.41(3) prescribes that for a person mentioned in column 1 of an item of table 11.41, supplemental oxygen must be made available in accordance with the supply requirements mentioned for the item in column 2.

Subsection 11.41(4) prescribes that each flight crew member and assisting crew member must use the supplemental oxygen that is made available to each of them in accordance with the supply requirements mentioned in column 2 of item 1 of table 11.41.

#### **Section 11.42**

Subsection 11.42(1) provides that section 11.42 applies for a flight of a pressurised aeroplane that is flown above FL 250 at any time during the flight.

Subsection 11.42(2) requires that at least one pilot occupying a pilot seat must be wearing a sealed oxygen mask (securely worn) that satisfies either of the prescribed requirements or must have access to a quick-donning mask that is supplied with supplemental oxygen when the mask is donned.

Subsection 11.42(3) requires that during the period when the aeroplane is flown above FL 450 during the flight, at least one pilot occupying a pilot seat must be wearing either a sealed oxygen mask (securely worn) that is being supplied with supplemental oxygen or a quick-donning mask that is being supplied with supplemental oxygen.

#### **Section 11.43**

Subsection 11.43(1) provides that subsection 11.43(2) applies for a pressurised aeroplane that was first issued with a certificate of airworthiness on or after 9 November 1998 and either is flown at or above FL 250 at any time during the flight, or, if flown below FL 250; cannot safely descend from its flight level to a cabin pressure altitude of less than 13 000 ft within a period of 4 minutes in the event of a cabin depressurisation.

Subsection 11.43(2) prescribes oxygen dispensing units requirements as they relate to certain passengers. The passengers are those mentioned in item 3 of table 11.40.

#### **Section 11.44**

Subsection 11.44(1) requires that when an aeroplane begins a flight, it must be carrying protective breathing equipment (PBE) for each flight crew member in accordance with section 11.44.

Subsection 11.44(2) prescribes the requirement the PBE must satisfy.

Subsection 11.44(3) requires that the protective breathing equipment for a flight crew member must be accessible for immediate use at the flight crew member's crew station.

Subsection 11.44(4) requires that the PBE must not prevent, or be likely to prevent, a flight crew member from effectively using any crew intercommunications, megaphone or radiocommunications equipment fitted to or carried on the aeroplane.

#### **Section 11.45**

Subsection 11.45(1) provides that when a pressurised aeroplane begins a flight, it must be carrying portable protective breathing equipment (portable PBE units) in accordance with the section.

Subsection 11.45(2) prescribes the requirements that portable PBE must satisfy.

Subsection 11.45(3) Prescribes the requirements in relation to where portable PBE must be located.

Subsection 11.45(4) provides that portable PBE units must not prevent, or be likely to prevent, a crew member from effectively using any crew intercommunications, megaphone or radiocommunications equipment fitted to or carried on the aeroplane.

#### **Section 11.46**

Subsection 11.46(1) contains a definition of *first-aid oxygen* for the purposes of the section. First-aid oxygen means a supply of undiluted oxygen for any passengers who, for physiological reasons, may still require oxygen when there has been a cabin depressurisation and the amounts of supplemental oxygen supply otherwise required under the Division have been exhausted.

Subsection 11.46(2) provides that until immediately before 2 December 2023, an aeroplane must either comply with the requirements related to first aid oxygen (however described) in accordance with Civil Aviation Order 20.4, and Civil Aviation Order 108.26, as in force immediately before the commencement of this MOS, or must comply with section 11.46.

Subsection 11.46(3) requires that from the beginning of 2 December 2023, an aeroplane must be fitted with or carry first aid oxygen in accordance with the section..

Subsection 11.46(4) limits the section to pressurised aeroplanes flown above FL 250 at any stage during the flight that carry a passenger on the flight.

Subsection 11.46(5) provides that when the aeroplane begins the flight, it must carry, for use in first aid, such a volume of first aid oxygen as will provide an average oxygen gas flow rate, calculated assuming dry oxygen gas at standard temperature and pressure, of 3 litres per minute per person for the greater number of persons of 2% of the number of passengers carried on the flight or 1 person and for the flight period after a cabin depressurisation event during which the aeroplane's cabin pressure altitude is above 8 000 ft but is not above 15 000 ft.

Subsection 11.46(6) requires that when the aeroplane begins the flight, it must carry, for use in dispensing first aid oxygen, a sufficient number of specific first aid oxygen dispensing units relative to the number of passengers on board, but in no case less than 2 such units.

Subsection 11.46(7) prescribes that an oxygen dispensing unit must be capable of generating a flow rate, calculated assuming dry oxygen gas at standard temperature and pressure, of at least 4 litres per minute per person STPD; and may have a means of reducing the flow to not less than 2 litres per minute per person STPD at any altitude.

## Division 10—Emergency locator transmitters

### Section 11.47

Subsection 11.47(1) provides that until immediately before 2 December 2023, an aeroplane for a flight must be fitted with or carry emergency locator transmitters (ELTs) in accordance with regulation 252A of CAR, and subsection 6 of Civil Aviation Order 20.11 (as it applies to ELTs), as each of those provisions is in force immediately before the commencement of this MOS, or complies with Division 10.

Subsection 11.47(2) provides that for the purposes of paragraph 11.47(1)(a), if immediately before 2 December 2021 the aeroplane flight would have been classed as a charter flight then the ELT requirements are those that would have applied to such a charter flight; and where then flight would have been classed as an RPT flight then the ELT requirements are those that would have applied to such an RPT flight.

Subsection 11.47(3) requires that from the beginning of 2 December 2023, an aeroplane must be fitted with or carry emergency locator transmitters (ELTs) in accordance with sections 11.48 to 11.51.

### Section 11.48

Section 11.48 prescribes that an aeroplane that has the characteristics mentioned in columns 1 and 2 of an item in table 11.48, must be fitted with, or carry, at least the number and kind of ELTs mentioned in column 3 of the item.

### Section 11.49

Section 11.49 provides, for the purposes of the Division, that an *ELT* is a transmitter that meets prescribed requirements.

### Section 11.50

Subsection 11.50(1) provides that an *automatic ELT* is an ELT in accordance with section 11.49 that meets the requirements mentioned in subsection 11.50(2).

Subsection 11.50(2) provides that for the purposes of subsection 11.50(1), the ELT must meet the prescribed requirements.

### Section 11.51

Subsection 11.51(1) provides that a survival ELT is an ELT in accordance with section 11.49 that meets the requirements mentioned in subsection 11.51(2).

Subsection 11.51(2) provides that for the purposes of subsection 11.51(1), the ELT must meet the prescribed requirements.

## Division 11—Portable emergency equipment

### Section 11.52

Subsection 11.52(1) contains definitions of *Class A cargo or baggage compartment*, *Class B cargo or baggage compartment* and *Class E cargo compartment* for the purposes of the section. The definitions incorporate the meaning of those terms given within regulation 25.857 of the FARs, as in force from time to time.

Subsection 11.52(2) provides that an aeroplane must carry at least the number of hand-held fire extinguishers prescribed.

Subsection 11.52(3) provides that the type and quantity of extinguishing agent for the required fire extinguishers must meet the prescribed requirements.

### **Section 11.53**

Subsection 11.53(1) provides that on and after 2 December 2023, an aeroplane for a flight must carry the number of first-aid kits required under subsection 11.53(2).

Subsection 11.53(2) provides that subject to subsection 11.53(3), the aeroplane must carry the number of first aid kits mentioned in column 2 of the item in table 11.53 that states, in column 1 of the item, the maximum operational passenger seat configuration of the aeroplane.

Subsection 11.53(3) provides that subsection 11.53(2) does not apply if an aeroplane takes off from an aerodrome at which no facility exists for first-aid kits to be replenished or replaced, provided that the aeroplane carries a sufficient number of first aid kits, taking into consideration the number of passengers on board for, and the duration of, the flight.

### **Section 11.54**

Subsection 11.54(1) limits the application of the section to an aeroplane that has a maximum operational passenger seat configuration of more than 30, is engaged in a passenger transport operation or medical transport operation, and, during the flight, will be flown a certain distance (further from an aerodrome mentioned in subsection 11.54(2) than the distance the aeroplane can fly in 60 minutes, in still air and ISA conditions, at its normal cruising speed).

For the purposes of paragraph 11.54(1)(c), subsection (2) prescribes aerodromes at which qualified medical assistance is ordinarily available or from which medical assistance is readily accessible.

Subsection 11.54(3) requires that the aeroplane must carry an emergency medical kit.

### **Section 11.55**

Subsection 11.55(1) limits the application of the section to an aeroplane that is engaged in a passenger transport operation or a medical transport operation.

Subsection 11.55(2) requires that the aeroplane must carry the number of universal precaution kits mentioned in column 2 of the item in table 11.55 that states, in column 1 of the item, the maximum operational passenger seat configuration of the aeroplane.

### **Section 11.56**

Section 11.56 requires that an aeroplane must carry a crash axe or a crowbar safely but accessibly stowed in its flight crew compartment (cockpit).

### **Section 11.57**

Subsection 11.57(1) limits the application of the section to an aeroplane that has a maximum operational passenger seat configuration of more than 60 and is engaged in a passenger transport operation or a medical transport operation.

Subsection 11.57(2) provides that the aeroplane must carry at least the number of portable, battery-powered, megaphones mentioned in column 2 of the item in table 11.57 that states, in column 1 of the item, the maximum operational passenger seat configuration of the aeroplane.

Subsection 11.57(3) requires that if one megaphone is carried in an aeroplane under section 11.57, it must be kept in a place where it is readily accessible from a crew member's seat.



Subsection 11.57(4) requires that if 2 megaphones are carried in an aeroplane under section 11.57, they must be distributed through the passenger cabin or cabins so as to be readily accessible to crew members.

Subsection 11.57(5) requires that each megaphone must be able to perform its function throughout any flight on which it is carried and be designed for ease of handling and use with one hand and have a volume control or adequate acoustic feedback suppression.

## **Division 12—Equipment for flights over water**

### **Section 11.58**

Subsection 11.58(1) limits the application of the section to a flight of an aeroplane that is a seaplane or an amphibian, if the flight involves take-off from, or landing on, water.

Subsection 11.58(2) requires that when the aeroplane begins the flight, it must carry a sea anchor and other equipment to enable secure mooring.

Subsection 11.58(3) provides that if the flight is conducted on or over water to which the International Regulations apply, the aeroplane must carry equipment for making the sound signals required by the International Regulations for the flight.

### **Section 11.59**

Subsection 11.59(1) specifies that section 11.59 applies to a flight of an aeroplane that is a seaplane or an amphibian, or where an operation is flown further over water, or from an area of land, in certain prescribed circumstances.

Subsection 11.59(2) provides that when the aeroplane begins the flight, it must carry for each infant on board a life jacket, or another equally effective flotation device, that may have a whistle and for each other person on board, a life jacket that must have a whistle.

Subsection 11.59(3) provides that the section does not apply if the aeroplane is flown over water for the purpose of climbing after take-off from, or descending to land at, an aerodrome and the aeroplane is flown in accordance with a navigational procedure that is normal for the climb or descent at the aerodrome.

### **Section 11.60**

Subsection 11.60(1) limits the application to an aeroplane required to carry an approved life jacket or flotation device under section 11.59.

Subsection 11.60(2) provides that subject to subsection 11.60(3), when the aeroplane begins the flight, unless the life jacket or flotation device is being worn, the life jacket or flotation device must be stowed where it is readily accessible in the manner prescribed.

Subsection 11.60(3) provides for circumstances in which the requirements in subsection 11.60(2) do not apply.

### **Section 11.61**

Subsection 11.61(1) requires that a person (other than an infant) on board a single-engine aeroplane must wear a life jacket if the flight is over water that is further than the distance from which, with the engine inoperative, the aeroplane could reach land.

Subsection 11.61(2) provides for prescribed circumstances in which the requirement in subsection 11.61(1) does not apply, including certain circumstances relating to flying an

aeroplane over water for the purpose of climbing or taking off or landing at an aerodrome, and flying higher than 2 000 ft above the water.

Subsection 11.61(3) provides that for subsection 11.61(1), a person may be taken to be wearing a life jacket if it is secured to the person in a way that allows the person to put it on quickly and easily in an emergency.

### **Section 11.62**

Subsection 11.62(1) requires that when an aeroplane begins a flight to which this section applies, it must carry sufficient life rafts to provide a place on a life raft for each person on the aeroplane.

Subsection 11.62(2) limits the application to a flight that is flowing further than the distances prescribed in the subsection.

Subsection 11.62(3) provides that for the purposes of subsection 11.63(1), when working out the number of life rafts to be carried on an aeroplane the capacity of a life raft is the rated capacity specified by the manufacturer for the life raft and that the number of infants on board the aeroplane need not be taken into account.

Subsection 11.62(4) provides that any overload capacity of a life raft is not to be taken into account in determining its capacity for the purposes of paragraph 11.62(3)(a).

### **Section 11.63**

Subsection 11.63(1) limits the application of the section to an aeroplane required to carry a life raft under section 11.62.

Subsection 11.63(2) provides that the life raft must be stowed and secured so that it can be readily deployed if the aeroplane has to ditch.

Subsection 11.63(3) requires that if a life raft is stowed in a compartment or container, the compartment or container must be conspicuously marked as containing the life raft.

### **Section 11.64**

Subsection 11.64(1) contains definitions of *approved ULD* and *tail section* for the purposes of the section. An approved ULD means an underwater locating device that is authorised by CASA or the national aviation authority of a recognised country in accordance with either TSO-C121b or ETSO-C121b. Tail section means the tail assembly of an aeroplane consisting of its vertical and horizontal stabilizers, and including its fin, rudder, and elevators.

Subsection 11.64(2) limits the application of the section to a flight of an aeroplane that has a maximum take-off weight of more than 27 000 kg, and is required to carry a life raft under Division 12. The requirements in section 11.64 have delayed commencement, and do not apply until the beginning of 2 December 2023.

Subsection 11.64(3) prescribes that for the flight, the aeroplane must be fitted with an approved ULD that meets the requirements in subsection 11.64(4).

Subsection 11.64(4) for the purpose of subsection 11.64(3) prescribes the requirements that an approved ULD must meet.

## **Division 13—Transponders and surveillance equipment**

**Section 11.65** contains the definitions for the instrument that relate to transponders and surveillance equipment (dealt with in Division 13). Section 1.04, the general definitions section for the instrument, includes a signpost in subsection 1.04(2) that alerts the reader to the location of these definitions. The definitions are numerous and technical.

### **Section 11.66**

Subsection 11.66(1) requires that subject to section 11.71 (about when an aeroplane may be flown with a transponder inoperative), an aeroplane must be fitted with 2 transponders in accordance with subsection 11.66(2). That subsection requires each transponder to have an approved ADS-B OUT equipment configuration (defined in section 11.65).

### **Section 11.67**

Subsection 11.67(1) requires that during the period mentioned in subsection (2), a transponder fitted to an aeroplane for a flight must be operated in a mode that enables an SSR response to be transmitted.

Subsection 11.67(2) provides that for subsection 11.67(1), the period begins when the aeroplane commences the take-off for the flight and ends when the aeroplane lands for the flight.

Subsection 11.67(3) requires that an aeroplane must not operate a transponder if air traffic control issues an instruction that the transponder is not to be operated.

Subsection 11.67(4) requires that only one transponder may be operated at any time.

Subsection 11.67(5) provides that for each transponder, the Mode A code must be set in accordance with the prescribed requirements.

Subsection 11.67(6) provides that for paragraph 11.67(5)(b), for a situation mentioned in column 1 of an item in the table, the Mode A code is the number mentioned in column 2 for the item.

Subsection 11.67(7) requires that if an approved transponder capable of reporting pressure altitude is fitted to an aeroplane for a flight, it must be operated with altitude reporting enabled.

Subsection 11.67(8) provides that pressure altitude information reported by an approved transponder must be determined by a barometric encoder of a type authorised by CASA or the national aviation authority of a recognised country in accordance with (E)TSOC88a.

### **Section 11.68**

Subsection 11.68(1) provides that an approved ADS-B OUT equipment configuration fitted to an aeroplane for a flight must be configured in accordance with the prescribed requirements.

Subsection 11.68(2) provides that an approved Mode S transponder must transmit each of the prescribed requirements when interrogated on the manoeuvring area of an aerodrome or in flight.

Subsection 11.68(3) provides that transmission of the aircraft flight identification by an approved Mode S transponder is optional for an aeroplane that was first issued with a certificate of airworthiness before 9 February 2012 (an older aeroplane). However, an older aeroplane that is equipped to transmit, may transmit its aircraft flight identification.

Subsection 11.68(4) provides that if an approved Mode S transponder transmits any Mode S EHS DAPs, the transmitted DAPs must comply with the standards set out in paragraph 3.1.2.10.5.2.3

and Table 3-10 of Volume IV, Surveillance and Collision Avoidance Systems, of ICAO Annex 10.

Subsection 11.68(5) provides that if an approved Mode S transponder is fitted to an aeroplane first issued with a certificate of airworthiness on or after 9 February 2012 and having a certificated maximum take-off weight above 5 700 kg or that is capable of normal operation at a maximum cruising true airspeed above 250 kts that the transponder's receiving and transmitting antennae must meet the prescribed requirements.

Subsection 11.68(6) provides that an aeroplane must not fly in Australian territory if it is fitted with Mode S transponder equipment other than an approved ADS-B OUT equipment configuration, unless the equipment is deactivated or set to transmit only a value of zero for the NUCp, NACp, NIC or SIL.

Subsection 11.68(7) requires that the pilot-in-command of an aeroplane for a flight must ensure the requirements in subsections 11.68(1) and 11.68(2) are met for the aeroplane and the flight.

### **Section 11.69**

Subsection 11.69(1) provides that for an aeroplane first issued with a certificate of airworthiness on or after 8 December 2016, an alternate GNSS position source is acceptable if the source meets the prescribed requirements.

Subsection 11.69(2) prescribes that for an aeroplane first issued with a certificate of airworthiness before 8 December 2016, an alternate GNSS position source is acceptable if it meets the requirements of subsection 11.69(1), other than subparagraph 11.69(1)(b)(iii) which is optional.

### **Section 11.70**

Subsection 11.70(1) provides that an alternate ADS-B OUT equipment configuration is acceptable if the prescribed requirements are satisfied.

Subsection 11.70(2) provides that an alternate ADS-B OUT equipment configuration is acceptable if the prescribed requirements are satisfied.

Subsection 11.70(3) provides that for an aeroplane first issued with a certificate of airworthiness on or after 8 December 2016, an equipment configuration is acceptable if the prescribed requirements are satisfied.

Subsection 11.70(4) provides that for an aeroplane first issued with a certificate of airworthiness before 8 December 2016, an equipment configuration is acceptable if the prescribed requirements are satisfied.

**Section 11.71** provides that an approved transponder may be inoperative at the beginning of a flight if the flight begins from an aerodrome at which there is no facility for the approved transponder to be repaired or replaced and the flight ends not more than 72 hours after the time the approved transponder was found to be inoperative.

## **Chapter 12—Flight crew training and checking**

### **Division 1—Flight simulator use: specific aeroplane types**

The Division is reserved for the purposes of paragraph 121.5.10(1)(b) and the note to heading explains this. Material has been included in the instrument under this heading to signpost the location and the form it would take. Section 12.01 would provide that, for the purposes of

paragraph 121.510(1)(b) of CASR, an aeroplane of a kind listed in an item of table 12.01 is prescribed.

## **Division 2—Initial training for flight crew**

### **Section 12.02**

Section 12.02 provides that Division 2 is made for paragraph 121.555(1)(b) of CASR and prescribes requirements for an aeroplane operator's initial training for a flight crew member.

Section 12.03 requires that a training facility or device used to conduct the operator's initial training must meet the requirements of Division 3 of Chapter 13 that apply in relation to the training.

Section 12.04 provides that initial training for a flight crew member must include training on the matters prescribed.

### **Section 12.05**

Subsection 12.05(1) provides that initial training for a flight crew member must include training on the importance of effective communication and coordination in accordance with the prescribed requirements.

Subsection 12.05(2) provides that the training must cover the prescribed requirements.

### **Section 12.06**

Subsection 12.06(1) provides that initial training for a flight crew member must include training in fire and smoke detection and suppression, including training in the prescribed requirements.

Subsection 12.06(2) provides that on and after 2 December 2023, the training must also include practical training in fire-fighting that covers extinguishing a fire and using the fire-fighting equipment, specified for the purpose in the operator's exposition, in a smoke-filled (or simulated smoke-filled) environment.

**Section 12.07** provides that initial training for a flight crew member must include training on the matters prescribed.

### **Section 12.08**

Subsection 12.08(1) provides that initial training for a flight crew member must include training in survival methods on land and water appropriate to the operator's areas of operation.

Subsection 12.08(2) provides that the training must include practical training using survival equipment determined by the operator, under the procedures mentioned in regulation 121.340 of CASR, for an aeroplane in respect of which the flight crew member has been assigned duties.

### **Section 12.09**

Subsection 12.09(1) limits the application of the requirements prescribed under subsection 12.09(2) to when life jackets are (under section 11.59) required to be carried for a flight of an aeroplane and the flight crew member is assigned to duty for a flight of the aeroplane.

Subsection 12.09(2) provides that initial training for a flight crew member must include a comprehensive drill requiring the flight crew member to don a life jacket and practice, in water, the techniques that maximise survival time in the water.

Subsection 12.09(3) provides that the requirements in subsection 12.09(4) apply if life rafts are, under section 11.62, required to be carried for a flight of an aeroplane and the flight crew member is assigned to duty on the aeroplane for a flight.

Subsection 12.09(4) provides that initial training of the flight crew member must include a demonstration of the inflation of life-rafts and slide-rafts carried on the aeroplane and any life-saving equipment or survival equipment for the rafts mentioned in regulation 121.335 or 121.340 of CASR. Further, the training must include a comprehensive drill requiring the flight crew member to practice boarding the life raft in water and practice using the life raft equipment in water.

### **Section 12.10**

Subsection 12.10(1) provides that section 12.10 applies if a flight crew member is assigned to duty on an aeroplane for a flight and regulation 121.630 of CASR does not require a cabin crew member to be carried on the aeroplane for the flight.

Subsection 12.10(2) provides that initial training for the flight crew member must include basic first aid training that includes instruction about treating the prescribed matters.

Subsection 12.10(3) provides that the training must include instruction and practical training on the use of appropriate equipment including first-aid oxygen, first-aid kits, universal precaution kits and emergency medical kits and their contents.

### **Section 12.11**

Subsection 12.11(1) provides that section 12.11 applies if a flight crew member is assigned to duty on an aeroplane for a flight and regulation 121.630 of CASR does not require a cabin crew member to be carried on the aeroplane for the flight.

Subsection 12.11(2) provides that initial training for the flight crew member must include training on passenger handling, including the prescribed matters.

**Section 12.12** provides that initial training for a flight crew member must include training about the physiological effects of flying, including instruction on the prescribed matters.

## **Division 3—Conversion training requirements for flight crew**

**Section 12.13** sets out that Division 3 is made for paragraph 121.560(1)(a) of CASR and prescribes requirements for conversion training for a flight crew member in relation to an operator and an aeroplane of a particular kind. The note to the section explains matters relating to how training on human factors and non-technical skills are dealt with under the scheme.

### **Section 12.14**

Subsection 12.14(1) limits the application of the section to conversion training that is not required to be carried out in a flight simulator under regulation 121.510 of CASR.

Subsection 12.14(2) provides that a training facility or device used to conduct conversion training in relation to an aeroplane of a particular kind, must meet the requirements of Division 3 of Chapter 13 that apply to the training and an aeroplane of that kind.

### **Section 12.15**

Subsection 12.15(1) provides that conversion training for a flight crew member and an aeroplane of a particular kind must include training on the limitations and normal, abnormal and emergency procedures for an aeroplane of that kind.

Subsection 12.15(2) provides that the training must cover standard operating procedures that relate to the flight crew member's safety-related duties and responsibilities during normal day-to-day operations, including the prescribed matters.

Subsection 12.15(3) provides that the training must cover the procedures for abnormal and emergency situations in flight and on the ground, including the prescribed matters.

Subsection 12.15(4) provides for training on specific flight procedures. The training must cover any flight procedures or manoeuvres, conducted in an aeroplane of that kind, for which the operator holds an approval issued under regulation 91.045 or 121.010 of CASR. The training must also cover the procedures for any other operations conducted by the operator in an aeroplane of that kind that the flight crew member has not previously experienced (for example, precision runway monitor operations, LAHSO). The note to the section provides some examples relating to approved issued under regulation 91.045 or 121.010. They would include approvals for low-visibility operations, operations and RVSM and flights using a PBN navigation specification.

Subsection 12.15(5) provides further for training on specific flight procedures in relation to extended diversion time operations. If an approval mentioned in paragraph 12.15(4)(a) is an EDTO approval, the training must cover at least the prescribed matters.

Subsection 12.15(6) provides for the training to include a program of upset preventions and recovery training. The provision has a delayed commencement of 31 March 2022 and applies if an aeroplane of that kind has a maximum certificated passenger seating capacity of 30 seats or more.

Subsection 12.15(7) provides that the training must include a practical component in which the flight crew member participates in simulated realistic scenarios that allow the crew member to practice what is covered by the training.

### **Section 12.16**

Subsection 12.16(1) provides that conversion training for a flight crew member and an aeroplane of a particular kind must include training on how flight crew are to respond in the event of crew incapacitation during normal, abnormal and emergency situations and on the elements specific to an aeroplane of that kind and the conditions relevant to the response.

Subsection 12.16(2) provides that the training must include instruction on how to operate any equipment fitted to, or carried on, an aeroplane of that kind that relates to treating an incapacitated crew member (for example, crew seats, first aid oxygen).

Subsection 12.16(3) provides that the training must include a practical component which the flight crew member participates in simulated realistic scenarios that allow practice in what has been covered by the training.

**Section 12.17** provides that conversion training for a flight crew member and an aeroplane of a particular kind must include practical training on the operation of each door and exit (including any flight deck window or hatch) fitted to each model or variant of an aeroplane of the aeroplane kind to which the crew member has been assigned duties. Further the training is to cover operation in normal and emergency mode.

### **Section 12.18**

Subsection 12.18(1) provides that conversion training for a flight crew member and an aeroplane (the first mentioned aeroplane) of a particular kind must include training on the use of each

evacuation slide that is fitted to, or carried on, the aeroplane and training on any other means of assisting evacuation on the aeroplane (for example, an escape rope).

Subsection 12.18(2) provides that if the crew member is assigned to duty on another aeroplane of that kind and an evacuation slide fitted to, or carried on, that aeroplane is different to an evacuation slide fitted to, or carried, on the first-mentioned aeroplane then conversion training must include training on the use of the different slide.

Subsection 12.18(3) provides that the training must include a practical component requiring the flight crew member to safely complete a descent using an evacuation slide representative of one fitted to an aeroplane of that kind.

Subsection 12.18(4) provides that for the purposes of subsection 12.18(3), if the aeroplanes of that kind have more than one passenger deck, the descent using an evacuation slide is required to be conducted from the height of the lower passenger deck only.

Subsection 12.18(5) provides that despite subsection 12.18(3), a descent in relation to an aeroplane of that kind (the relevant aeroplane) need not be conducted if the prescribed requirements are met.

#### **Division 4—Recurrent flight training for flight crew**

**Section 12.19** sets out that Division 4 is made for paragraph 121.570(1)(b) of CASR and prescribes requirements for recurrent flight training for a flight crew member in relation to an operator and an aeroplane of a particular kind.

#### **Section 12.20**

Subsection 12.20(1) provides that recurrent flight training in relation to an aeroplane of a particular kind must be carried out using an aeroplane of that kind or an approved flight simulator for the aeroplane.

Subsection 12.20(2) provides that recurrent flight training for a flight crew member must include training that encompasses the units of competency prescribed in the Part 61 Manual of Standards for the grant of the prescribed ratings.

Subsection 12.20(3) provides that recurrent flight training must include the prescribed matters.

Subsection 12.20(4) provides for the recurrent flight training to include a program of upset prevention and recovery training. The provision has a delayed commencement of 31 March 2022 and applies if an aeroplane of that kind has a maximum certificated passenger seating capacity of 30 seats or more.

Subsection 12.20(5) provides that recurrent training must include a course of training the addresses the prescribed requirements.

Subsection 12.20(6) provides that for paragraph 12.20(5)(b), the operator must use feedback from the operator's safety management system, and flight data analysis program (if any), to determine whether a major system failure for an aeroplane of that kind should be covered by the course more frequently than once every 4 years.

Subsection 12.20(7) provides that for section 12.20 major system failure, in relation to an aeroplane, means a failure associated with the aeroplane's electrical, hydraulic, fuel or pressurisation system.



Subsection 12.20(8) provides that the flight crew member completes the recurrent training for a year if the flight crew member completes the portion of the course that the operator, in accordance with subsection 12.20(5), provides for that year.

## **Division 5—Part 121 proficiency check**

### **Subdivision A—Part 121 proficiency check for pilots**

**Section 12.21** sets out that Subdivision A of Division 5 is made for subregulation 121.580(1) of CASR and sets out requirements for a Part 121 proficiency check for a pilot in relation to an aeroplane of a particular kind.

#### **Section 12.22**

Subsection 12.22(1) provides that a Part 121 proficiency check for an aeroplane of a particular kind must be carried out in an aeroplane of that kind or an approved flight simulator for an aeroplane of that kind.

Subsection 12.22(2) provides that if the pilot does not hold a type rating covering an aeroplane of that kind other than a cruise-relief co-pilot rating, the requirements of section 12.22 are subject to subsection 12.23(4).

Subsection 12.22(3) provides that during the proficiency check, the flight manoeuvres performed by the pilot under check must not involve sustained deviations outside the flight tolerances specified in table 2 in section 1 of schedule 8 to the Part 61 Manual of Standards.

Subsection 12.22(4) provides that if the proficiency check involves the conduct of an instrument approach operation, the flight manoeuvres performed by the pilot under check must also not involve sustained deviations outside the flight tolerances specified in table 5 of section 1 of schedule 8 to the Part 61 Manual of Standards.

Subsection 12.22(5) provides that the pilot must perform the proficiency check in IMC or simulated IMC during the period specified.

Subsection 12.22(6) provides that the pilot must perform the prescribed manoeuvres for the proficiency check.

Subsection 12.22(7) provides that if the pilot will be required to operate an aeroplane of that kind from both the left-hand and the right-hand pilot seats, the pilot must perform the prescribed manoeuvres during the proficiency check in the seat that is not the pilot's normal pilot seat.

Subsection 12.22(8) provides that if the proficiency check is conducted in an aeroplane, then, despite subsection 12.28(6) or 12.28(7) the prescribed requirements are to be met.

Subsection 12.22(9) provides that if the pilot can be delegated the conduct of a flight of an aeroplane of that kind under subregulation 121.535(3) of CASR (relief of the pilot in command), the proficiency check must include an assessment of the pilot's competence in conducting procedures applicable at or above FL 200 that are prescribed.

Subsection 12.22(10) provides that if the pilot has not, for a valid Part 121 proficiency check, been assessed as competent in performing the correct manoeuvre in response to a resolution advisory from an approved ACAS within the previous 2 years, the pilot must perform the manoeuvre, for the proficiency check, in accordance with subsection 12.22(11).

Subsection 12.22(11) provides that despite subsection 12.28(1), if the proficiency check is not required to be conducted in an approved flight simulator by regulation 121.510 of CASR, the performance of the manoeuvre mentioned in subsection 12.22(10) must be carried out using a training device which meets the requirements prescribed by section 13.08.

Subsection 12.22(12) provides that the pilot must demonstrate their knowledge of the prescribed topics, as they relate to an aeroplane of that kind and the operator's operations, to the standard specified in the operator's exposition.

### **Section 12.23**

Subsection 12.23(1) provides that section 12.23 applies to a pilot who does not hold a type rating covering an aeroplane of that kind other than a cruise-relief co-pilot rating.

Subsection 12.23(2) provides that subject to subsections 12.23(3) and 12.23(4), a Part 121 proficiency check for the pilot must check the competency of the pilot in accordance with the cruise relief co-pilot type rating flight test in Appendix L.18, section L of Schedule 5 to the Part 61 Manual of Standards.

Subsection 12.23(3) provides that the flight tolerances for the proficiency check must be those specified in Table 2 in Section 1 of Schedule 8 to the Part 61 Manual of Standards.

Subsection 12.23(4) provides that the knowledge requirements and practical flight standards required by Part 61 are, for the purposes of the proficiency check, limited to the requirements and standards relevant to the conduct of normal, abnormal and emergency flight procedures in the climb, cruise and descent phases of flight above FL 200.

Subsection 12.23(5) requires that the proficiency check must be conducted by reference only to flight deck instruments.

## **Division 5, Subdivision A—Part 121 proficiency check for pilots**

**Section 12.24** provides that for the purposes of subregulation 121.580(4) of CASR, a Part 121 proficiency check for a flight engineer and an aeroplane of a particular kind must check the competency of the flight engineer in accordance with the flight engineer type rating flight test in Appendix V.2, section W of Schedule 5 to the Part 61 Manual of Standards.

## **Division 6—Annual emergency and safety equipment training for flight crew**

**Section 12.25** sets out that Division 6 is made for paragraph 121.610(1)(c) of CASR and prescribes requirements for annual emergency and safety equipment training for a flight crew member in relation to an operator and an aeroplane of a particular kind.

**Section 12.26** provides that a training facility or device used to conduct annual emergency and safety equipment training in relation to an aeroplane of a particular kind, must meet the requirements of Division 3 of Chapter 13 that apply to the training and an aeroplane of that kind.

**Section 12.27** provides that annual emergency and safety equipment training mentioned in Division 6 must, in relation to the equipment that is the subject of the training, cover the prescribed requirements.

**Section 12.28**

Subsection 12.28(1) provides that annual emergency and safety equipment training for a flight crew member, in relation to an aeroplane of a particular kind, must cover each of the prescribed items of emergency or safety equipment that is fitted to, or carried on, the aeroplanes of that kind in respect of which the flight crew member has been assigned duties (the relevant aeroplanes).

Subsection 12.28(2) provides that if life jackets are carried on a relevant aeroplane, the training must cover donning of life jackets.

Subsection 12.28(3) provides that if a relevant aeroplane carries portable supplemental oxygen, first aid oxygen, or protective breathing equipment, then the training must cover donning of the equipment.

Subsection 12.28(4) provides that the training must include a practical component in which the flight crew member practices handling the equipment mentioned in section 12.28 (other than the equipment mentioned in subsection 12.28(5)).

Subsection 12.28(5) provides that the requirement in subsection 12.28(4) does not apply in relation to the prescribed items.

**Section 12.29**

Subsection 12.29(1) provides that section 12.29 applies to a normal and emergency exit fitted to an aeroplane of a particular kind in relation to which a flight crew member has been assigned duties (the first-mentioned aeroplane) and that enables passenger evacuation (a passenger evacuation exit).

Subsection 12.29(2) provides that if the flight crew member is assigned to duty on another aeroplane of that kind and a passenger evacuation exit on the aeroplane is different to any of the passenger evacuation exits on the first-mentioned aeroplane then section 12.29 also applies to that exit.

Subsection 12.29(3) provides that annual emergency and safety equipment training for the flight crew member must cover both the operation of each of the exits to which this section applies in normal and emergency mode and the evacuation procedures that relate to using the exits for passenger evacuation.

Subsection 12.29(4) provides that the training must include instruction on use of the means for assisting evacuation on the aeroplane to which the exit is fitted (for example, escape ropes or evacuation slides).

Subsection 12.29(5) provides that the training must include a practical component in which the flight crew member complies with the prescribed requirements.

Subsection 12.29(6) provides that the training must also include instruction on the operation of the flight crew compartment security door fitted to the first-mentioned aeroplane and if the flight crew member is assigned to duty on another aeroplane of that kind (the second-mentioned aeroplane) and the flight crew compartment security door on the second-mentioned aeroplane is different to the one fitted on the first-mentioned aeroplane instruction on the operation of the door fitted to the second-mentioned aeroplane.

## **Division 7—The 3 yearly emergency and safety equipment training and checking requirements for flight crew**

**Section 12.30** sets out that the Division is made for of paragraph 121.620(1)(c) of CASR and prescribes requirements for 3 yearly emergency and safety equipment training for a flight crew member in relation to the operator and an aeroplane of a particular kind.

**Section 12.31** provides that a training facility or device used to conduct 3-yearly emergency and safety equipment training in relation to an aeroplane of a particular kind, must meet the requirements of Division 3 of Chapter 13 that apply to the training and an aeroplane of that kind.

### **Section 12.32**

Subsection 12.32(1) provides that the 3-yearly emergency and safety equipment training for a flight crew member, in relation to an aeroplane of a particular kind, must include the prescribed training, in relation to the aeroplanes of that kind in respect of which the flight crew member has been assigned duties (the relevant aeroplanes).

Subsection 12.32(2) provides that the training mentioned in paragraphs 12.32(1)(b), 12.32(1)(c) and 12.32(1)(e) must be practical in nature and not solely theoretical.

Subsection 12.32(3) provides that on and after 2 December 2023, the training mentioned in paragraph 12.32(1)(d) must be practical in nature and not solely theoretical.

## **Chapter 13—Cabin crew training and checking**

### **Division 1—English Language proficiency**

#### **Section 13.01**

Subsection 13.01(1) provides that for the purposes of paragraph 121.655(1)(b) of CASR, the requirements for English language proficiency that must be met by a person assigned to duty as a cabin crew member are those prescribed.

Subsection 13.01(2) provides that the English language performance standard is the ability of a person to demonstrate the person can satisfy the prescribed requirements.

Subsection 13.01(3) provides that the performance standard applies to oral and written communications and in face-to-face situations relevant to the duties and obligations of a cabin crew member in an aviation technical learning environment.

#### **Section 13.02**

Subsection 13.02(1) provides that for the purposes of paragraph 13.01(1)(a), this section applies to a person who has documentary evidence that the person has completed the prescribed requirements.

Subsection 13.02(2) provides that for the purposes of paragraph 13.01(1)(a), this section applies to a person who satisfies the prescribed requirements.

### **Division 2—Senior cabin crew members: training and checking**

**Section 13.03** provides that Division 2 is made for the purposes of paragraph 121.665(1)(b) of CASR and prescribes training and checking that must be successfully completed by a senior cabin crew member in relation to an aeroplane and a flight. The note to the section explains how training in relation to human factors and non-technical skills is dealt with under the scheme.

**Section 13.04** provides that training for a senior cabin crew member must cover the duties and responsibilities of the senior cabin crew member and include at least the prescribed requirements.

### **Section 13.05**

Subsection 13.05(1) provides that a competency check for a senior cabin crew member must check the competency of the person in carrying out the duties and responsibilities of the senior cabin crew member.

Subsection 13.05(2) provides that the senior cabin crew member must meet the competency level specified in the operator's exposition for a competency check of a senior cabin crew member.

The note to the section explains that the training required to be provided to a senior cabin crew member is in addition to the training required to be provided to cabin crew members under Division 121.P.2 of Part 121 of CASR and Divisions 4 to 7 of Chapter 13.

## **Division 3—Training facilities and devices**

### **Section 13.06**

Subsection 13.06(1) provides that for the purposes of subregulation 121.680(2) of CASR, Division 3 prescribes requirements for a training facility or device that is used to carry out training and checking of crew members.

Subsection 13.06(2) provides that Division 3 has requirements for training facilities and the prescribed training devices.

**Section 13.07** provides that a training facility that is used for training or checking must be equipped with the emergency and safety equipment and other devices that would enable that training or checking to be conducted in accordance with the training and checking requirements in Part 121 of CASR, this Manual of Standards, and the operator's training and checking system.

### **Section 13.08**

Subsection 13.08(1) provides that a device used, instead of an aeroplane, for training or checking a crew member must be capable of re-creating realistic situations for providing effective training or checking to a crew member.

Subsection 13.08(2) provides that a device used for training a crew member must be adequate and appropriate to ensure that the objectives of the training can be achieved.

Subsection 13.08(3) provides that a device used to conduct a check of a crew member must be capable of being used by the crew member to demonstrate the competencies being checked.

Subsection 13.08(4) provides that a device used to carry out training or checking must include the components necessary for the training or checking, including all the equipment required for the completion of practical exercises relevant to the training.

Subsection 13.08(5) provides that if a cabin training device, or other device, is used to train crew members in operations conducted using multiple cabin crew, the device must be capable of assessing the competency of a member of the crew in a multiple cabin crew environment.

Subsection 13.08(6) provides that a cabin training device or other device that will use a particular scenario to carry out training of a crew member in relation to an aeroplane must include any equipment, exits, aircraft systems, and other feature or component that is relevant for the scenario.

Subsection 13.08(7) provides that if the device is used to carry out training of a crew member in emergency procedures, it must be capable of simulating a realistic environment applicable to the relevant emergency scenario (for example, a smoke-filled cabin).

### **Section 13.09**

Subsection 13.09(1) provides that practical training using a fire-fighting simulated exercise must be conducted in an area that adequately simulates the confined space and obstacles of an aircraft cabin.

Subsection 13.09(2) provides that fire extinguishers used for live fire-fighting exercises must be charged with an agent that adequately simulates the flow rate and dispersal pattern of the agent used in fire extinguishers fitted to, or carried on, aeroplanes operated by the operator.

Subsection 13.09(3) provides that if a training facility or device is used to simulate a fire, it must adequately simulate the characteristics of a fire relevant to the training (for example, flame, heat, smoke or a fire's reaction to the application of an extinguishing agent).

**Section 13.10** provides that if wet drills are to be, or are required by this Manual of Standards to be, conducted in a practical exercise at a training facility, the facility must have a body of water or pool of sufficient depth to enable the exercise to be realistically performed.

### **Section 13.11**

Subsection 13.11(1) provides that if training and checking for a crew member involves training or checking a crew member on emergency and safety equipment (the relevant equipment) fitted to, or carried on, an aeroplane, the equipment or other device used for the training or checking must be representative of the relevant equipment in accordance with section 13.11.

Subsection 13.11(2) provides that emergency or safety equipment used for the training or checking must satisfy the prescribed requirements.

Subsection 13.11(3) provides that a device used for the training or checking, that incorporates emergency or safety equipment, must satisfy the prescribed requirements.

### **Section 13.12**

Subsection 13.12(1) provides that section 13.12 applies to a cabin training device, exit trainer and any other device that is used for training or checking a crew member in relation to an aeroplane type.

Subsection 13.12(2) provides that any dials, handles, switches, restraint brackets and mounting devices that are included in the device must be representative of those fitted to, or carried on, an aeroplane of that type, in respect of their operation and any force required for their operation.

Subsection 13.12(3) provides that the direction of movement, associated forces and travel of all controls on equipment in the device must be representative of the equipment fitted to, or carried on, an aeroplane of that type, including the weight of an emergency exit operated without power assist.

Subsection 13.12(4) provides that the weight of any emergency exit hatch included in the device, must be representative of the emergency hatch fitted to the aeroplane.

Subsection 13.12(5) provides that emergency and safety equipment included in the device must be secured in brackets or mounting devices that are representative of those found on an aeroplane

of that type and located and stowed in a way representative of the location and stowage of the equipment on an aeroplane of that type.

### **Section 13.13**

Subsection 13.13(1) provides that a cabin training device used to carry out training of a crew member in emergency evacuations of an aeroplane using a particular scenario, must also include the features that are relevant in the scenario, including the prescribed requirements.

Subsection 13.13(2) provides that an emergency exit trainer, cabin training device or other device used for training or checking of a crew member in the operation of an emergency exit for an aeroplane type, must also meet the prescribed requirements.

## **Division 4—Initial training for cabin crew**

**Section 13.14** sets out that Division 4 is made for paragraph 121.710(b) of CASR and prescribes requirements for initial training for a cabin crew member in relation to an operator and an aeroplane.

### **Section 13.15**

Subsection 13.15(1) provides that initial training for a cabin crew member must include the training necessary to familiarise the cabin crew member with the prescribed requirements.

Subsection 13.15(2) provides that for paragraph 13.15(1)(d), initial training must include training on the prescribed matters.

### **Section 13.16**

Subsection 13.16(1) provides that initial training for a cabin crew member must include training on the importance of effective communication and coordination between crew members and also between cabin crew members and other parties (such as passengers, dispatchers and other external agencies) in normal, abnormal and emergency situations.

Subsection 13.16(2) provides that the training must cover the prescribed requirements.

### **Section 13.17**

Subsection 13.17(1) provides that initial training for a cabin crew member must include training in fire and smoke detection and suppression, including training in the prescribed matters.

Subsection 13.17(2) provides that on and after 2 December 2023, the training must also include practical training in fire-fighting that covers extinguishing a fire and also using the fire-fighting equipment, specified for the purpose in the operator's exposition, in a smoke-filled (or simulated smoke-filled) environment.

### **Section 13.18**

Subsection 13.18(1) provides that initial training for a cabin crew member must include training in survival methods on land and water appropriate to the operator's areas of operation.

Subsection 13.18(2) provides that the training must include practical training using survival equipment determined by the operator, under the procedures mentioned in regulation 121.340 of CASR, for an aeroplane in respect of which the cabin crew member has been assigned duties.

**Section 13.19**

Subsection 13.19(1) provides that the requirements in subsection 13.19(2) apply if life jackets are, under section 11.59, required to be carried for a flight of an aeroplane and the cabin crew member is assigned to duty for a flight of the aeroplane.

Subsection 13.19(2) provides that the training must include a comprehensive drill requiring the cabin crew member to don a life jacket and also to practice, in water, the techniques that maximise survival time in the water.

Subsection 13.19(3) provides that the requirements in subsection 13.19(4) apply if life rafts are, under section 11.62, required to be carried for a flight of an aeroplane and the cabin crew member is assigned to duty for a flight on the aeroplane.

Subsection 13.19(4) prescribes the requirements that must be met.

Subsection 13.20(1) provides that initial training for a cabin crew member must include basic first aid training that includes instruction about treating the prescribed requirements.

**Section 13.20**

Subsection 13.20(2) provides that initial training must include instruction on in-flight medical emergencies and associated first aid on treating the prescribed conditions.

Subsection 13.20(3) provides that the training must include instruction and practical training on the use of appropriate equipment including first-aid oxygen, first-aid kits, universal precaution kits and emergency medical kits and their contents and also practical cardio-pulmonary resuscitation that takes account of an aircraft environment.

**Section 13.21** provides that initial training for a cabin crew member must include training on passenger handling, including the prescribed matters.

**Section 13.22** provides that initial training for a cabin crew member must include training about the physiological effects of flying, including instruction on the prescribed matters.

**Division 5—Conversion training for cabin crew**

**Section 13.23** sets out that Division 5 is made for paragraph 121.715(2)(a) of CASR and prescribes requirements for conversion training for a cabin crew member in relation to an operator and an aeroplane type.

**Section 13.24**

Subsection 13.24(1) provides that conversion training for a cabin crew member for an aeroplane type must include training on the use of fire fighting and any related equipment (for example, protective clothing, smoke protection) fitted to, or carried on, an aeroplane of the aeroplane type and also drills for fire-fighting.

Subsection 13.24(2) provides that the training must include a practical component in which the cabin crew member participates a fire-fighting simulated exercise for the practice of what has been covered by the training.

**Section 13.25**

Subsection 13.25(1) provides that conversion training for a cabin crew member for an aeroplane type must include training on the operation of each door and exit (including any flight deck window or hatch) that is fitted to each model or variant of an aeroplane of the aeroplane type to



which the crew member has been assigned duties. Further the training is to cover use in normal and emergency mode.

Subsection 13.25(2) provides that training must include use of the means (not including evacuation slides) for assisting evacuation on the aeroplane, for example, escape ropes.

Subsection 13.25(3) provides that the training must include a demonstration, given to the cabin crew member, of the operation of the flight deck exits (other than a flight crew compartment security door), in normal and emergency modes.

Subsection 13.25(4) provides that the training must include a practical component in which the cabin crew member satisfies the prescribed requirements.

### **Section 13.26**

Subsection 13.26(1) provides that conversion training for a cabin crew member for an aeroplane type must include training on the use of each evacuation slide that is fitted to, or carried on, an aeroplane of the type (the first-mentioned aeroplane).

Subsection 13.26(2) provides that if the crew member is assigned to duty on another aeroplane of the aeroplane type and an evacuation slide fitted to, or carried on, the aeroplane is different to an evacuation slide fitted to, or carried, on the first-mentioned aeroplane, then conversion training must include training on the use of the different slide.

Subsection 13.26(3) provides that the training must include a practical component requiring the cabin crew member to safely complete a descent using an evacuation slide representative of one fitted to an aeroplane of the aeroplane type.

Subsection 13.26(4) provides that for the purposes of subsection 13.26(3), if the aeroplanes of the aeroplane type have more than one passenger deck, the descent using an evacuation slide is required to be conducted from the height of the lower passenger deck only.

Subsection 13.26(5) provides that despite subsection 13.26(3), a descent in relation to an aeroplane of the aeroplane type (the relevant aeroplane) need not be conducted if the prescribed requirements are met.

### **Section 13.27**

Subsection 13.27(1) provides that conversion training for a cabin crew member and an aeroplane of the aeroplane type must include training on the prescribed matters.

Subsection 13.27(2) provides that the training must include instruction on how to operate any equipment fitted to, or carried on, the aeroplane that relates to treating an incapacitated crew member (for example, flight crew seats, flight deck oxygen).

Subsection 13.27(3) provides that the training must include a practical component in which the cabin crew member participates in simulated realistic scenarios that allow practice in what has been covered by the training.

### **Section 13.28**

Subsection 13.28(1) provides that conversion training for a cabin crew member for an aeroplane type must include training on the location and use of the aircraft systems of an aeroplane of the aeroplane type, that are relevant to the duties of a cabin crew member.

Subsection 13.28(2) provides that the training must include a practical component in which the cabin crew member participates in simulated realistic scenarios that allow practice in what has been covered by the training.

### **Section 13.29**

Subsection 13.29(1) provides that conversion training for a cabin crew member for an aeroplane type must include training on the operator's normal and emergency procedures for an aeroplane of the aeroplane type.

Subsection 13.29(2) provides that the training must cover standard operating procedures that relate to the cabin crew member's safety-related duties and responsibilities during normal day-to-day operations, including the prescribed matters.

Subsection 13.29(3) provides that the training must cover emergency procedures for abnormal and emergency situations in flight and on the ground, including the prescribed matters.

Subsection 13.29(4) provides that the training must include a practical component in which the cabin crew member participates in simulated realistic scenarios that allow the crew member to practice what is covered by the training.

## **Division 6—Annual training for cabin crew**

**Section 13.30** provides that Division 6 is made for subregulation 121.725(1) of CASR and prescribes requirements for annual training for a cabin crew member in relation to an operator and an aeroplane type.

**Section 13.31** provides that annual training mentioned in Division 6 must, in relation to any emergency or safety equipment covered by the training that satisfies the prescribed requirements.

### **Section 13.32**

Subsection 13.32(1) provides that annual training for a cabin crew member must include training on emergency or safety equipment to which section 13.32 applies.

Subsection 13.32(2) provides that section 13.32 applies to each of the prescribed items of emergency or safety equipment fitted to, or carried on, an aeroplane of the aeroplane type in relation to which the cabin crew member has been assigned duties (the first-mentioned aeroplane).

Subsection 13.32(3) provides that if the crew member is assigned for duty on another aeroplane of the aeroplane type and an item of emergency or safety equipment fitted to, or carried on, the other aeroplane is different to any of the items fitted to, or carried on, the first mentioned aeroplane then subsection 13.32(1) applies to that item of equipment.

Subsection 13.32(4) provides that if life jackets are carried on an aeroplane of the aeroplane type in relation to which the crew member has duties, the training must include donning of life jackets.

Subsection 13.32(5) provides that if an aeroplane of the aeroplane type in relation to which the crew member has duties carries portable supplemental oxygen, first aid oxygen or protective breathing equipment, then the training must include donning of the equipment.

Subsection 13.32(6) provides that the training must include a practical component in which the cabin crew member satisfies the prescribed requirements.

Subsection 13.32(7) provides that the requirements in subsection 13.32(6) do not apply in relation to life rafts, slide rafts, survival ELTs or signalling equipment. Further the requirements in subsection 13.32(6) do not apply if other survival equipment has been determined by the operator, using the procedures mentioned in regulation 121.340 of CASR, for an aeroplane of the aeroplane type in relation to which the cabin crew member has been assigned duties, that equipment.

### **Section 13.33**

Subsection 13.33(1) provides that section 13.33 applies to a normal and emergency exit that is fitted to an aeroplane of the aeroplane type in relation to which the cabin crew member has been assigned duties (the first-mentioned aeroplane) and that enables passenger evacuation (a passenger evacuation exit).

Subsection 13.33(2) provides that if the crew member is assigned to duty on another aeroplane of the aeroplane type and a passenger evacuation exit on the aeroplane is different to any of the passenger evacuation exits on the first-mentioned aeroplane, then section 13.33 also applies to that exit.

Subsection 13.33(3) provides that annual training for the crew member must cover the operation of each of the exits to which this section applies in normal and emergency mode and also the evacuation procedures that relate to using the exits for passenger evacuation.

Subsection 13.33(4) provides that the training must include instruction on use of the means for assisting evacuation on the aeroplane to which the exit is fitted (for example, escape ropes or evacuation slides).

Subsection 13.33(5) provides that the training must include a practical component in which the cabin crew member operates and opens, in normal and emergency mode, the exits for which the cabin crew member has been assigned responsibility, as required by the operator's evacuation procedures. Further the training requires that the cabin crew member also participates in simulated realistic scenarios that allow practice in what has been covered by the training.

Subsection 13.33(6) provides that the training must also include the prescribed requirements.

### **Section 13.34**

Subsection 13.34(1) provides that annual training for a cabin crew member for an aeroplane type must include training on the operator's emergency and safety-related procedures for an aeroplane of the aeroplane type.

Subsection 13.34(2) provides that the training must cover safety-related procedures for the prescribed matters.

Subsection 13.34(3) provides that the training must cover emergency procedures for abnormal and emergency situations in flight and on the ground, including the prescribed matters.

Subsection 13.34(4) provides that the training must also cover post-accident survival techniques on land and water and the use of related survival equipment and include reviewing incidents and accidents that are relevant to the operator and a flight of the aeroplane.

Subsection 13.34(5) provides that the training must include a practical component in which the cabin crew member participates in simulated realistic scenarios that collectively allow practice in at least the prescribed matters covered by the training.

## **Division 7—Three-yearly training & checking for cabin crew**

### **Section 13.35**

Subsection 13.35(1) provides that section 13.35 is made for subregulation 121.735(1) of CASR and prescribes requirements for 3-yearly training for a cabin crew member in relation to the operator of an aeroplane and the aeroplane type.

Subsection 13.35(2) provides that three-yearly training must include the prescribed requirements.

## **Chapter 14—Emergency evacuation demonstrations and procedural requirements**

### **Division 1—General emergency evacuation procedure requirements**

**Section 14.01** provides that Chapter 14 is made for subregulation 121.755(1) of CASR and prescribes requirements for emergency evacuation procedures in relation to an aeroplane and a flight.

**Section 14.02** provides that the emergency evacuation procedures must satisfy the prescribed requirements.

**Section 14.03** provides that the emergency evacuation procedures must be appropriate having regard to the prescribed matters.

### **Division 2—Aeroplanes carrying more than 44 passengers**

#### **Section 14.04**

Subsection 14.04(1) provides that Division 2 applies in relation to an aeroplane that has a maximum operational seating configuration of more than 44 passengers.

Subsection 14.04(2) provides that the requirements of Division 2 are in addition to the requirements in Division 1 of Chapter 14.

#### **Section 14.05**

Subsection 14.05(1) provides that an operator's emergency evacuation procedures for an aeroplane must ensure the crew members can achieve an evacuation capability at least equivalent to that achieved in an emergency evacuation demonstration that satisfies the prescribed requirements.

Subsection 14.05(2) provides that if the aeroplane is required under section 11.62 to carry one or more life rafts, the emergency evacuation procedures related to the ditching of the aeroplane must ensure the removal of rafts and the evacuation of the occupants of the aeroplane will be conducted in an orderly and expeditious manner.

Subsection 14.05(3) provides that the emergency exits identified as being the primary responsibility of cabin crew members for the purposes of the emergency evacuation demonstration mentioned in subsection 14.05(1), must continue to be required, by the emergency evacuation procedures for the aeroplane, to be the primary responsibility of cabin crew members.

Subsection 14.05(4) provides that to avoid doubt, the requirement in subsection 14.05(3) does not prevent additional emergency exits becoming the primary responsibility of cabin crew members under the emergency evacuation procedures.

**Section 14.06**

Subsection 14.06(1) provides that an operator must demonstrate to CASA the emergency evacuation procedures for an aeroplane to the extent required by Division 2.

Subsection 14.06(2) provides that a demonstration of the emergency evacuation procedures in relation to an aeroplane must be conducted in order to satisfy the prescribed conditions.

Subsection 14.06(3) provides that if the aeroplane is required under section 11.62 to carry one or more life rafts, CASA may require the operator, by notice in writing, to conduct a demonstration of the procedures related to the ditching of the aeroplane (the ditching procedures).

Subsection 14.06(4) provides that in considering whether to require a demonstration of the ditching procedures, CASA may take into account the prescribed matters.

Subsection 14.06(5) provides that a demonstration of ditching procedures may be conducted as prescribed.

**Section 14.07**

Subsection 14.07(1) provides that a demonstration to CASA of the emergency evacuation procedures of the aeroplane, including the ditching procedures if required under subsection 14.06(3), must be conducted in simulated emergency conditions.

Subsection 14.07(2) provides that each crew member who participates in the demonstration must satisfy the prescribed requirements.

Subsection 14.07(3) provides that the operator must not cause the demonstration to have been practiced, rehearsed with, or described to, a participant, except as mentioned in subsection 14.07(4).

Subsection 14.07(4) provides that for the purposes of subsection 14.07(3), a participant may be advised only that he or she will be participating in an evaluation of safety procedures.

**Section 14.08**

Subsection 14.08(1) provides that CASA must be satisfied that the emergency evacuation procedures for an aeroplane would enable the crew members to achieve the requirement in subsection 14.05(1).

Subsection 14.08(2) provides that a demonstration of the emergency evacuation procedures for the aeroplane must also meet the prescribed standards.

Subsection 14.08(3) provides that for the purposes of subsection 14.08(2), an emergency exit is a required emergency exit if it was present at the time of the emergency demonstration evacuation mentioned in subsection 14.05(1) for the aeroplane and the operator's procedures provide that the opening of the exit is a primary responsibility of a cabin crew member.

Subsection 14.08(4) provides that an emergency exit is ready for use within 15 seconds if each of the prescribed requirements are met.

Subsection 14.08(5) provides that if the operator is required to conduct a demonstration of ditching procedures for the aeroplane, the standard that must be met is that CASA is satisfied the ditching procedures meet the requirement in subsection 14.05(2).

**Section 14.09**

Subsection 14.09(1) provides that a demonstration of the emergency evacuation procedures for an aeroplane, must be conducted as prescribed.

Subsection 14.09(2) provides that if the demonstration includes ditching procedures, the prescribed requirements apply.

**Section 14.10**

Subsection 14.10(1) provides that section 14.10 applies if CASA requires the operator of the aeroplane to conduct a demonstration of ditching procedures under subsection 14.06(3) and the demonstration of the ditching procedures will be conducted separately to other evacuation procedures.

Subsection 14.10(2) provides that the demonstration is subject to the prescribed requirements.

Subsection 14.10(3) provides that if a cabin training device is used, it must meet the prescribed requirements.