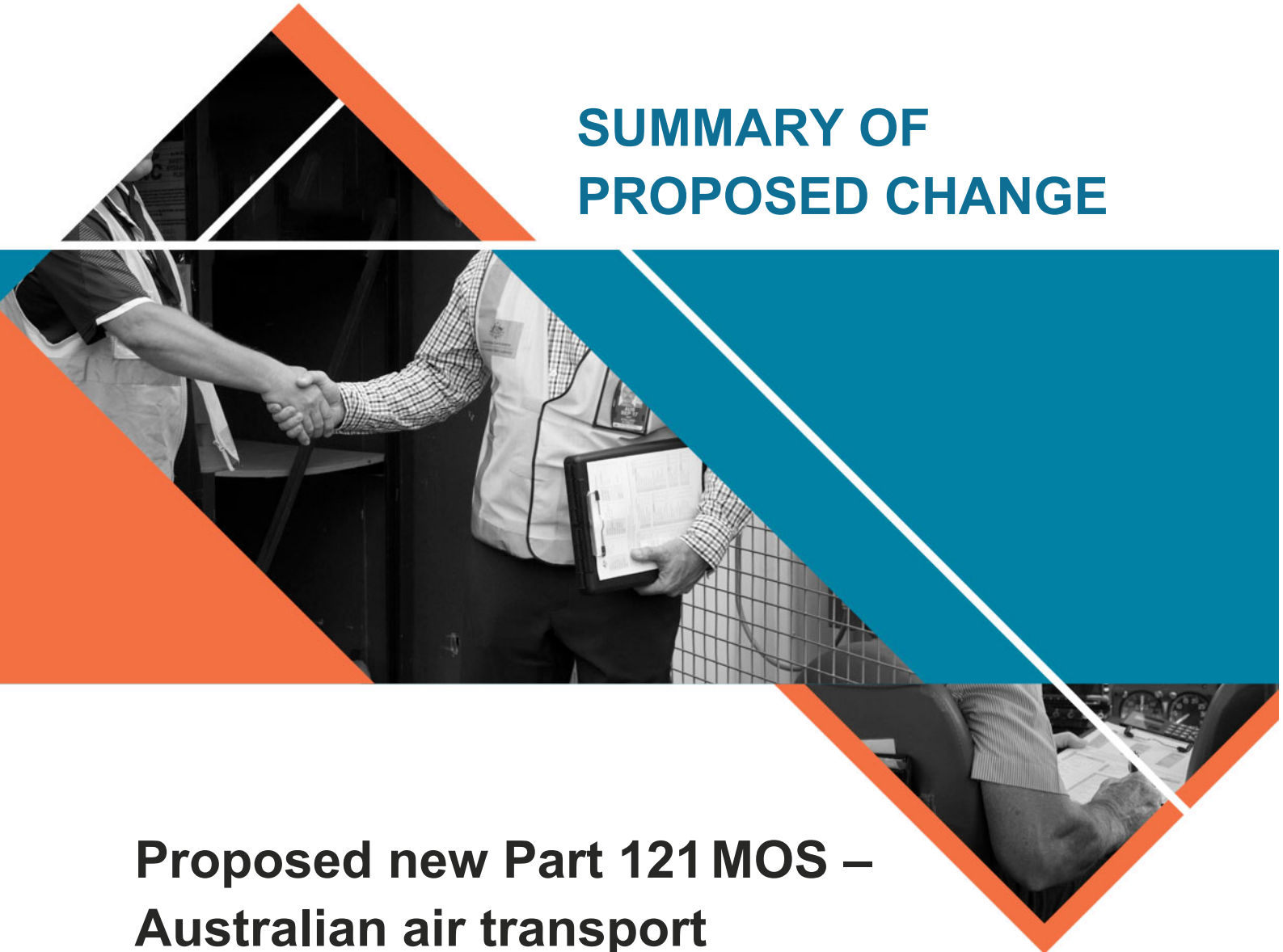




# SUMMARY OF PROPOSED CHANGE



## Proposed new Part 121 MOS – Australian air transport operations - larger aeroplanes

Part 121 Manual of Standards - Tranche 3  
Chapters 2, 4, 7 and 11

<b>Date</b>	October 2020
<b>Project number</b>	OS 99/44
<b>File ref</b>	D20/285933

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## Reference material

### Acronyms

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

Acronym	Description
Airservices	Airservices Australia
AC	advisory circular
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
CAO	Civil Aviation Order
EASA	European Aviation Safety Agency
EDTO	extended diversion time operations
ELT	emergency locator transmitter
ETOPS	extended range operations by turbine-engined aeroplanes
FDR	flight data recorder
GADSS	global aeronautical distress and safety system
GNSS	global navigation satellite systems
ICAO	International Civil Aviation Organization
ILS	instrument landing system
MOPSC	maximum operational passenger seating capacity
MOS	Manual of Standards
RPT	regular public transport
TAWS	terrain awareness and warning system
TWG	Technical Working Group
VOR	VHF omnidirectional range (a navigation aid)

### Definitions

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

Term	Definition
alternate aerodrome	Has the same meaning as in Annex 2 to the Chicago Convention.

Term	Definition
	<p><b>Note:</b> At the commencement of this instrument, Chapter 1 of Annex 2 to the Chicago Convention included the following definition:</p> <p><i>“Alternate aerodrome.</i> An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at an aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate aerodromes include the following:</p> <p><i>Take off alternate:</i> An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take off and it is not possible to use the aerodrome of departure.</p> <p><i>En route alternate:</i> An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route.</p> <p><i>Destination alternate:</i> An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing.”</p>
destination alternate aerodrome	An alternate aerodrome that is a destination alternate (within the meaning of Annex 2 to the Chicago Convention).
isolated destination aerodrome	<p>(1) A planned destination aerodrome is an isolated destination aerodrome for an aeroplane if the total of the destination alternate fuel and the final reserve fuel required for a flight:</p> <ul style="list-style-type: none"><li>(a) from the planned destination aerodrome; and</li><li>(b) to the nearest aerodrome that would meet the requirements for a destination alternate aerodrome for the aeroplane under the civil aviation legislation;</li></ul> <p>is greater than the amount mentioned in subsection (2).</p> <p><b>Note:</b> For an aerodrome to be a destination alternate aerodrome, it must also (in addition to meeting the applicable requirements under this Chapter) meet other requirements that apply for aerodromes under this instrument, Division 121.D of CASR, Part 91 of CASR or in other provisions of the civil aviation legislation.</p> <p>(2) For subsection (1), the amount is:</p> <ul style="list-style-type: none"><li>(a) for a piston-engine aeroplane—the lesser of:<ul style="list-style-type: none"><li>(i) the fuel required to fly for 45 minutes plus the fuel to fly for 15% of the flight time spent at the planned cruising level between the departure aerodrome and the planned destination aerodrome; and</li><li>(ii) 2 hours; or</li></ul></li><li>(b) for a turbine-engine aeroplane—the fuel required to fly the aeroplane for 2 hours at the planned cruising level above the planned destination aerodrome, including final reserve fuel.</li></ul>

## References

### Regulations

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

CONSULTATION DRAFT FOR PROPOSED NEW PART 121 MOS – AUSTRALIAN AIR TRANSPORT  
OPERATIONS - LARGER AEROPLANES

Document	Title
Part 91 of CASR	<a href="#">Civil Aviation Safety Amendment (Part 91) Regulations 2018</a>
Part 119 of CASR	<a href="#">Civil Aviation Safety Amendment (Part 119) Regulations 2018</a>
Part 121 of CASR	<a href="#">Civil Aviation Safety Amendment (Part 121) Regulations 2018</a>
Flight operations (miscellaneous amendments) (changes to the flight operations regulations)	<a href="#">Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020</a>
Operations Definitions (new definitions added to the CASR Dictionary for the flight operations regulations)	<a href="#">Civil Aviation Safety Amendment (Operations Definitions) Regulations 2018</a>
CASR	<a href="#">Civil Aviation Safety Regulations 1998 (Volume 5) (contains the CASR dictionary)</a>
CAR	<a href="#">Civil Aviation Regulations 1988 (Volume 1) (contains the CAR dictionary)</a>
<a href="#">AD/GENERAL/65 Amdt 5</a>	Hand Held Portable Fire Extinguishers
<a href="#">CAO 20.4</a>	Provision and use of oxygen and protective breathing equipment
<a href="#">CAO 20.11</a>	Emergency & life saving equipment and passenger control in emergencies
<a href="#">CAO 20.18</a>	Aircraft equipment — basic operational requirements
<a href="#">CAO 82.0 Instrument 2014</a>	(contains existing EDTO rules)
<a href="#">CAO 103.19 Instrument 2007</a>	Equipment standards - flight data recorders
<a href="#">CAO 103.20 Instrument 2007</a>	Equipment standards - cockpit voice recorders
<a href="#">CAO 108.26</a>	System specification - oxygen systems
CASA 29/18	<a href="#">Civil Aviation (Fuel Requirements) Instrument 2018</a>

**International Civil Aviation Organization documents**

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

Document	Title
ICAO Doc 7300/9	Convention on International Civil Aviation
ICAO Doc 8896	Manual of Aeronautical Meteorological Practice
ICAO Doc 9976	Flight Planning and Fuel Management Manual
ICAO Doc 10085	Extended Diversion Time Operations Manual
Annex 3	Annex 3 to the Convention on International Civil Aviation - Meteorological Service for International Air Navigation

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Document	Title
Annex 6 Part I	Annex 6 to the Convention on International Civil Aviation - Operation of Aircraft - Part I - International Commercial Air Transport — Aeroplanes

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### Advisory material

CASA's advisory circulars are available at <http://www.casa.gov.au/AC>

CASA's Civil Aviation Advisory Publications are available at <http://www.casa.gov.au/CAAP>

**Note:** All documents in this list are guidance material for the current regulations and not the future regulations.

ACs and CAAPs listed below that provide guidance related to topics which are encompassed by the future flight operations regulations will be migrated by CASA to be Advisory Circulars (labelled by the relevant CASR Part) progressively from December 2020 to December 2021.

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Document	Title
<a href="#">AC 91.U-01 v1.0</a>	Navigation authorisations
<a href="#">AC 91.U-04 v1.0</a>	Airworthiness requirements for performance based navigation
<a href="#">AC 91U -2(0)</a>	Required Navigation Performance 10 (RNP 10) Operational Authorisation
<a href="#">AC 91U-3(0)</a>	Required Navigation Performance 4 (RNP 4) Operational Authorisation
<a href="#">CAAP 20.4-01 v1.0</a>	Supplemental oxygen requirements for cabin crew members in pressurised aircraft not above flight level 250
<a href="#">CAAP 37-1(5)</a>	Minimum equipment lists
<a href="#">CAAP 82-1(1)</a>	Extended Diversion Time Operations
<a href="#">CAAP 215-1(3.2)</a>	Guide to the preparation of Operations Manuals
<a href="#">CAAP 217-1(0)</a>	CAR 217 Flight Crew Training and Checking Organisations
<a href="#">CAAP 233-1(1)</a>	Electronic flight bags
<a href="#">CAAP 234-1(2.1)</a>	Guidelines for Aircraft Fuel Requirements

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## Introduction

This summary of proposed change (SPC) describes proposed aviation law changes which are designed to ensure that Australian aviation safety requirements are current and they appropriately address safety risks. The policies of the Civil Aviation Safety Authority (CASA) require that the aviation safety regulations and subordinate legal instruments (such as a Manual of Standards (MOS)) must:

- be necessary to address known or likely safety risks
- provide for the most efficient allocation of industry and CASA resources
- be clear and concise
- be aligned with international standards and be drafted in outcome-based terms (where appropriate).

CASA has been progressively transitioning the *Civil Aviation Regulations 1988* (CAR) to the *Civil Aviation Safety Regulations 1998* (CASR). In 2018, a total of six CASR parts<sup>1</sup> were consulted that encompassed the current private, aerial work, charter and regular public transport (RPT) sectors of the aviation industry. These CASR parts are:

- Part 91 - General operating and flight rules
- Part 119 - Australian air transport operators – certification and management
- Part 121 - Australian air transport operations – larger aeroplanes
- Part 133 - Australian air transport operations – rotorcraft
- Part 135 - Australian air transport operations – smaller aeroplanes
- Part 138 - Aerial work operations.

## Operators and Part 121

Part 121 of *Civil Aviation Safety Regulations 1998* (CASR) applies to all operators conducting Australian air transport operations utilising larger aeroplanes, the operator's flight crew members, cabin crew members and ground support personnel.

CASA anticipates that this public consultation will be of interest to:

- current operators, flight crew and cabin crew who conduct regular public transport and charter operations in larger aeroplanes<sup>2</sup> (see regulation 121.005 of CASR)

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<sup>1</sup> Referred to as the 'flight operations regulations'.

<sup>2</sup> Regulation 121.005 of CASR states that the applicability of Part 121 of CASR is as follows:

(1) This Part (other than Subpart 121.Z of CASR) applies to the operation of a multi-engine aeroplane for an Australian air transport operation if either or both of the following apply in relation to the aeroplane:

- (a) it has a maximum operational passenger seat configuration of more than 9
- (b) it has a maximum take-off weight of more than 8 618 kg.

**Note:** For the additional application of Subpart 121.N of CASR, see regulation 121.685 of CASR.

(2) Subpart 121.Z of CASR applies to the operation of a single-engine aeroplane for an Australian air transport operation if both of the following apply in relation to the aeroplane:

- (a) it has a maximum operational passenger seat configuration of more than 9

- prospective operators under Part 119 of CASR and Part 121 of CASR.

## Does this consultation on the Part 121 MOS apply to a single-engine operator?

Within the entire Part 121 legislative suite (i.e. the regulations and MOS), only subpart 121.Z of CASR applies to single-engine operators. As there are no MOS powers within subpart 121.Z of CASR, none of the Part 121 MOS applies to these operators. The effect of regulation 121.760 of CASR is that Part 135 of CASR and the Part 135 MOS, in addition to subpart 121.Z of CASR, applies to these operators.

## Consultation plan

For the purposes of more focussed consultation activities, CASA has divided the consultation of the Part 121 MOS into three tranches. As much as possible, CASA has grouped the chapters that are intertwined or related to each other into the same tranche. The three tranches are:

- Tranche 1 – Chapters 3, 5, 6, 8 and 10 (*the 1st consultation - closed*)
- Tranche 2 – Chapters 9, 12, 13 and 14 (*the 2nd consultation - closed*)
- Tranche 3 – Chapters 2, 4, 7 and 11 (*this consultation*).

The Part 121 MOS is currently planned to contain 14 chapters. These chapters are:

- Chapter 1 – preliminary
- Chapter 2 – extended diversion time operations
- Chapter 3 – carriage of documents and emergency and survival equipment information
- Chapter 4 – alternate aerodromes
- Chapter 5 – operational flight plans
- Chapter 6 – narrow runway width calculations
- Chapter 7 – fuel requirements
- Chapter 8 – safety briefings and instructions
- Chapter 9 – performance
- Chapter 10 – weight and balance
- Chapter 11 – equipment
- Chapter 12 – flight crew
- Chapter 13 – cabin crew
- Chapter 14 – emergency evacuation.

The chapter contents of earlier tranches are included within the proposed Part 121 MOS document and there will be a one consultation question for respondents to provide comment on chapters associated with earlier tranches<sup>3</sup>. However, to avoid the overlapping of responses and complicating the analysis of feedback, CASA requests that respondents do not repeat feedback from earlier tranches within any later tranche consultation.

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(b) it has a maximum take-off weight of not more than 8 618 kg.

<sup>3</sup> There are no restrictions on respondents commenting on earlier tranches during later consultations.



For Tranche 3, CASA has discussed the contents of Chapters 4, 7 and 11 in detail with a Technical Working Group (TWG) appointed by the Aviation Safety Advisory Panel (ASAP). It should be noted that prior to the commencement of this consultation the TWG had a shorter window of opportunity to provide feedback on Chapter 2. None of these activities constitute a specific endorsement of the tranche by the TWG.

## Previous consultation meetings

The following is a list of Part 121 of CASR consultation meetings since 2018 (note there were numerous previous activities during the 2014 – 2016 period):

- 20-21 June 2018, Part 121 industry technical working group meeting.
- 17 October 2018, Part 121 industry technical working group videoconference.
- 19 November 2019, Part 121 MOS industry technical working group meeting.
- 4 May 2020, Part 121 MOS industry technical working group videoconference.
- 29 May 2020, Part 121 MOS industry technical working group videoconference.
- 12 June 2020, Part 121 MOS industry technical working group videoconference.
- 26 June 2020, Part 121 MOS industry technical working group videoconference.
- 3 July 2020, Part 121 MOS industry technical working group videoconference.
- 16 July 2020, Part 121 MOS industry technical working group videoconference.
- 23 July 2020, Part 121 MOS industry technical working group videoconference.
- 7 August 2020, Part 121 MOS industry technical working group videoconference.
- 18 August 2020, Part 121 MOS industry technical working group videoconference.
- 2 October 2020, Part 121 MOS industry technical working group videoconference.
- 13 October 2020, Part 121 MOS industry technical working group videoconference.
- 21 October 2020, Part 121 MOS industry technical working group videoconference.

Part 121 of CASR regulations were made into law in December 2018 and specified a commencement date of 25 March 2021. Subsequently, in February 2019, the CASA Director of Aviation Safety publicly announced that the start date would be moved to 2 December 2021. The date change was incorporated into law as part of the *Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020*.

At the time of the consultation of Part 121 of CASR, an indicative, technical (i.e. non-legal) draft of the Part 121 MOS was available as part of the consultation documentation. CASA committed to industry that it would engage with industry to develop the final Part 121 MOS and that it would be finalised at least 12 months in advance of the start date of the regulations.

## The interrelationship between Parts 121 and Part 119 of CASR

Part 119 of CASR outlines the rules for applicants for, and holders of, Air Operators' Certificates (AOCs) which authorise the operation of aeroplanes or rotorcraft for Australian air transport operations. The flying or operation of an aeroplane or rotorcraft for an Australian air transport operation is a prescribed purpose for subsection 27(9) of the *Civil Aviation Act* (the Act). As such, Part 119 of CASR requires a person to hold an Australian air transport AOC to conduct Australian air transport operations. Part 121 operations are not authorised unless an operator meets the requirements in Part 119 of CASR for the issue of an Australian air transport AOC.

In addition, Parts 119 and 121 of CASR interact to outline further requirements. Generally, Part 119 of CASR will specify the organisational aspects of requirements whereas the specific operational Part (i.e. Parts 121, 133 or 135 of CASR) will state the operational standard for the requirement. To gain a full understanding of a topic, both CASR Parts must be read in conjunction.

One example of interaction between the Parts is:

- Part 119 of CASR requires an Australian air transport operator to have a training and checking system and specifies the broad requirements and characteristics of that system  
but
- Subparts 121.N and 121.P of CASR specify the operational requirements for that system specific to Part 121 operators and include the detailed rules for the training and checking of an operator's flight crew members and cabin crew members.

## **The interrelationship between Part 121 and Part 91 of CASR**

Part 91 of CASR and its subordinate MOS contain the general operating and flight rules. These rules were publicly consulted from 27 March to 6 May 2018. The public consultation documents are available on the [CASA website](#). Changes were made to the order of some Part 91 regulations as part of the *Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020*. Most of the changes were intended to clarify the specific rules related to the Visual Flight Rules and the Instrument Flight Rules. Other changes made technical modifications to the MOS heads of power in relation to performance and equipment to enable better MOS drafting.

Regulation 91.035 of CASR contains a table that *turns off* or disapplies certain Part 91 requirements in favour of Part 121 requirements. In relation to air transport operations, certain Part 91 rules are turned off as the Part 121 rules have specified a higher safety standard or because the requirement to hold an AOC has put in place system-based safety defences that achieve the safety standards by an alternative means.

## Purpose and scope of this consultation

This public consultation seeks feedback on:

- tranche 3 of the proposed Part 121 MOS
- any additional feedback on tranche 1 and 2 not provided as part of the earlier tranche 1 and 2 consultation activity.

Tranche 3 of the proposed Part 121 MOS encompasses four of the 14 chapters. These are:

- Chapter 2 – extended diversion time operations (EDTO)
- Chapter 4 – alternate aerodromes
- Chapter 7 – fuel
- Chapter 11 – equipment.

Part 121 MOS only contains requirements related to a Part 121 regulation that specifically states the MOS can contain certain information or prescribe certain requirements or similar language. Each chapter (or division if applicable) of the Part 121 MOS begins by outlining the regulations which empowers that portion of the MOS.

The future legislative structure is such that a legal requirement which was previously in a 1988 regulation has not necessarily migrated into a Part 91, 119 or 121 regulation and neither has a legal requirement previously in a Civil Aviation Order (CAO) necessarily been migrated into a MOS. Some CAO content is now in regulation and some previous regulation content is now in a MOS.

However, the tranche 3, Part 121 MOS chapters (and the specific Part 121 regulations that empower each chapter) broadly have replaced, for an aircraft conducting a Part 121 operation. Some of the rules (those related to EDTO, alternate aerodromes, fuel and aircraft equipment) contained in the following elements of current law are:

- Regulation 82 of CAR (Australian aircraft radiocommunications equipment).
- Regulation 177 of CAR (Equipment of aircraft for IFR flight).
- Division 4 of Part 13 of CAR (Lights to be displayed by aircraft and lights and markings to be displayed on mooring cables).
- Regulation 220 of CAR (Fuel instructions and records).
- Regulation 234 of CAR (Fuel requirements).
- Regulation 239 of CAR (Planning of flight by pilot in command).
- Regulation 240 of CAR (Authority to issue instructions in relation to flight planning).
- Regulation 252 of CAR (Provision of emergency systems etc).
- Regulation 252A of CAR (Emergency locator transmitters).
- Regulation 253 of CAR (Emergency and life saving equipment).
- Division 5 of Part 14 of CAR (Airborne collision avoidance systems - Australian turbine-powered commercial aeroplanes).
- Subsection 6 of CAO 20.2 (Air service operations - safety precautions before flight - Fuel quantity measurement).
- CAO 20.4 (Provision and use of oxygen and protective breathing equipment).
- CAO 20.11 (Emergency and lifesaving equipment and passenger control in emergencies).

- CAO 20.18 (Aircraft equipment - basic operational requirements).
- CAO 20.91 (Instructions and directions for PBN).
- CAO 82.0 Instrument 2014 (those sections and appendices related to EDTO and fuel).
- CAO 108.26 (System specification - oxygen systems).
- AD/GENERAL/65 Amdt 5 (Hand held fire extinguishers).
- CASA Instrument 29/18 (Fuel requirements instrument).
- CASA Instrument 02/20 (Global navigation satellite systems (GNSS) Instructions 2020).

## Amendments to specific Part 121 regulations

Readers of this consultation are advised to initially familiarise themselves with future regulations 121.030 and 121.035 of CASR prior to reviewing this proposed chapter. Regulation 121.030 of CASR contains the threshold distances for different aeroplanes that trigger the requirement to hold an EDTO approval. Regulation 121.035 of CASR provides the head of power for this chapter of the Part 121 MOS.

Operators holding existing EDTO approvals from CAO 82.0 will not be required to re-apply for their approvals on the commencement date. As part of the transitional rules that were publicly consulted in the middle of this year, these approvals will be deemed to be equivalent to the future Part 121 approval for variable periods of time linked to the expiry date of the existing approval, the expiry of the operator's AOC and the 2nd anniversary of the date the approval was granted beyond the Part 121 of CASR commencement date of 2 December 2021. Further information on the specifics of these deeming provisions is available in that earlier public consultation<sup>4</sup> and will also be available no later than early 2021 from the CASA website.

The Part 121 MOS tranche 1 and 2 consultation activities sought feedback on a number of amendments to the Part 121 regulations. Informed by the feedback received, CASA implemented a number of these changes via the *Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020*.

However, not all consulted amendments were able to be incorporated within this amendment instrument. CASA remains committed to implementing the remaining changes to the Part 121 regulatory requirements prior to the commencement date. These changes would ideally be implemented directly via the Part 121 regulation amendment, however, if this cannot be achieved due to other multiple ongoing regulation drafting activities, CASA plans to implement the same legislative effect via exemptions.

The following previously consulted proposed Part 121 regulations changes have not yet been incorporated:

- From the consulted changes in tranche 1:
  - Change to regulation 121.105 in relation to certain journey log recording requirements.

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<sup>4</sup> The earlier public consultation for the flight operations regulations transitional policies is available at <https://consultation.casa.gov.au/regulatory-program/pp-1918os/>.

- Change to regulation 121.440 to remove the requirement to gain a formal CASA approval for the use of operator standard passenger and carry on baggage weights using a process outlined in the exposition.
- The deletion of regulation 121.445.
- The deletion of regulation 121.450.
- From the consulted changes in tranche 2:
  - The deletion of regulation 121.425.
  - The insertion of a new subregulation within regulation 121.475 to provide for operator's to gain a formal CASA approval for an alternative flight crew training and checking construct (intended to achieve a similar outcome to the subregulation within regulation 121.640 that has this approval for cabin crew).
  - Amendments to regulations 121.475 (paragraph (2)(f)), 121.500 and 121.505 in relation to supervised line flying.
  - Amendment to regulation 121.705 in relation to cabin crew recent experience.

## Tranche 3 of the Part 121 MOS

### Chapter 1 – Preliminary

This chapter provides the name of the instrument, the commencement details, the authority under which the MOS is made and relevant definitions.

**Note:** Some definitions contained in a specific chapter of the MOS in the consultation draft may be moved to this chapter as part of the final MOS legal making process. Definitions have been left for now in the relevant chapters for the purposes of public consultation.

### Chapter 2 – Extended diversion time operations

Readers of this consultation are advised to familiarise themselves with future regulations 121.030 and 121.035 of CASR prior to reviewing this proposed chapter. Regulation 121.030 of CASR contains the threshold distances for different aeroplanes that trigger the requirement to hold an EDTO approval. Regulation 121.035 of CASR provides the head of power for this chapter of the Part 121 MOS.

Operators holding existing EDTO approvals from CAO 82.0 will not be required to re-apply for their approvals on the commencement date. As part of the transitional rules that were publicly consulted in the middle of this year, these approvals will be deemed to be equivalent to the future Part 121 approval for variable periods of time linked to the expiry date of the existing approval, the expiry of the operator's AOC and the 2nd anniversary of the date the approval was granted beyond the Part 121 commencement date of 2 December 2021. Further information on the specifics of these deeming provisions is available in that earlier public consultation and will also be available no later than early 2021 from the CASA website.

This proposed chapter of the Part 121 MOS is divided into 6 divisions as follows:

- Division 1 is preliminary.
- Divisions 2, 3 and 4 deal with CASA's assessment of applications for approvals and the method for applying for an approval.

- Divisions 5 and 6 deal with requirements related to the conduct of EDTO and mandatory conditions that are placed on any EDTO approval.
  - For existing approvals during the deeming period, the requirements applicable to the old approval continue to apply in place of the requirements and conditions within this proposed chapter of the MOS.

Chapter 2 contains minor changes from the existing CAO 82.0 standards. These changes are:

- Incorporation of terminology from the ICAO EDTO Manual.
- Provisions for operations with diversion times in excess of 240 minutes are included.
- Weather conditions at EDTO alternates are required to consider weather probabilities below PROB 40 except in relation to cloud ceiling for PROB 30 (the policy that PROB 30 for visibility, wind and other weather elements could be disregarded originated from the application of a note to the Extended range operations by turbine-engined aeroplanes (ETOPS) alternate minima within the Federal Aviation Administration of the USA (FAA) Advisory Circular (AC) 120-42B (which itself preceded the ICAO EDTO Manual as the international reference for ETOPS/EDTO)).
- Continuing airworthiness requirements will not be contained within the Part 121 MOS and instead will be contained in an airworthiness related legislative instrument. The specific legislative instrument will be identified and a public consultation on the amendment will occur in the first half of 2021. No additional continuing airworthiness requirements are intended to be placed on operators when moving existing requirements from CAO 82.0 to the future legislative instrument.

## Chapter 4 – Alternate aerodrome requirements

The proposed alternate aerodrome requirements within this chapter are substantially different to the current alternate aerodrome requirements.

Key new requirements are related to the following:

- The introduction of the isolated destination aerodrome concept and associated fuel, flight planning and in-flight requirements.
- The introduction of a minimum 15 minutes of extra fuel when planning to destination aerodromes when the flight is not required to hold a destination alternate aerodrome.
- The introduction of a requirement to plan and identify two destination alternate aerodromes, only carrying the fuel for the one requiring the greatest destination alternate fuel, when the weather at the destination aerodrome is forecast to be below landing minima or no weather forecast for the destination aerodrome exists.
- The introduction of different buffers for weather at the destination aerodrome which would trigger the requirement for a destination alternate aerodrome versus weather at an aerodrome that permits the aerodrome to be a destination alternate aerodrome.

The new requirements are intended to put in place requirements that have greater similarity to the ICAO Annex 6 Part I standards. However, due to extensive engagement by the Part 121 TWG, the standards are considerably modified from those standards in certain key areas.

A short summary of some differences are below but operators are strongly advised to read Chapter 4 in its entirety and analyse the new requirements against existing flights and routes, or

planned or contemplated future flights or routes, to evaluate the effect of these proposed standards on their operations.

Key differences from the ICAO, FAA and European Aviation Safety Agency (EASA) standards are:

- The values for the cloud ceiling and visibility that trigger the necessity to plan a destination alternate aerodrome prior to a flight, or during a flight if amended weather is received, are lower than ICAO / FAA / EASA standards.
  - The proposed criteria are based on a 1000 ft buffer above planned/capable instrument approaches at the destination aerodrome compared to the overseas standard simply being 2000ft above ground level.
  - This alleviation is intended to recognise the inconsistency of instrument approach infrastructure in Australia compared to the continental US and Europe.
- The requirement within overseas standards to always plan for a destination alternate aerodrome if the destination aerodrome does not have 2 separate runways capable of being used **has not been applied** to aerodromes within Australian territory, however, this requirement does apply to aerodromes outside Australian territory.
  - This alleviation is intended to recognise the significantly lower number of aerodromes within Australia used in Part 121 operations that have separate runway aerodrome infrastructure.

## Chapter 7 – Fuel carriage requirements

[CASA Instrument 29/18 \(Fuel Requirements\)](#), that required compliance from November 2018 with delayed compliance into early 2019 for some operators, introduced several changes to previous fuel policy requirements.

The changes within this chapter compared to that instrument are:

- Changed terminology to reflect that used in ICAO and already incorporated and consulted in other MOS's (91, 133, 135).
- Changes to incorporate requirements related to the definition and amount of alternate fuel within ICAO Annex 6 Part 1 standards 4.3.6.3(d)(3) and 4.3.6.3(d)(4). These are:
  - the additional 15 minutes of fuel on top of final reserve fuel for situations where no destination alternate aerodrome is required
  - the definition and amount of alternate fuel is amended to include the fuel required for situations where the destination aerodrome is an isolated aerodrome.
- Changes to incorporate the EDTO fuel requirements from CAO 82.0.
- A change specifying that an operator intending to use an operational variation must submit the supporting evidence to CASA at least 28 days prior to commencing the use of the operational variation.

## Chapter 11 – Equipment

The equipment requirements for Part 121 operations (except for Subpart 121.Z operations) are proposed to be addressed in Chapter 11 of the Part 121 MOS.

A significant number of the proposed requirements continue existing equipment requirements specified in CAOs 20.11, 20.18, 20.91 and in Division 5 of Part 14 of CAR (in relation to airborne

collision avoidance systems), Division 4 of Part 13 of CAR (in relation to aircraft external lights), and 20.91 and CAO 20.18.

However, to increase Australia's alignment with international standards there are a number of specific new or modified equipment requirements. They are listed below and are generally subject (except where specified below) to a 2-year delay period. This means that between the commencement of Part 121 on 2 December 2021 and 1 December 2023, where there was a requirement in relation to the same, or largely similar, kind of equipment, an operator can either comply with the requirements in relation to that kind of equipment and the specific kind of operation (i.e. charter or RPT) that existed prior to Part 121, or they can comply with the new requirement in Part 121. From 2 December 2023, operators will need to comply with the new requirement.

CASA recommends a thorough review of the proposed Chapter 11 by persons reviewing this public consultation to ensure that changes not described below are identified.

The significant new or modified equipment requirements are:

- Radiocommunications systems:
  - The requirements have been modified to be more outcome-based and technology neutral.
  - An aeroplane conducted Part 121 operations must have two independent radiocommunication systems each capable, under normal operating conditions, of communicating with an appropriate ground station from any point along the route, including in the event of diversions.
    - o At least one of these systems must have two-way voice communication capability.
    - o Both systems must be capable to receiving meteorological information at any time during the flight.
  - However, this does not mean that any technology adopted by an operator can be used without the agreement of the relevant air traffic services provider. For example, if an operator intended to use SATCOM VOICE within Australia to communicate with Airservices Australia (Airservices), the operator would still need to obtain the agreement of Airservices to such an arrangement as not all radiocommunications technologies are fully integrated within air traffic service systems.
  - CASA anticipates that aeroplanes complying with existing radiocommunications equipment requirements will comply with these future requirements and therefore has not applied a delay period to these requirements.
- Navigation equipment:
  - An aeroplane conducting Part 121 operations must be fitted with a minimum of either 2 approved GNSS or 1 approved GNSS and either 1 ADF or 1 VOR.
  - The total navigation equipment fitted must be that if one piece of navigation equipment fails during the 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.
    - o For example, if the alternate aerodrome requirements used in planning the flight were based on the use of an instrument landing system (ILS) at the destination alternate aerodrome or the destination aerodrome, at least 2 ILS



units would have to be fitted to comply with this requirement that the failure of a single unit would not invalidate the planning for the flight (i.e. it would invalidate the operational flight plan).

- o Another example would be if the destination alternate aerodrome was planned on the use of a VOR approach but an ILS approach was also available, then the fitment of one ILS and one VOR would satisfy the requirement that no single failure would invalidate the planning of the flight (i.e. it would invalidate the operational flight plan).
- For any aerodrome at which it is planned or intended that an aeroplane may land in IMC, the equipment must be capable of providing guidance to a point from which a safe visual or instrument landing may be conducted.
- CASA anticipates that aeroplanes complying with existing navigation equipment requirements will comply with these future requirements and therefore has not applied a delay period to these requirements.
- Internal doors and curtains:
  - CASA anticipates that aeroplanes are generally already fitted to comply with these requirements and has therefore not provided a delay period.
- Terrain awareness and warning system (TAWS):
  - This requirement is not mandatory until 2 December 2023. Prior to that date (after commencement of Part 121 on 2 December 2021), operators that were required to comply with the ground proximity warning system requirements of CAO 20.18 must comply with either these new requirements or the old CAO requirements. Operators not captured by the old CAO requirements do not have to comply with the new requirements until 2 December 2023.
  - The new requirements are that a turbine-engine aeroplane must be fitted with a TAWS Class A and a piston-engine aeroplane must be fitted with either a TAWS Class A or TAWS Class B.
  - These new requirements are consistent with the requirements consulted as part of the Part 121 regulations in 2018 and have been subsequently moved to the Part 121 MOS.
- Airborne weather radar equipment:
  - This equipment is required for all aeroplanes conducting Part 121 operations. Under current rules, piston-engine aeroplanes and unpressurised turbine-engine aeroplanes do not have to fit this equipment.
  - It is not currently proposed to have a delay period for this requirement.
- Cockpit voice recorder (CVR) and flight data recorder (FDR):
  - Changes to the existing equipment requirements are limited to the explicit ability for combination recorders to be fitted (although 1 combination recorder cannot satisfy both the CVR and the FDR requirement) and for the use of equipment that complies with more modern TSOs than those specified in CAO 103.19 and 103.20.
  - At this time, these 2 CAOs are not planned to be repealed on the commencement of the flight operations regulations. If they were to be repealed, then a further consultation on the inclusion of the relevant requirements within both this MOS and other flight operations regulations MOS's would be conducted by CASA.
- Data link recorder:

- This is a new requirement and therefore only applies from 2 December 2023 onwards. Data link recorders are proposed to be required in line with Annex 6 Part I standard 6.3.3.
- This requirement applies to aeroplanes:
  - o that were first issued with a Certificate of Airworthiness on or after 1 January 2016, or modified on or after 1 January 2016 to install and utilise data link communications equipment
  - o that are required under this MOS to be fitted with a CVR
  - o that have the capability to operate data link communications.
- The requirement is that certain kinds of data link 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.
- Crew interphone system:
  - This requirement has been designed to provide greater clarity on existing requirements and be met by existing equipment fitments. As a result, no delay period has been incorporated.
- Public address system:
  - This requirement has been designed to provide greater clarity on existing requirements and be met by existing equipment fitments. As a result, no delay period has been incorporated.
- Oxygen requirements:
  - These requirements have been modernised and include the supplemental oxygen carriage and usage requirements, oxygen mask requirements for crew and passengers, protective breathing equipment and portable protective breathing equipment requirements and first aid oxygen requirements.
  - Only the first aid oxygen requirements are currently subject to a delay period due to the similarity of other requirements to existing rules.
- Emergency locator transmitter (ELT) requirements:
  - The proposed ELT standards have been changed from existing requirements in CAR 252A and clause 6 of CAO 20.11.
  - The proposed requirements are in line with the Annex 6 to the Chicago Convention - Part I, standard 6.17 that was in force before the addition of standard 6.18 related to locating aircraft in distress (the Global Aeronautical Distress & Safety System (GADSS) changes). The changes are consistent with the indicative content first published with the 2015 consultation of the Part 121 regulations.
    - o As per the advice on CASA's website for [Project OS 20/01](#), CASA's intent was to discuss the GADSS standards with industry not before early 2021. However, noting the change in commencement date for the new regulations from March to December 2021, this timeline is likely to be delayed.
  - The new requirements do not have to be complied with until 2 December 2023 provided that the ELT requirements contained within CAR 252A and CAO 20.11 as in force immediately before 2 December 2021 (the commencement of Part 121) are complied with in relation to the flight.
    - o For example, if a flight is conducted in June 2022 that would have been classed as an RPT flight before 2 December 2021, that flight can either comply with the old CAR / CAO ELT requirements as they applied to an RPT flight of that aeroplane or the new ELT requirements.

- o For example, if a flight is conducted in June 2022 that would have been classed as a charter flight before 2 December 2021, that flight can either comply with the old CAR / CAO ELT requirements as they applied to a charter flight of that aeroplane or the new ELT requirements.
- Underwater locator device requirements:
  - This is a new requirement and therefore only applies from 2 December 2023 onwards. This equipment is proposed to be required in line with Annex 6 Part I standard 6.5.3.1(c).
  - This requirement only applies to aircraft with a MTOW > 27000kg and that are required to carry a life raft for the specific flight.
- Portable emergency equipment proposed as part of public consultations in 2015 and 2018 of the Part 121 regulations have been moved entirely into the Part 121 MOS. Only the proposed first aid kit requirements are currently subject to a delay period until 2 December 2023. The portable emergency equipment requirements encompass the following kinds of equipment:
  - Hand-held fire extinguishers
  - First aid kits:
    - o The proposed requirements are in line with the EASA requirements contained within CAT.IDE.A.220.
    - o The EASA requirement is more specific than the ICAO Annex 6 Part I recommendation (1) located beneath standard 6.2.2(a).
    - o The key difference is that the ICAO recommendation is simply *one or more first-aid kits for the use of cabin crew in managing incidents of ill health* whereas the EASA requirements provide greater detail related to the passenger capacity of the aeroplane.
    - o Noting the distances from suitable landing locations for many Australian routes, CASA has proposed the more specific EASA requirements.
  - Emergency medical kit:
    - o The proposed requirements is in line with the EASA requirements contained within CAT.IDE.A.225.
    - o The EASA requirement is more stringent than the ICAO Annex 6 Part I recommendation (3) located beneath standard 6.2.2(a).
    - o The key differences are that EASA requires fitment to aeroplanes with a MOPSC > 30 when the aeroplane is flown more than 60 minutes from an aerodrome at which qualified medical assistance is available whereas the ICAO recommendation is for aeroplanes with a MOPSC > 100 on all flights with a sector length of more than 2 hours.
    - o The application of the two standards are different in character. Noting the sparse nature of rural and remote health infrastructure within Australia, CASA has proposed the more stringent EASA requirement.
  - Universal precaution kit:
    - o The proposed requirements in line with Annex 6 to the Chicago Convention - Part I recommendation (2) located beneath standard 6.2.2(a).
    - o The ICAO recommendation only applies to aeroplanes requiring cabin crew however it is proposed in the MOS to also be required for medical transport operations due to the overlapping requirement in those operations to manage incidents of ill health involving suspected communicable diseases.

- Crash axe or crowbar
  - o This requirement is not anticipated to result in compliance difficulties and therefore no delay period has been incorporated.

CASA welcomes feedback in relation to any equipment requirements not specified above as being subject to the 2-year delay period that would be difficult to comply with by 2 December 2021 and should have this delay period applied.

CASA advises industry that the earlier, not legally drafted iterations of the Part 121 MOS that were provided during 2015 and 2018 public consultation periods, contained significantly altered CVR and FDR standards. In relation to CVR and FDR standards, these proposed alterations will not be implemented at this time and the draft MOS contained within this consultation contains the definitive standards intended for application from 2 December 2021. However, CASA does intend to discuss with the industry, no earlier than 2022 and via CASA's consultative processes (including the ASAP, the appropriateness of updating Australia's CVR and FDR standards.

## Impact on industry

### Safety risk analysis

Where appropriate, in relation to the topic areas which are the subject of this consultation, Tranche 3 of the Part 121 MOS and its empowering regulations, are designed to increase Australia's level of commonality and similarity to global standards for the Part 121 sector. However, as outlined earlier in this document, deliberate decisions have also been made not to implement some global standards at this time.

For the EDTO chapter, it is not expected that these requirements will either significantly impact on operators or introduce new safety risks as they almost completely replicate existing requirements.

For the alternate aerodrome chapter, it is not expected that the new requirements will significantly alter the overall level of aviation safety. Instead, the new requirements reflect the significant changes in navigation and instrument approach technologies that have occurred in the multiple decades since Australia's alternate aerodrome rules were last updated. The new requirements implement differing criteria for determining if the weather at the destination aerodrome requires the planning of a destination alternate aerodrome and if the weather at another aerodrome allows for that aerodrome to be used as a destination alternate aerodrome.

For the fuel chapter, the change in aviation safety risk relates to the introduction of the isolated destination aerodrome concept. Currently, regardless of how far away that alternate aerodrome is from the destination, a destination alternate aerodrome is required if the weather is below the relevant weather criteria at the destination aerodrome. This policy can significantly impact Australian operators compared to international competitors who can take advantage of isolated destination aerodrome policies from their home regulators. Additionally, for certain island aerodromes in Australian territory, a destination alternate aerodrome must be held regardless of the weather conditions at that island aerodrome. Generally, the introduction of an isolated aerodrome policy, for those island aerodromes, re-introduces the previous concept of 'island reserve' which applied some decades ago.

Appropriate outcome-based risk controls, consistent with international standards, have been proposed to ameliorate the hazards that eventuate due to this policy change. These risk controls require an operator and the pilot in command to satisfy themselves regarding the adequacy of weather and other potential operational factors that could impact the ability of the flight to execute a safe landing at the aerodrome prior to passing a last point of diversion to an en-route alternate aerodrome (which for long over-water point to point legs could be the departure aerodrome). Achieving an adequate level of safety requires operators to assess not just the abilities of their aircraft and the ability of their crews but also the ability of the aerodrome to respond to unexpected emergencies. For an example, the adequacy of the aerodrome's response plans to clear the only runway at that aerodrome, if an aircraft landing prior to the Part 121 aeroplane was to block that runway due to an emergency landing.

For the equipment chapter, it is not expected that these requirements will introduce significant new safety risks. Impacts on operators will be as described earlier in this document.

Despite CASA's intent to minimise the burden of regulatory change, it is acknowledged that the regulatory changes planned for December 2021 will impact on industry. However, in line with the information contained in the public consultation on transitional policies that opened for comment on 2 June 2020, CASA is committed to minimising that impact as much as possible through the use of deeming provisions<sup>5</sup>. CASA welcomes any feedback on this consultation where a MOS requirement may necessitate these kinds of temporary alleviations.

## Regulation impact statement

The Office of Best Practice Regulation assessed the proposed Part 121 regulations and this assessment is available as part of the [Part 121 explanatory statement](#) on the Federal Register of Legislation. Additional information related to the Part 121 modifications incorporated within the *Civil Aviation Legislation Amendment (Flight Operations—Miscellaneous Amendments) Regulations 2020* are also available in that [Explanatory Statement](#).

## Closing date for comment

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on tranche 3 of the proposed Part 121 MOS should be submitted through the online response form by close of business 24 November 2020.

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<sup>5</sup> That a current practice or requirement satisfies a future requirement for a period of time when the future requirement will engender difficulties in immediate compliance from December 2021.