



ACCEPTABLE MEANS OF COMPLIANCE AND GUIDANCE MATERIAL



Australian air transport operations — larger aeroplanes

CASR Part 121

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An Acceptable Means of Compliance (AMC) explains how one or more requirements of the Civil Aviation Safety Regulations 1998 (CASR) for the issue of a certificate, licence, approval or other authorisation, can be met by an individual or organisation applying to Civil Aviation Safety Authority (CASA) for the authorisation.

Applicants are not required to comply with an AMC but if they do, CASA will issue the authorisation to which the AMC relates.

Note: For the purposes of public consultation on Part 121 in July/August 2018, CASA has provided only limited AMC but more GM. It is intended that more AMC may be issued as the Part 121 AMC/GM is further developed well in advance of the commencement of CASR Part 121 (early 2021).

Individuals and operators may, on their own initiative, propose other ways of meeting the requirements of the CASR; however, any such proposal will be subject to separate assessment by CASA to determine whether the authorisation can be issued.

Guidance Material (GM) provides explanations and amplification of the policy intention, rather than a means of complying with it. GM should be read in conjunction with the applicable CASR and AMCs. GM is identified by grey shaded text.

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Status

This version of the AMC/GM is approved for the purposes of Part 121 of CASR public consultation in August 2018 by the Manager, Flight Standards Branch.

Date	Details
August 2018	Initial version.

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AMC/GM are listed in the table below.

Acronym	Description
ACAS	Airborne Collision Avoidance System
AFM	Aircraft Flight Manual
AMC	Acceptable Means of Compliance
AOC	Air Operator's Certificate
ASEA	Approved Single-Engine Aeroplane (formerly ASEPTA)
ATSB	Australian Transport Safety Bureau
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
EASA	European Aviation Safety Agency
FAR	Federal Aviation Regulation (USA)
GM	Guidance Material
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
LDR	Landing Distance Required
LSALT	Lowest Safe Altitude
MDA	Minimum Descent Altitude
MDH	Minimum Descent Height
MEL	Minimum Equipment List
MOS	Manual of Standards
MSA	Minimum Sector Altitude
MTOW	Maximum Take-off Weight
Ops Spec	Operations Specification
SMS	Safety Management System
SOP	Standards Operating Procedures
TODR	Take-off Distance Required
TSO	Technical Standards Order
VMC	Visual Meteorological Conditions
WAAS	Wide Area Augmentation System

1.2 Definitions

Terms that have specific meaning within this AMC-GM are defined in the table below.

Term	Definition
	TBA

1.3 References

Regulations

Regulations are available on the Federal Register of Legislation website – www.legislation.gov.au.

Document	Title
Civil Aviation Act	<i>Civil Aviation Act 1988</i>
Civil Aviation Regulations	<i>Civil Aviation Regulations 1988</i>
Civil Aviation Safety Regulations	<i>Civil Aviation Safety Regulations 1998 (CASR)</i>
Part 11	Part 11 of the CASR
Subpart 42.C of CASR	Continuing airworthiness management – requirements for person responsible for continuing airworthiness for aircraft
Regulation 61.340 of CASR	Production of license documents, medical certificates and identification
Part 91	Proposed Part 91 of the CASR consulted publicly during March / April 2018
Part 92	Part 92 of the CASR
Regulation 92.025 of CASR	Compliance with Technical Instructions – operators
Subpart 119.H of CASR	Expositions for Australian air transport operators
CASR Dictionary	Part 1, Part 2, Part 3 of the draft CASR Dictionary provided as part of the Part 119/121/133/135 of CASR public consultations in July / August 2018

Advisory material

Advisory Circulars are available at <https://www.casa.gov.au/rules-and-regulations/standard-page/advisory-circulars>

Civil Aviation Advisory Publications are available at <https://www.casa.gov.au/rules-and-regulations/standard-page/civil-aviation-advisory-publications>

Note: It is CASA's intent to review all CAAPs covering subject matter that pertains to CASR Parts 91/119/121/133/135/138 during 2019 and re-issue these documents as updated AMC/GM or AC.

Document	Title
Draft Part 119 of CASR AMC/GM	Expositions for Australian air transport operators

Document	Title
CAAP 235A-1(0)	Narrow Runways Ops Regular Public Transport and Charter greater than 5700kg (November 2014)
CAAP 257-EX-01(0)	Approval to conduct low visibility operations (January 2016)
CAAP SMS-3(1)	Non-technical skills training and assessment for regular public transport operations (April 2011)
AC 60-02 v2.2	Flight simulator approvals
AC 92-1(1)	Dangerous goods training for employees
AC 92-3(0)	Dangerous goods training courses and instructors

Other material

Document	Title
ICAO Doc 9976	Flight Planning and Fuel Management Manual
ICAO Annex 2	Rules of the Air
JAR/FAR-23	Airworthiness standards – normal category aeroplanes
JAR/FAR-25	Airworthiness standards – transport category aeroplanes
FAA Advisory Circular (AC) 120-53B	Guidance for conducting and use of Flight Standardization Board Evaluations
EASA OEB	Common Procedure Document available on the EASA website

Guidance for specific aeroplane types or variants can be found in evaluation reports prepared by the Flight Standardisation Boards of the FAA and of Transport Canada, and in the reports by the Operations Evaluation Boards on the EASA website.

1.4 Forms

CASA's forms are available at [website to be entered once this document officially published and out of draft]

Form number	Title
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2 Foreword

This document is draft guidance and if a discrepancy exists between the regulations and this document the regulations must be followed.

This document has been developed for consultation to provide indicative advice to the Australian aviation industry and other CASA external and internal stakeholders so that educated assessments about the effect of the proposed CASR Part 121 regulations can be made.

This document does not yet provide all the eventual content that will be required by industry and CASA to implement the proposed CASR Part 121 regulations.

Not all references in this document are certain to be accurate due to the multiple public consultations occurring in close succession for CASR Parts 121, 133 and 135.

Whilst suggestions for improvement to this document are welcomed as part of this consultation on CASR Part 121, further public consultation is possible late in 2019 after the regulations have been settled and CASA further develops this document.

Subpart 121.A – Preliminary

GM 121.005 – Application of Part 121

The following definitions fundamental to understanding the applicability of Part 121 of CASR are found in Part 1 of the draft CASR dictionary accompanying this public consultation:

- Australian air transport operation
- maximum operational passenger seat configuration (MOPSC)
- maximum take-off weight.

By defining the applicability of Parts 121 and 135 of CASR partially in relation to MOPSC instead of certificated seating capacity, elements of industry that operate aircraft close to the boundary between these two CASR parts are provided with the flexibility to modify their aircraft (this would need to be done in accordance with other elements of the regulations) if, for their business model, it is more appropriate to operate in Part 135 instead of Part 121. This modification would need to physically remove the passenger seats that would otherwise mandate operations in accordance with Part 121 of CASR.

Relationship with Part 91 of CASR

Provisions in Part 121 are such that they impose requirements over and above the standards in Part 91, but where the table contained within reg 121.005 of CASR does not state that a Part 121 regulation applies in place of a Part 91 regulation, then the relevant Part 91 regulations apply.

Part 91 prescribes the regulatory requirements that apply, by default, to all operations. Part 121 regulations generally differ from Part 91 for two main reasons. Firstly, to ensure that, where necessary, a higher standard has been required of an air transport operation. Secondly, to enable an air transport operator to take advantage of their greater control and supervision of operations to provide an alleviation or alternative method of compliance with certain rules.

Where an air transport operation is not being conducted an operator may elect to comply with their normal air transport procedures or may, if the Part 121 regulation imposes a higher requirement, elect to operate to the Part 91 rule for a non-air transport operation flight. For example, after conducting a passenger transport operation the aircraft needs to be flown to another aerodrome to be refuelled. That flight to the refuel location is not an air transport operation and therefore is not required to comply with Part 121 regulations. This is no different to the current rules where following a charter flight, the aircraft may be re-positioned for a refuel and this secondary flight would, under the current rules, be classified as a private flight.

GM 121.010 Approvals by CASA for Part 121

- See Part 11 of CASR for other matters relating to approvals.
- Under regulations 11.056, 11.067 and 11.068, CASA may impose conditions on an approval. Regulations 11.070 to 11.075 of CASR set out other conditions of approvals and offences relating to those conditions. Regulation 11.077 of CASR makes it an offence for a person who holds an approval to contravene a condition imposed under those regulations.
- Regulation 201.004 of CASR provides for administrative review of CASA decisions relating to approvals.

GM 121.015 Issue of Manual of Standards for Part 121

The Part 121 Manual of Standards (MOS) supports Part 121 of CASR by providing detailed technical content. Manuals of Standards are legislative instruments and are subject to registration and disallowance under the *Legislative Instruments Act 2003*. Part 11 of CASR sets out procedural requirements for the making of and amendments to a MOS.

Subpart 121.C – General

Division 121.C.1—Permitted categories

GM 121.020 Permitted categories of aeroplanes

No further explanation beyond the regulatory wording necessary.

Division 121.C.2 - Operational documents

GM 121.025 Compliance with flight manual

The operator is required to ensure under this regulation that the aeroplane is operated in accordance with all the requirements and limitations set out in the flight manual.

Note: The pilot in command of an aeroplane must adhere to the content of an aeroplane flight manual as required by regulation 91.100 of the CASR (Authority and responsibilities of pilot in command).

Reference to an aeroplane flight manual includes reference to an aeroplane flight manual, a flight crew operation manual, a pilot operations handbook, or another document that contains operating limits and requirements for safe operation of the aeroplane. Refer to the definition of “flight manual” at clause 37 of part 2 of the CASR dictionary.

There may be circumstances where the aeroplane flight manual contains an instruction where certain equipment must be checked in accordance with a procedure or limitation, and the operator considers the requirement impractical or inappropriate. Normally, CASA cannot give any concession to a limitation or procedure that is set out in the aeroplane flight manual.

Where an operator wishes to deviate from a flight manual procedure or limitation the responsibility is on the operator to seek a variance from the manufacturer of the aeroplane. The manufacturer’s confirmation of the variance and any alternative instructions should be included in the operator’s exposition and the flight manual.

Should it become apparent that there is a conflict between the flight manual or an instruction in the operator’s exposition, the flight manual must take precedence.

GM 121.030 Operator to have minimum equipment list

This regulation requires that an operator of an aeroplane must have a minimum equipment list (MEL or equivalent document) for each aeroplane before the aeroplane begins a flight. The MEL should always remain with the aeroplane and be carried on the flight so that it can be accessed by the flight crew.

The MEL should consider all items specified by the aeroplane manufacturer and include all operational requirements relevant to the AOC holder’s operations.

Note: This regulation does not prescribe matters pertaining to the content or development of the MEL. Subpart 91.Y of CASR prescribes requirements for the development, approval and variation of a minimum equipment list.

GM 121.035 Compliance with exposition

This regulation applies to any person (not only flight crew) that has a requirement detailed in the operator's exposition that relates to the safe operation of an aeroplane and its passengers. It is a requirement for that person to follow the instructions and limitations described in the exposition.

Details of what to include in an exposition can be found in Subpart 119.H of CASR and its associated AMC/GM.

Regulation 91.100—*Authority and responsibilities of pilot in command* details the regulatory obligations as they apply to the pilot in command.

GM 121.040 Duty statement to be available to crew

The intent is that all crew members are fully aware of their duties and responsibilities in relation to a flight. This may be in the form of a duty statement or other titled document. It could even be contained in the operator's exposition where the duties and/or responsibilities did not vary between flights. For example, this may be appropriate for an animal handler for a cargo transport operation provided the crew member was aware of the applicable content.

GM 121.045 Availability of checklists

An aeroplane checklist relevant to the flight and covering normal, abnormal and emergency procedures must be made available to flight crew before a crew member begins to carry out a duty for a flight.

Division 121.C.3 - Flight related documents

GM 121.050 Availability of parts of exposition

The exposition includes the company operations manual. This regulation requires that relevant sections that provide instructions to a crew member to be available to the crew member before the flight.

Full exposition requirements can be found in Subpart 119.H of CASR.

GM 121.053 Electronic documents

No further explanation beyond the regulatory wording necessary.

AMC 121.055 Carriage of documents

Flight crew members required to advise CASA of license related matters should email clarc@casa.gov.au. The email should contain ARN, full name, date of birth and a brief description of the situation.

GM 121.055 Carriage of documents

The documents required to be carried for a flight are contained in the Part 121 Manual of Standards.

- See subpart 42.C of CASR for flight technical log requirements. See division 9 of part 4A of CAR for information regarding maintenance releases.
- See regulation 92.025 of CASR for documentation requirements for dangerous goods.
- See regulation 61.340 of CASR for the requirements for flight crew to produce their flight crew license, medical certificate and additional photographic identification of a certain type.

GM 121.060 Accessibility of documents

No further explanation beyond the regulatory wording necessary.

GM 121.065 Carriage of documents for international flights

The requirements for what documents to be carried on international flights are contained in the Part 121 Manual of Standards.

An Operations Specification (Ops Spec) is required by to be carried on board if a flight begins or ends at an aerodrome outside of the Australian Territory. A recommended format for the Ops Spec can be found at Appendix A.

GM 121.070 Keeping and updating documents etc.

The intent of this regulation is for operators to ensure that the documents mentioned in the Part 121 Manual of Standards are accessible to a person on the ground, while recognising that multi-sector flights in which an aircraft is away from a base may involve the carriage of passengers and cargo not on the original documents. In these situations, operators will need to have a procedure for crew to update the information by other means, such as telephone, company radio or email.

For Subregulation (1) (b) procedures need to be included about how and when this information may be passed to another person.

Although this information forms the normal part of record keeping requirements which is detailed in Part 119 of CASR, this requirement is to provide the most recent information for search and rescue purposes.

Division 121.C.4 - Reporting and recording defects and incidents etc.

GM 121.075 Procedures for reporting and recording defects etc.

The requirement is for operators to have procedures in their exposition for the pilot in command to fulfil their responsibilities regarding the recording of defects and exceedances of operating limits in the flight technical log or maintenance release (as applicable).

Note: CASA has not determined the continuing airworthiness requirements for all Part 121 aircraft (this project is to be undertaken in 2019). Therefore, for an aircraft to whom Part 42 currently applies, the relevant regulation for the PIC is reg 42.1075 of CASR and for aircraft to whom Part 42 does not apply, the relevant regulation for the PIC is reg 50 of CAR.

GM 121.080 Reporting and recording incidents

The operator's Safety Management System (SMS) should include procedures for reporting incidents which, whether inside or outside the requirements for ATSB reporting, may have the potential to be or become a hazard to safety of the aircraft, other people or property.

See also CASR 91.705 for the responsibilities of the pilot in command to report hazards to aviation.

Division 121.C.5 - Search and rescue services and emergency and survival equipment

GM 121.085 Information about search and rescue services

Regulation 121.085 places a responsibility on an aeroplane operator to provide pilots with information about search and rescue services relevant to a proposed flight. This information must be readily accessible to the flight crew.

Within Australia, the requirement can be met by the pilot having ready access to the En-Route Supplement Australia (ERSA) in the cockpit. Outside Australian airspace, the requirement can be met by the pilot having ready access to a copy of the relevant en-route supplement or other relevant data contained in the company exposition, either in the form of the exposition itself or an extract from it. Whichever document is used, it must be readily available to the pilot during flight and may be in electronic form.

GM 121.090 Information about emergency and survival equipment

This rule places the obligation on the operator to have, at minimum, information about the items listed in the Part 121 Manual of Standards available for communication to the rescue coordination centre.

Contact telephone numbers for the rescue coordination centre can be found in AIP-GEN Search and Rescue. The information should be held at a designated place, familiar to relevant staff, until the completion of the flight. Additional Part 121 requirements for the carriage and use of life jackets, life rafts and first-aid kits are set-out under Subpart K of the regulations.

Division 121.C.6 - Miscellaneous requirements

GM 121.095 Crew activities necessary for safe operation

This is the “sterile cockpit” rule but the applicability extends to all crew members. It is not intended that this regulation prohibit the operator from determining what duties are necessary to be conducted during these phases of flight. The matters determined by the operator to be necessary during these phases of flight will be assessed by CASA as part of the assessment of an operator exposition during application for an AOC.

Subregulation (1) requires that the operator must not require from the crew members any activity other than an activity that is specific to the safe operation of the aeroplane during the take-off, initial climb, final approach or landing phases of the flight. This obligation and any criteria that would apply should be detailed in the exposition. An unsafe activity would include but not be limited to, any non-standard communication between the flight crew during these phases of flight.

Subregulation (2) requires that crew members must not carry out an activity that is not specific to the safe operation of the flight during the take-off, initial climb, final approach or landing.

Note: The regulation does not prescribe any altitude limits for when the initial climb phase would end or where the approach phase of flight begins. This is left to the operator to determine. This could vary between different operators and aeroplane types.

GM 121.100 Competence of ground support personnel

Operators may require their ground support personnel to carry out duties of a position of support to the operations of an aeroplane. These persons must be trained in the duty and be assessed as competent to carry out that duty before commencing such duties. The method by which the operator satisfies itself as to the training and competence of ground support personnel should be included in the operator’s exposition.

Refer to the definition of “ground support personnel” in the CASR dictionary.

GM 121.105 Duty statement to be available to ground support personnel

The intent is that all ground support personnel are fully aware of their duties and responsibilities in relation to a flight. This may be in the form of a duty statement or other titled document.

It could be either a duty statement for a particular day, a particular flight or contained in the operator’s exposition where the duties and/or responsibilities did not vary between flights.

GM 121.110 Authorisation and briefing of occupants of flight deck

This regulation sets out the persons permitted on the flight deck during the flight. Those persons permitted to occupy a seat in the flight deck must be briefed as soon as possible after entering the flight deck on the safety equipment and emergency procedures relevant for the seat they occupy.

Subpart 121.D - Operational procedures

Division 121.D.1 - Operational control

GM 121.115 Operational control

Operational control is the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of safety of the aircraft and the regularity and efficiency of the flight.

This regulation requires the operator to provide in the exposition a description of the way operational control will be exercised on behalf of the operator. The exposition must also provide a description of the responsibilities of each person who may exercise operational control.

The intent of this regulation is to ensure that the operator understands that it is their responsibility to ensure operational control is exercised over each flight and who (including the pilot-in-command of the flight) undertakes the operational control for a flight.

To support the pilot in their responsibilities, operators may need to provide resources to assist the pilot. Support systems may also be required for the exercise of operational control that may include but not be limited to provision for access to weather forecasts and reports, Notices to Airmen (NOTAMs) and aircraft performance, loading and flight planning information.

The pilot-in-command will assume responsibility for the safety of the aeroplane from the moment of the start of a flight until the moment the aeroplane comes to the end of the flight and is expected to discharge their responsibility in accordance with procedures in the exposition. However, this does not alter the ultimate responsibility and authority of the pilot-in-command for the safety of the flight under Part 91.

Division 121.D.2 - General flight limitations

GM 121.120 Aircraft to be flown under the IFR

Part 121 operations must be planned and operated under the instrument flight rules (IFR).

AMC 121.125 Establishing lowest safe altitudes etc.

An operator may specify a minimum route altitude (or procedures) for a route or route segment considering the matters below. In all cases the minimum route altitude must be higher than the published lowest safe altitude for the route, or the lowest safe altitude calculated in accordance with the Part 173 Manual of Standards (the criteria for which are published in the AIP).

The matters to be considered for the calculation of a minimum route altitude are:

- the accuracy and reliability with which the position of the aeroplane can be determined;
- the inaccuracies in the indications of the altimeters used;
- the characteristics of the terrain (e.g. sudden changes in the elevation);
- the probability of encountering unfavourable meteorological conditions (e.g. severe turbulence and descending air currents);
- possible inaccuracies in aeronautical charts; and
- airspace restrictions.

GM 121.130 Flights further than the 60-minute distance

This regulation sets out the requirements for flights operating more than 60 minutes but not more than the threshold distance from an adequate aerodrome.

GM 121.135 Flights further than the threshold distance

This regulation sets out the requirements for a flight to hold an approval for extended distance time operations (EDTO). These are flights beyond the threshold times mentioned in regulation 121.130.

GM 121.140 Flight distance limitation over water

This regulation limits the distance an aeroplane that does not meet the ditching criteria of the relevant airworthiness standards and with a maximum operational seating capacity of more than 30, to the lesser of 2 hours at normal cruising speed or 400 nautical miles from land.

GM 121.145 Polar operations

See the definition of “polar region” in the CASR dictionary.

This regulation carries over existing requirements for flights in the polar region under CAO 82.0.



Division 121.D.3 - Flight preparation

GM 121.150 Operational flight plans

An operational flight log and journey log may be completed as one document. In doing so, requirements of both documents must be met.

The operator shall have procedures that provide guidance for when the pilot in command must have completed the operational flight plan for the flight and the methods in which this may be done. In all cases this shall be done prior to the next flight of the aeroplane.

Waypoints should be selected at regular intervals to provide the flight crew with an accurate assessment of the progress of the flight in relation to time and fuel burn. Where practical the waypoints should not be more than one hour apart (e.g. oceanic flights may have waypoints further apart etc).

GM 121.155 Journey logs

The operator shall have procedures that provide guidance for when the pilot in command must have completed the journey log for the flight and the methods in which this may be done. This shall be done as soon as practicable after the end of the flight but in all cases, prior to the next flight of the aeroplane.

Note that this regulation does not require a separate document specifically named "journey log" to be produced. It simply requires operators to ensure compliance.

Division 121.D.4 - Flight planning

GM 121.165 Flight planning requirements

The requirements for weather assessments are set out in the Part 91 Manual of Standards. The Part 121 Manual of Standards set out the requirements for alternate aerodrome requirements for a Part 121 operation, this includes take-off, en-route and destination alternate requirements.

GM 121.175 Availability of flight planning information

No further explanation beyond the regulatory wording necessary.

Division 121.D.5 - Flight rules

GM 121.180 Take-off and landing minima for aerodromes

The general take-off and landing minima are prescribed in the Part 91 MOS. The take-off minima must also consider the ability for the pilot in command to conduct either a continued or discontinued take-off safely.

Operators may seek approval to get operational credit for the use of head-up display, enhanced vision systems, synthetic vision systems or a combination of these systems to meet the required visibility requirements even though the actual weather may be below the aerodrome operating minima.

GM 121.185 Approval required for low-visibility operations

For guidance on how to obtain approval for low-visibility operations refer to CAAP 257-EX-01(0).

AMC 121.190 Exposition requirements for low-visibility operations

TYPES OF LOW-VISIBILITY OPERATIONS

The operator shall only conduct the following low visibility operations (LVO) when approved by CASA:

- low visibility take-off (LVTO) operation;
- Special Authorisation Category I (SA CAT I) operation;
- Standard Category II (CAT II) operation;
- Special Authorisation Category II (SA CAT II) operation;
- Standard Category III (CAT III) operation.

The operator shall also state in the exposition the approved landing minima for each type of approach.

AIRCRAFT SYSTEMS

The operator shall include the minimum equipment that has to be serviceable at the commencement of an LVO in accordance with the aircraft flight manual (AFM) or other approved document in the exposition.

The pilot-in-command shall be satisfied that the status of the aircraft and of the relevant airborne systems is appropriate for the specific operation to be conducted.

AERODROME FACILITIES

The operator shall not use an aerodrome for LVOs unless low visibility procedures (LVP) are in effect.

If the operator selects an aerodrome where the term LVP is not used, the operator shall ensure that there are equivalent procedures that adhere to the requirements of LVP at the aerodrome. This situation shall be clearly noted in the exposition including guidance to the flight crew on how to determine that the equivalent LVP are in effect.

FLIGHT CREW TRAINING AND QUALIFICATIONS

The operator shall ensure that, prior to conducting an LVO:

Each flight crew member:

- complies with the training and checking requirements prescribed in the training and checking manual, including flight simulation training device (FSTD) training, in operating to the limiting values of RVR/VIS (visibility) and DH specific to the operation and the aeroplane type;
- is qualified in accordance with the standards prescribed in the training and checking manual.

OPERATING PROCEDURES

The operator shall establish procedures and instructions to be used for LVOs. These procedures and instructions shall be included in the exposition and contain the duties of flight crew members during taxiing, take-off, approach, flare, landing, rollout and missed approach operations, as appropriate.

Prior to commencing an LVO, the pilot-in-command shall be satisfied that:

- the status of the visual and non-visual facilities is sufficient;
- appropriate LVPs are in force according to information received from air traffic services (ATS);
- flight crew members are properly qualified.

AMC 121.195 Stabilised approach requirements

GENERAL

The primary safety consideration in the development of the stabilised approach procedure shall be maintenance of the intended flight path as depicted in the published approach procedure, without excessive manoeuvring. The parameters to be considered in the definition of a stabilised approach are listed below.

PARAMETERS FOR THE STABILISED APPROACH

The parameters for the stabilised approach shall be defined by the operator's standard operating procedures (SOPs). These parameters shall be included in the operator's exposition and shall provide details regarding at least the following:

- range of speeds specific to each aeroplane type;
- minimum power setting(s) specific to each aeroplane type;
- range of attitudes specific to each aeroplane type;
- crossing altitude deviation tolerances;

- configuration(s) specific to each aeroplane type;
- maximum sink rate; and
- completion of checklists and crew briefings.

ELEMENTS OF THE STABILISED APPROACH

The elements of a stabilised approach (according to the parameters above) shall be stated in the operator's SOPs. These elements should include as a minimum:

- that in instrument meteorological conditions (IMC), all flights shall be stabilised by no lower than 1,000 ft above the aerodrome elevation; and
- that in visual meteorological conditions (VMC), all flights shall be stabilised by no lower than 500 ft above the aerodrome elevation.

GO-AROUND POLICY

Standard operating procedures should include the operator's policy about the parameters and the elements stated above. This policy should state that if an approach is not stabilised in accordance with the requirements above or has become destabilised at any subsequent point during an approach, a go-around is required. Operators should reinforce this policy through training.

GM 121.200 Approach ban

For the purposes of complying with this regulation, prior to reaching 1,000 ft above the aerodrome elevation, the pilot in command should assess the visibility at the aerodrome to be at or above landing minima for the runway to continue the approach to the minima. If the visibility deteriorates below the landing minima for the runway after passing 1,000 ft, the pilot in command may continue the approach to the decision point.

Division 121.D.6 – Aerodromes

AMC 121.205 Aerodrome requirements

For approach and landings to runways where the visual approach slope indicating system is inoperative, the operator shall specify the following requirements in their exposition:

- within the previous 9 months, the pilot in command shall have demonstrated to the operator competency in conducting an approach and landing without the use of the visual approach slope indicating system. Where the operation is likely to include a landing at night, this competency must have been demonstrated at night
- the forecast weather conditions shall not be less than the published circling minima for the applicable runway
- the TAWS shall be serviceable.

GM 121.205 Aerodrome requirements

The operator shall ensure that any aerodrome to be used is suitable for operating the aeroplane and for aerodromes that are not certified, that information (mentioned in subregulation 121.210 (2)) about the aerodrome is available for the pilot in command.

GM 121.220 Taking off from and landing on narrow runways

For further information see CAAP 235A-1(0).

Division 121.D.7 – Fuel requirements

AMC 121.235 Fuel requirements

Performance based contingency fuel planning:

Contingency fuel may be reduced to not less than 3% of the planned trip fuel or, in the event of in-flight replanning, 3% of the trip fuel for the remainder of the flight, provided that an en-route alternate (ERA) aerodrome is available in accordance with the following:

The 3% ERA aerodrome shall be located within a circle having a radius equal to 20 % of the total flight plan distance, the centre of which lies on the planned route at a distance from the destination aerodrome of 25 % of the total flight plan distance, or at least 20 % of the total flight plan distance plus 50 nm, whichever is greater, all distances are to be calculated in still air conditions.

GM 121.235 Fuel requirements

For further information refer to ICAO document 9976.

Performance based contingency fuel planning:

- a. 3% En-route Alternate (ERA) contingency fuel planning:

3% ERA is a performance-based means to comply with the Part 121 MOS contingency fuel requirements, which permits contingency fuel to be determined based on the 'advanced use of en-route alternates' in accordance with, Part 121 MOS. 3% ERA is like in-flight re-planning in that it requires the mandatory selection in the Operational Flight Plan of an ERA located along the second part of the trip and before the destination aerodrome. This designation of the ERA is predicated on the qualitative and quantitative assumption that, even if the 3% ERA contingency fuel is used before reaching the planned destination, there would be sufficient fuel on board to land at the ERA with final reserve fuel on board.

3% ERA developed from the quantitative determination that more conservative or prescriptive planning methods result in the carriage of excess fuel on long haul flights. Such determinations are based on continual monitoring of fuel at destination for all flights to ensure, to the extent reasonably practicable, that future flights carry sufficient fuel, including contingency fuel and final reserve fuel, to complete the planned flight safely.

Criteria requirements for performance-based 3 % ERA Contingency Fuel Planning

CASA will monitor and measure operator performance before considering approving operators to apply 3% ERA contingency fuel planning and will be subject to the presence of the core requirements for performance-based variations and the following additional criteria. The operator should:

- employ a hull-specific Fuel Conditions Monitoring (FCM) program to monitor the actual fuel consumption rates of the specific aircraft utilizing 3% ERA contingency fuel.
- implement an in-flight fuel monitoring policy in accordance with Part 121 MOS that will support the practical management of the 3% ERA aerodrome. The policy should give the flight crew specific instructions regarding the best course

of action in the case when contingency fuel is totally used before reaching the destination aerodrome.

- only select an aerodrome for the purpose 3% ERA contingency fuel when the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the 3% ERA aerodrome, the weather conditions will be at or above the operator's approved planning minima.
- limit the use of the 3% ERA to weather conditions at or above applicable landing minima.
- ensure the 3 % ERA aerodrome is located within a circle having a radius equal to 20 % of the total flight plan distance, the centre of which lies on the planned route at a distance from the destination aerodrome of 25 % of the total flight plan distance, or at least 20 % of the total flight plan distance plus 50 nm, whichever is greater, all distances are to be calculated in still air conditions (Figure 1).

b. 3% ERA processes

Operators who wish to use 3% ERA contingency fuel planning should demonstrate the following processes and controls in addition to those specified in Chapter 5 of the ICAO FPFMM Doc 9976.

c. Demonstrate ability to report, measure, and analyse essential data

Operators should demonstrate the ability to report, measure, and analyse the essential data necessary for the identification, analysis and mitigation of potential safety risks that could affect the outcome of flights in accordance with Chapter 5 of the ICAO FPFMM Doc 9976.

d. Data Integrity:

Processes to ensure data used during ERA contingency fuel calculations have the required integrity to ensure the safe operation of the aircraft.

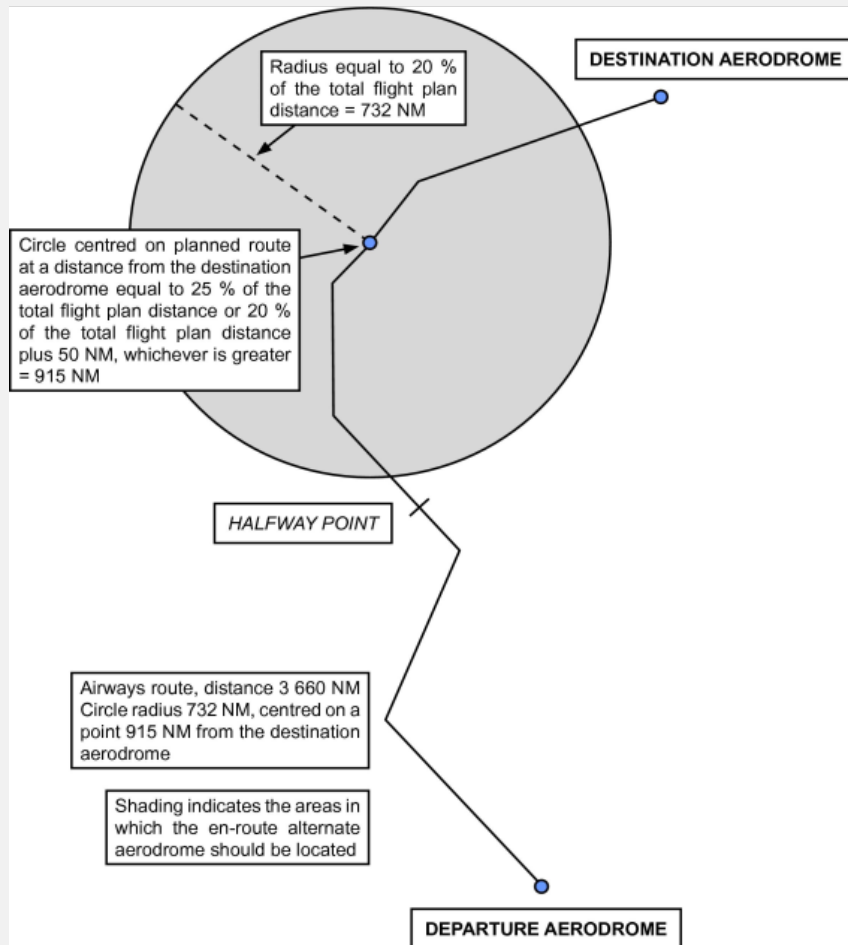


Figure 1: Location of the 3% ERA aerodrome

Note: There is no fuel calculation linked to the location of the ERA. The location of the ERA in the defined circle allows a safe landing at the ERA if diversion happens from cruise level during the second half of the trip.

Division 121.D.8 - Passenger transport

AMC 121.255 Carry-on baggage

When detailing the procedures for the safe stowage of carry-on baggage, the operator shall consider the following requirements:

- when the baggage is stowed, it must be securely stowed in a place intended for the stowage of baggage
- if the baggage contains dangerous goods, then the baggage must be stowed in accordance with Part 92 of CASR
- if a weight limitation is placarded on, or adjacent to, a stowage place, then the weight of the baggage placed in, or adjacent to, the stowage place must be within the weight limitation
- the baggage must be stowed where it cannot:
 - obstruct access to emergency equipment
 - hinder the evacuation of the aeroplane in an emergency
 - cause injury to a person on board the aeroplane by falling or other movement
- for baggage stowed in a locker, the locker's door must be able to be closed securely
- for baggage stowed under a seat:
 - the seat must have below it a means (e.g. bar) to restrain forwards and sideways movement of the baggage
 - the baggage must be of a size that the means in (i) can restrain.

GM 121.255 Carry-on baggage

OVERSIZED OR ODD-SIZED ITEMS

When incorporating the procedures for the carriage of oversized or odd-sized items, the operator should consider the safety of the flight and passengers in general and whether the carriage has an impact on cabin safety.

The operator should consider, but not limited to, the following when incorporating the carriage of oversized or odd-sized items in their carry-on baggage policy:

- The item should be contained in a case or covered to avoid injury to passengers. The size, weight, packaging and dimensions of the item should be taken into consideration
- The item should be properly secured by the aircraft seat belt, safety belts or other tie down mechanisms strong and sturdy enough to eliminate the possibility of shifting in any direction under all flight and ground conditions such as turbulence, rapid descent etc
- The item should not be secured at the row of seats adjacent to or use of any required emergency exit or regular exit, or of the aisle.
- The item should also not obstruct passenger movement to and from the aisle
- The item should also not be stowed in such a manner that could obstruct access to any emergency equipment

- The weight of the item including the case or covering must not exceed the load limit of the seat or any applicable weight restriction for the aircraft. The item should not impose any load on the seats or the floor structure that exceeds the load limitation
- The operator should specify the maximum allowable numbers of such carriage taking into consideration the cabin configuration of each aeroplane type.

The operator should provide information to their passengers on the availability and conditions of such carriage in their carry-on baggage policy.

The operator should ensure appropriate training is provided to the relevant personnel including airport staff (baggage check in staff and gate staff) and crew members in the handling of oversized or odd-sized items.

AMC 121.260 Passengers in emergency exit row seats

The following categories of passengers are among those who should not be allocated to, or directed to, seats that permit direct access to emergency exits (i.e. they are not suitable persons):

- passengers suffering from obvious physical or mental disability to the extent that they would have difficulty in moving quickly if asked to do so
- passengers who are either substantially blind or substantially deaf to the extent that they might not readily assimilate printed or verbal instructions given
- passengers who because of age or sickness are so frail that they have difficulty in moving quickly
- passengers who are so obese that they would have difficulty in moving quickly or reaching and passing through the adjacent emergency exit
- children (whether accompanied or not) and infants
- restricted persons
- passengers with animals.

Direct access means a seat from which a passenger can proceed directly to the exit without entering an aisle or passing around an obstruction.

For aircraft with more than 44 passenger seats, the operator's exposition shall state the minimum number of passengers to be seated in an emergency exit row adjacent to a self-help emergency exit. This number should be at least two; however, the operator may provide a seating schedule to allow for a reduced number of passengers when appropriate, for example, a minimal number of passengers boarded for the flight or for weight and balance requirements.

GM 121.260 Passengers in emergency exit row seats

If procedures cannot be reasonably implemented at the time of passenger 'check-in', the operator should establish an alternative procedure which ensures that the correct seat allocations will, in due course, be made, preferably before the passengers have boarded the aeroplane.

Procedures should be established to allocate duties to a cabin crew member (or members) in assessing the suitability of emergency exit row passengers.

For the assessment of the suitability of a passenger in an emergency exit row, the operator may decide that the required use of an extension seat belt would exclude the passenger from the suitability to sit in an emergency exit row.

Some questions that might assist operators to establish their criteria for suitable persons, in conjunction with their safety management systems (SMS):

- Do the suitable person criteria take the type and weight of the exit/exit door into account?
- What measures are in place to ensure that a suitable person does not become unsuitable for emergency exit row seating (such as, but not limited to, a passenger who does not fit the suitable person criteria swapping seats and sitting in the emergency exit row) during flight?
- How does a continuous risk assessment process consider the choice of passengers seated in exit rows?
- How does a continuous risk assessment process analyse situations that might arise in an emergency?
- What are the organisation's processes and training for cabin crew and ground staff to re-seat ineligible exit row passengers before flight/during flight/for landing?
- Are data logged and actions taken to mitigate the above situations, to prevent them recurring? How is this done?

GM 121.275 Carriage of passengers with reduced mobility

The extent to which passengers may require special assistance will vary considerably according to the individual's needs, as well as the aircraft type and configuration.

Where practicable, consideration should be given to pre-boarding passengers (and their assistant if they are accompanied by one). Pre-boarding will allow the passenger with reduced mobility to settle into their seat, put away their in-cabin baggage and receive a predeparture briefing.

Whilst a general safety briefing is given to all passengers prior to departure which points out the location of the emergency exits and provides information on using life jackets, brace positions and oxygen masks, dependent on the needs of the passenger, an individual briefing should be provided to the person with the disability and their assistant.

Ideally the person providing the briefing should be one of the crew designated to assist the person in an emergency evacuation. Tools such as braille books and safety demonstration equipment may be used to help deliver the individual briefing.

The briefing should include:

- which emergency exit to use and an alternative exit if the first exit is unavailable
- when to move towards the exit in an emergency evacuation
- how best to assist the person in an emergency evacuation

In the case of a passenger who is responsible for another person on board the aircraft the briefing should also include:

- how to assist that person with donning and securing his or her oxygen mask; and
- how to use that person's personal restraint system, if any, on board the aircraft.

The content of each briefing should be documented in the operator's operations manual. Additionally, the operator's cabin crew training program should address the content and conduct of these briefings.

In addition to the requirement not to seat disabled passengers in emergency exit rows, passengers with reduced mobility need to be seated in a manner which would not hinder or obstruct access to emergency exits generally for all other passengers and crew. Passengers with reduced mobility should be assessed on a case by case basis to determine the best seating allocation, ensuring there is no impact on the safety of the person or others on board.

This requirement becomes particularly relevant when seating passengers in narrow body aircraft.

Any decision by an operator to seat a passenger outboard (window or middle seat) of a person with a sickness, injury or disability seated inboard (aisle adjacent) needs to take into consideration the abilities and/or limitations of all passengers in that row. It is important to ensure that all passengers seated in the same row as the person with a disability do not have their ability to exit impeded by the person seated in the aisle seat. However, passengers travelling as an assistant to the disabled passenger may be seated next to the disabled passenger.

The operator should review and consider their seating policy for passengers with reduced mobility to ensure that their seating policy complies with the requirements and where applicable ensure the policy is appropriately communicated and trained to the appropriate employees.

GM 121.280 Safety briefing cards

The passenger safety briefing card provides information on exit locations and the use and location of emergency equipment. Information is presented in a visual and pictorial format which assists passengers to respond to emergency situations as quickly and effectively as possible.

The safety briefing card is designed to supplement the passenger safety briefing and can also be used to individually brief passengers during normal and non-normal procedures

Detailed information on safety briefing cards can be found in Appendix B.

AMC 121.285 Safety briefings and instructions

The safety demonstration may be conducted by cabin crew on board the aircraft or via an audio/visual presentation developed by the operator and presented to passengers prior to take-off. It should be specific to the aircraft make, model and series.

Passenger safety briefings should be tested for comprehension by naïve test subjects. If the operator modifies or changes the information included within the safety briefing, it should evaluate the content and take steps to verify passenger comprehension.

If the safety demonstration is conducted by cabin crew members, it should be carried out in accordance with the standard content and sequence contained in the operator's procedures.

The briefing should be given so that each passenger can clearly hear it and easily see the required demonstration of emergency equipment such as lifejackets and oxygen masks (if applicable).

If the cabin crew complement does not allow for cabin crew members to be present or visible in each cabin compartment when conducting a live safety demonstration, it should be repeated until passengers seated in all the cabin compartments have been briefed.

Information provided to passengers via safety briefings, announcements and the safety demonstration should be transmitted in English and any other language deemed necessary by the operator to promote appropriate communication with passengers.

The operator should consider the language(s) of the passengers on board and consider assigning route language qualified cabin crew members or interpreters on board the aircraft. In addition, the operator should verify that emergency exit row occupants comprehend the language spoken by the crew.

The operator should consider the following when selecting language requirements related to safety briefings for example on international flights, to cover the largest percentage of possible passengers on board:

- the use of English
- official language(s) of the State of departure
- official language(s) of the State of destination.

Pre- demonstration considerations

The operator must have procedures to ensure that each aircraft in its fleet is equipped with the necessary number of safety demonstration kits, each containing all the equipment and documentation needed to conduct the safety demonstration.

Demonstration Considerations

During briefings and demonstrations safety demonstration equipment should be appropriately placed so as not to prevent any impediment to egress from the aircraft (e.g. safety demonstration equipment should not be replaced on the floor). All curtains/dividers should be opened to provide passengers with an unobstructed view of the demonstration

If the demonstration is conducted via an audio-visual presentation, cabin crew should verify that the delivery system (e.g. IFE system) is functional for all passengers before starting the presentation. The operator should have alternative briefing procedures for crew members to follow should audio/visual presentation equipment become inoperative.

Where more than one cabin crew member is involved in the demonstration, they should be distributed throughout the passenger cabin at designated positions as per the operators documented procedures and should co-ordinate their actions with the information given in the oral briefing.

If the briefing is conducted orally by a cabin crew member, they should speak slowly and distinctly, be animated and make eye contact with as many passengers as possible.

Cabin Crew members should neither be assigned nor perform non-safety-related duties during the safety briefings if those duties could obstruct the view of the passengers or distract them from listening

Demonstration requirements

Cabin crew members during the demonstration should:

- point out ordinance signs (e.g. no smoking, fasten seat belts, turn off PEDs)
- hold-up the seat belt and demonstrate how to fasten and unfasten it
- point out emergency escape path lighting
- point out emergency exits
- hold up the passenger safety briefing card, demonstrate where it is found and unfold it in clear view of all passengers (including to show if the card is double-sided) highlighting the brace position
- if applicable, demonstrate the use of oxygen, how the dropdown oxygen masks will appear. The cabin crew member should don the mask over mouth and nose and show elastic band behind the head and tightening/adjustment of the mask
- if applicable, demonstrate the use of the life jacket, including location, how and when to don and inflate it and the signalling equipment it contains (e.g. whistle and light).

After the completion of the demonstration, cabin crew should conduct a walk-through to ensure compliance with the requirements of the safety demonstration and make themselves available to answer any passenger questions or concerns.

Considerations for operations without cabin crew

On flights where cabin crew are not required, flight crew members should be responsible for providing passengers with the standard briefing material, specific to the aircraft make, model and series operated for the flight. The operator should consider alternate means of transmitting the information (e.g. electronic means, videos, pre-recorded announcements), particularly in single pilot operations. This may reduce the work load for flight crew members, particularly during critical phases of flight.

The operator may replace the briefing as set out in 121.285 with as an example a passenger training program as stated in the operator's exposition, covering all safety and emergency procedures for a given aeroplane type. This program will prescribe a more thorough explanation of safety and emergency equipment for the passenger (s) than the general pre-flight oral briefing.

The operator's exposition should include the following:

- the importance of compliance with safety instructions including placards, signs and the instructions of crew members
- the location and methods of locating and operating emergency exits
- instructions necessary for the use of emergency equipment e.g. seat belt, oxygen mask, life jacket
- the brace position for emergency landing or ditching

- associated restrictions stowage of hand luggage the importance of keeping aisles and exits free from obstruction; the use of electronic devices
- means of communicating the information required in for the passenger training program might include, but is not limited to, the following:
 - electronic communication of emergency exit row occupant responsibilities (e.g. use of technology – PEDs, kiosks, online check-in)
 - electronic verification and validation of acceptance of responsibilities – if not successful, a passenger should not be permitted to occupy a seat in that row. The results of the training will be recorded by the operator as evidence of the successful completion of the training

Only passengers who have been trained according to this program and have flown on the aeroplane type within the last 90 days may be carried on board a flight without receiving a briefing. In addition, operators should ensure that each passenger who has received this training is satisfied they do not require any additional briefing information for a flight.

GM 121.290 Additional safety briefing for passengers in emergency exit rows

Emergency exits referred to in this regulation for which passengers would be required to operate in an emergency are self-help exits. It is not intended to include exits where cabin crew are located and would be the primary means of opening the exit.

Specific self-help exit row briefings should be included, as part of the operator's procedures, to provide the necessary information to passengers on the operation of exits and the responsibilities of seating in emergency exit row. These briefings lead to increased passenger awareness, improved performance in an evacuation, and a higher level of safety.

Self-help exits may be floor-level or window exits, such as those located at the over-wing. Passengers are expected to operate self-help exits in the event of an evacuation. The operator's procedures should include criteria which passengers must meet to occupy self-help exits (Refer to AMC 121.260 Passengers in Emergency Exit Row Seats).

Prior to each flight, cabin crew should confirm passengers in self-help emergency exit rows meet exit row seating requirements and are briefed on the following items:

- the importance of the role of the passenger seated in the event of an emergency
- the signal/command that would instruct the passengers to open exits
- how to open the exit, including specific aspects of the operation such as
 - check for hazards (such as fire, high water, or obstruction) before opening
 - what to do with the exit hatch if removable
 - passenger movement that leads to an exit, routes of escape after leaving the aircraft
- confirmation of understanding instructions
- require confirmation of acceptance of responsibility.

To prevent uncommanded opening, the cabin crew should also emphasize the need to follow all instructions and to listen closely to the crew's commands.

Note: In the event of an anticipated emergency landing or ditching, cabin crew may provide additional information to passengers regarding the responsibilities of self-help exit row occupants

The operator should also have procedures in place to ensure that self-help exit row briefing are conducted in a language that is mutually understood by both the cabin crew member and passengers seated in the exit row.

Consideration should be given for a separate card located at the exit seat that contains information on the suitability criteria for passengers to be eligible to occupy an exit seat; to allow the passenger to self-identify if they cannot meet the selection criteria to allow reseating to occur.

In addition, the card should identify the emergency commands to initiate an evacuation, supplemented pictograms demonstrating the operation of the exit corresponding with each side of the aircraft.

Self-help exit instructions should illustrate the correct method of exiting the aircraft as well as the evacuation route for any passengers, for example exiting via the wing.

AMC 121.295 Safety demonstrations and explanations

The operator may replace the demonstration as set out in 121.295 with a passenger training program as stated in the operator's exposition, covering all safety and emergency procedures for a given aeroplane type. This program will prescribe a more thorough explanation of emergency and safety equipment for the passenger(s) than the general flight briefing.

Only passengers who have been trained according to this program and have flown on the aeroplane type within the last 90 days may be carried on board without receiving a demonstration. Operators should ensure each passenger who has conducted this training is satisfied they do not require a further briefing for a flight.

GM 121.300 Safety reminders

For flights of duration of more than 4 hours, it is recommended that passengers be reminded to review the safety briefing card before landing.

GM 121.305 Irrelevant information in safety briefings etc.

The intention of this regulation is to ensure that all safety briefings and demonstrations are clear and unambiguous to the passenger. The use of slang and innuendo should be avoided.

This regulation does not preclude an operator from making public announcements of a commercial nature once the safety briefing is completed, for example, the preferred car hire company in the arrival city, etc.

This regulation does not preclude the operator including courtesy or commercial information in the briefings during the same announcement, the intent is that during the safety information element of the announcement, it is not interrupted by the courtesy or commercial element.

AMC 121.315 Supervising passengers during fuelling

A minimum number of floor level exits shall be designated evacuation exits during fuelling; one of which must be an entry door.

The designated evacuation exits during fuelling shall be identified by aeroplane type and published in the operator's exposition and are clear and available for immediate use by passengers and crew members should an evacuation be required.

The operator shall have procedures in place to ensure that there is a ready escape route from each designated evacuation exit during fuelling, and that designated evacuation exits which are equipped with slides have the slides armed or a crew member is in the immediate vicinity to arm the slides if required.

These procedures shall also include crew members responsibilities whilst supervising passengers such as:

- the observance and the adherence to seat belt policies whilst refuelling
- ensuring all aisles, galleys and exits are clear of obstructions as deemed appropriate by the operator
- ensuring electronic device restrictions are complied with
- the making of and the frequency of PAs made within the cabin in relation to refuelling
- ensuring PAs made are heard in the cabin
- the notification and adherence to no smoking policies

A means of evacuation such as a deployed integral stair, a loading stair or stand, a loading bridge or a passenger transfer vehicle is in place at the aeroplane door used for the embarking and disembarking of passengers and is free of obstruction and available for immediate use by the aeroplane occupants if necessary.

For flights requiring a minimum cabin crew of more than one, at least one cabin crew member must be located at each pair of floor level exits in each passenger zone in which passengers are present during fuelling.

Where there is only one floor level exit, then one cabin crew member must be in that vicinity such that they could initiate an evacuation at that exit if required.

Crew intercommunication systems would be the most common use of communication in this case, however, an operator may have procedures to ensure that crew members or ground support personnel are stationed where communication can be quickly relayed, e.g. at the bottom of entry stair door.

For flights requiring a minimum cabin crew of more than one, at least one cabin crew member must be located at each pair of floor level exits in each passenger zone in which passengers are present during fuelling. Where there is only one floor level exit, then one cabin crew member must be in that vicinity such that they could initiate an evacuation at that exit if required.

Emergency lights

On aeroplanes where the arming of emergency lights prior to engine start is not practicable due to system limitations (e.g. the lights turn on), CASA may give approval for these lights to remain switched off. The operator shall have procedures in place to ensure either a flight crew member

is on duty in the flight deck, or a cabin crew member is stationed at the main designated evacuation exit.

GM 121.315 Supervising passengers during fuelling

Crew intercommunication systems would be the most common use of communication in this case, however, an operator may have procedures to ensure that crew members or ground support personnel are stationed where communication can be quickly relayed, e.g. at the bottom of entry stair door.

Division 121.D.9 - Instruments, indicators, equipment and systems

GM 121.325 Airborne weather radar equipment

Whilst most modern aircraft weather radar manuals are quite detailed in the use of the equipment, this is not always the case and operators shall ensure they have procedures for their flight crew to follow when manipulating the weather radar. Guidance should also be provided on the policy of the operator on severe weather avoidance and any other general use 'tips' that would be useful to the flight crew.

GM 121.335 Head-up displays, enhanced vision systems and synthetic vision systems

CASA recognises that some operators will have HUD/EVS/SVS equipment and not intend to use it to gain operational credit. Intent of this regulation is to ensure an operator has procedures in place for any equipment that is available for use, regardless of how and when it will be used.

These procedures will mitigate the risk of untrained flight crew using these systems – especially during component failure scenarios.

GM 121.345 and 121.350 Supplemental oxygen equipment

These regulations refer to 10 000 feet and Flight Level 130 however it is recognised that the transition altitude and transition level differ in countries other than Australia. Whilst the terms “altitude” and “flight level” are defined in the CASR dictionary in relation to the selection of certain altimeter subscale settings and therefore the terms work in a legal sense, for the purpose of clarity these regulations are intended to be applied to the foreign equivalents of what is 10 000 feet altitude and Flight Level 130 in Australia.

For example, CASA would expect that the regulations as applied in the United Kingdom would utilise Flight Level 100 and Flight Level 130. In the United States, the altitudes 10 000 feet and 13 000 feet would be used.

GM 121.350 Supplemental oxygen equipment for pressurised aeroplanes

A pressurised aeroplane is one that is equipped with and using a cabin pressurisation system.

GM 121.370 Equipment to assist emergency evacuation

The arming of doors should be done prior to taxiing for departure. The disarming of the doors may be done once entering the parking bay for the aeroplane.

Division 121.D.10 - Miscellaneous

GM 121.385 Assignment and occupation of cabin crew seats

The allocation of cabin crew seats must take into consideration of the emergency evacuation procedures for the aeroplane as well as any other consideration imposed by its type certificate.

The following persons are permitted to be allocated to a spare cabin crew seat for the flight:

- a. a crew member employed by the operator who has not been assigned to the flight by the operator;
- h. an authorised officer carrying out an in-flight passenger cabin inspection;
- i. an able-bodied person allocated to the seat by a cabin crew member to assist in an evacuation of the aeroplane, once an emergency has been declared by the pilot in command.

The crew member in (a) should be identifiable as an employee of the operator.

Cabin crew seats not located next to or adjacent to an emergency exit may be allocated to other persons mentioned in the operator's exposition.

Spare cabin crew seat means a cabin crew seat not required for a cabin crew member, required for the flight by regulation 121.880.

Subpart 121.J - Weight and balance

AMC 121.460 Weighing survey plans

This acceptable means of compliance provides a method of conducting a survey for establishing standard weights for checked baggage. The AMC also illustrates a method for determining different standard passenger weights to those Tabulated in Chapter 4 of the Part 121 MOS.

Passengers:

- a. *Weight sampling method.* The average weight of passengers and their hand baggage should be determined by weighing and taking random samples. The selection of random samples should, by nature and extent, be representative of the passenger volume, considering the type of operation, the frequency of flights on various routes, inbound and outbound flights, applicable season and seat capacity of the aeroplane.
- j. *Sample size.* The survey plan should cover the weighing of at least the greatest of:
 - i. several passengers calculated from a pilot sample, using normal statistical procedures and based on a relative confidence range (accuracy) of 1% for all adult, and 2% for separate male and female, average weights; and
 - ii. for aeroplanes with a passenger seating capacity of 40 or more — 2,000 passengers; and
 - iii. for aeroplanes with a passenger seating capacity of less than 40 — 50 multiplied by the passenger seating capacity.
- k. *Passenger weights.* A passenger's weight should include the weight of his or her belongings that he or she is carrying when boarding the aeroplane. When taking random samples of passenger weights, an infant should be weighed together with the accompanying adult.
- l. *Weighing location.* Passengers should be weighed as close as possible to the aeroplane, at a place where a passenger cannot readily add or dispose of personal belongings before boarding the aeroplane.
- m. *Weighing machine.* The weighing machine to be used for passenger weighing should have a capacity of at least 150 kg. The weight should be displayed at minimum graduations of 500 g or 1 lb. The weighing machine should be accurate to within 0.5% or 200 g (0.5 lb) whichever is the greater.
- n. *Recording of weight values.* For each flight included in the survey, the weight of each passenger, whether the passenger is an adult male, an adult female or a child and the flight number should be recorded.

Checked baggage

The statistical procedure for determining standard baggage weights, based on average baggage weights of the minimum required sample size, is the same as for passenger weights and as specified in subsection (1), except that for baggage, the relative confidence range (accuracy) is 1 %. At least 2,000 pieces of checked baggage should be weighed.

Determination of operator-determined standard weights for passengers and checked baggage

- a. To ensure that the use of operator-determined standard passenger weights or standard baggage weights does not adversely affect operational safety, a statistical analysis should be carried out.
- o. On aeroplanes with more than 19 passenger seats, the averages apply as standard male and female weights.
- p. However, all-adult revised standard weight values may be applied on aeroplanes with more than 30 passenger seats.
- q. On aeroplanes with up to 19 passenger seats, 4 kg should be added to the average passenger weight to obtain the revised standard passenger weight values.
- r. Standard baggage weights are applicable only to aeroplanes with more than 19 passenger seats.
- s. Operators may submit a detailed survey plan to CASA for approval and subsequently a deviation from the revised standard weight value if that deviation is determined by using the procedure set out in this AMC. Such deviations should be reviewed at intervals not exceeding 5 years.
- t. All-adult revised standard weight values should be based on a male/female ratio of 80/20 for all flights. If an operator wishes to obtain approval for use of a different ratio on routes or flights, data should be submitted to CASA showing that the alternative male/female ratio is conservative and covers at least 84% of the actual male/female ratios on a sample of at least 100 representative flights.
- u. The average weight values found are to be rounded to the nearest whole number in kilograms or pounds. Checked baggage weight values are to be rounded to the nearest 0.5 kg or 1 lb, as appropriate.

Subpart 121.K - Instruments, indicators, equipment and systems

Division 121.K.1 - General

GM 121.480 Approval of instruments, indicators, equipment and systems

This regulation sets out the requirements for the approval of all equipment in this Subpart to be approved under these regulations, or if a foreign registered aircraft approved by that country's national aviation authority. This does not apply to the equipment mentioned in subregulation (1).

For Instruments and Equipment required by Part 121 Subpart K, 'Approved' means that compliance under these regulations. In particular, parts 21.305 and 21.305A have been demonstrated.

'Installed' means that the installation of Instruments and Equipment has been demonstrated to comply with the applicable airworthiness requirements under these regulations (including JAR/FAR-23/JAR/FAR-25).

Instruments and Equipment approved in accordance with design requirements and performance specifications, before the applicability date of these regulations, are acceptable for use or installation on aeroplanes operated for air transport operations provided that any relevant Part 121 requirement is complied with.

Instruments and equipment approved in accordance with design requirements and performance specifications other than TSOs, before the applicability date of Part 121, are acceptable for use or installation on aeroplanes operated for Part 121, provided that any relevant Part 121 requirement is complied with.

When a new version of a TSO (or of a specification other than a TSO) is issued, instruments and equipment approved in accordance with earlier requirements may be used or installed on aeroplanes operated for the purposes of Part 121, provided that such instruments and equipment are operational, unless removal from service or withdrawal is required by means of an amendment to Part 121.

Division 121.K.2 - Flight instruments, indicators, equipment and systems

AMC 121.485 Flight instruments, indicators, equipment and systems

General – integrated instruments

Individual equipment requirements may be met by combinations of instruments, by integrated flight display systems or by a combination of parameters on electronic displays, provided that the information so available to each required pilot is not less than that required in the applicable operational requirements, and the equivalent safety of the installation has been shown during type certification approval of the aeroplane for the intended type of operation.

The means of measuring and indicating turn and slip, aeroplane attitude and stabilised aeroplane heading may be met by combinations of instruments or by integrated flight display systems, provided that the safeguards against total failure, inherent in the three separate instruments, are retained.

Means of displaying outside air temperature

The means of displaying outside air temperature should be calibrated in degrees Celsius.

The means of displaying outside air temperature may be an air temperature indicator that provides indications that are convertible to outside air temperature.

Means of measuring and displaying the time

An acceptable means of compliance is a clock displaying hours, minutes and seconds, with a sweep-second pointer or digital presentation.

Chart holders

Chart holders must be capable of holding charts in either a physical or electronic format. Where an electronic flight bag is used, reference to a chart holder can apply to the mount for the electronic flight bag. Whatever form the chart holder is in, its presence must not interfere with the operation of controls.

Division 121.K.3 - Flight recording equipment

AMC 121.510 When an aeroplane may be flown with inoperative flight recording equipment

Where aeroplanes have two combination recorders fitted, in the case of an inoperative combination recorder, the other combination recorder may have an inoperative flight data recorder or cockpit voice recorder, but not both.

GM 121.510 When an aeroplane may be flown with inoperative flight recording equipment

The training flight mentioned in this regulation does not include line flying under supervision.

Division 121.K.4 - Operational flight systems

AMC 121.540 Airborne collision avoidance system-ACAS II

ACAS II equipment must operate in accordance with Volume IV, Annex 10 of the Chicago Convention and comply with FAA TSO-C119c or EASA CS ETSO-C119c or later.

GM 121.540 Airborne collision avoidance system-requirement to be fitted with an ACAS II

For aircraft first registered in Australia prior to 01st January 2014 and above 5,700 kg up to 15,000 kg it is recommended that they should also install ACAS II equipment.

GM 121.525 When aeroplane may be flown with an inoperative ACAS II

The intention is to allow the aeroplane to be flown to an aerodrome where the system may be repaired or replaced; this may involve more than one flight.

AMC 121.530 Terrain awareness and warning system

EXCESSIVE DOWNWARDS GLIDE SLOPE DEVIATION WARNING FOR CLASS A TAWS

The requirement for a Class A TAWS to provide a warning to the flight crew for excessive downwards glide slope deviation shall apply to all final approach glide slopes with angular vertical navigation (VNAV) guidance, whether provided by the instrument landing system (ILS), microwave landing system (MLS), satellite based augmentation system approach procedure with vertical guidance (SBAS APV (localiser performance with vertical guidance approach LPV)), ground-based augmentation system (GBAS (GPS landing system, GLS) or any other systems providing similar guidance. The same requirement should not apply to systems providing vertical guidance based on barometric VNAV.

GM 121.535 When an aeroplane may be flown with inoperative terrain awareness and warning system

This regulation refers to the full function of the TAWS, for each mode refer to the aeroplane's MEL. The intention is to allow the aeroplane to be flown to an aerodrome where the system may be repaired or replaced; this may involve more than one flight.

GM 121.560 Equipment for flight in icing conditions

All Part 121 aeroplanes should be certified for flight in icing conditions if flight in icing conditions is known or may be expected during the flight. Basic requirements for flight in icing conditions and the responsibilities of the pilot-in-command are in regulation 91.195 of CASR.

Division 121.K.5 - Aeroplane lighting

GM 121.565 Aeroplane lighting

For more information on the requirements of navigation lights see Appendix 1 to Part 1 of Annex 6 to the Convention on International Civil Aviation, and Annex 2 to the Convention of International Civil Aviation.

Anti-collision lights shall be displayed from immediately before the engines are started for flight until immediately after the engines are shut down at the end of a flight.

If the anti-collision lights are not red, then the anti-collision lights shall be displayed if the aircraft crosses any active runway and from the time the aircraft enters a runway for take-off until the aircraft has vacated a runway on which it has landed.

Navigation lights shall be displayed from immediately before the engines are started for a flight at night, until immediately after the engines are shut down at the end of the flight.

In all cases, external aircraft lights may be turned off if in the opinion of the pilot in command they are causing reflection or glare that may be hazardous in the circumstances.

GM 121.590 Pressurised aeroplanes-first aid oxygen

Whilst the intention of this regulation is to calculate the requirements for first aid oxygen in case of a depressurisation, the use of this oxygen for any other situation is permissible.

Division 121.K.7 - Oxygen equipment and supplies

AMC 121.585 Supplemental oxygen equipment etc.

On routes where oxygen is necessary to be carried for 10 % of the passengers for the flight time between 10,000 ft and 13,000 ft, the oxygen should be provided either by:

- (1) a plug-in or drop-out oxygen system with sufficient outlets and dispensing units uniformly distributed throughout the cabin to provide oxygen to each passenger at his/her own discretion when seated on his/her assigned seat; or
- (2) portable bottles, when a cabin crew member is required on board such flight.

Division 121.K.8 - Emergency and survival equipment

GM 121.600 Emergency locator transmitters

An ELT may be any of the following:

Automatic fixed ELT (ELT(AF)): An automatically activated ELT which is permanently attached to an aircraft.

Automatic portable ELT (ELT(AP)): An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft.

Automatic deployable ELT (ELT(AD)): An ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided.

Survival ELT (ELT(S)): An ELT which is removable from an aircraft, stowed to facilitate its ready use in an emergency, and manually activated by survivors.

To minimise the possibility of damage in the event of crash impact, the automatic ELT should be rigidly fixed to the aircraft structure, as far aft as is practicable, with its antenna and connections arranged to maximise the probability of the signal being transmitted after a crash.

Any ELT carried should operate in accordance with the relevant provisions of ICAO Annex 10, Volume III communications systems and must be registered with AMSA. See Part 91, Division 91.K.8 for the definitions and specifications of ELTs.

The judicious choice of numbers of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

Batteries

All batteries used in ELTs should be replaced (or recharged if the battery is rechargeable) when the equipment has been in use for more than 1 cumulative hour or in the following cases:

- a. Batteries specifically designed for use in ELTs and having an airworthiness release certificate should be replaced (or recharged if the battery is rechargeable) before the end of their useful life in accordance with the maintenance instructions applicable to the ELT.
- b. Standard batteries manufactured in accordance with an industry standard and not having an airworthiness release certificate, when used in ELTs should be replaced (or recharged if the battery is rechargeable) when 50 % of their useful life (or for rechargeable, 50 % of their useful life of charge), as established by the battery manufacturer, has expired.

- c. The battery useful life (or useful life of charge) criteria in (a) and (b) do not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

The new expiry date for a replaced (or recharged) battery should be legibly marked on the outside of the equipment.

GM 121.605 Hand-held fire extinguishers

Unless an extinguisher is clearly visible, its location should be indicated by a placard or sign. Appropriate symbols may also be used to supplement such a placard or sign.

GM 121.615 Procedures relating to first-aid kits

Content of a First Aid Kit

The following list of items may be included in a First Aid Kit, it is only provided as a guide and operators may select items based on their own operational needs (scope of operation, flight duration, number and demographics of passengers, etc.).

- bandages (assorted sizes);
- burns dressings (unspecified);
- wound dressings (large and small);
- adhesive dressings (assorted sizes);
- adhesive tape;
- adhesive wound closures;
- safety pins;
- safety scissors;
- antiseptic wound cleaner;
- resuscitation kit;
- disposable gloves;
- tweezers: splinter; and
- thermometers (non-mercury).

Medications

- simple analgesic (may include liquid form);
- anti-emetic;
- nasal decongestant;
- gastrointestinal antacid;
- anti-diarrhoeal medication; and
- antihistamine.

Other

- a list of contents, this should include information on the effects and side effects of medications carried;
- first-aid handbook;
- medical incident report form.

Maintenance of a First Aid Kit

To be kept up to date, first-aid kits should be:

- inspected periodically to confirm, to the extent possible, that contents are maintained in the condition necessary for their intended use
- replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances warrant
- replenished after use in-flight at the first opportunity where replacement items are available.

GM 121.620 Universal precautions kits

The following list of items may be included in a Universal Precautions Kit, it is only provided as a guide and operators may select items based on their own operational needs (scope of operation, flight duration, number and demographics of passengers, etc.):

- Dry powder that can convert small liquid spill into a sterile granulated gel
- Germicidal disinfectant for surface cleaning
- Skin wipes
- Face/eye mask (separate or combined)
- Gloves (disposable)
- Protective apron
- Large absorbent towel
- Pick-up scoop with scraper
- Bio-hazard disposal waste bag
- Instructions.

Maintenance of Universal Precautions Kits

To be kept up to date, universal precautions kits must be:

- inspected periodically to confirm, to the extent possible, that contents are maintained in the condition necessary for their intended use;
- replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances warrant; and
- replenished after use in-flight at the first opportunity where replacement items are available.

GM 121.630 Emergency medical kits

Emergency medical kits should be equipped with appropriate and sufficient medications and instrumentation. The following list of items may be included in an Emergency Medical Kit, it is only provided as a guide and operators may select items based on their own operational needs (scope of operation, flight duration, number and demographics of passengers, etc.).

Equipment

- sphygmomanometer - non-mercury;
- stethoscope;

- syringes and needles;
- intravenous cannulae (if intravenous fluids are carried in the first-aid kit, a sufficient supply of intravenous cannulae should be stored there as well);
- oropharyngeal airways (three sizes);
- tourniquet;
- disposable gloves;
- needle disposal box;
- one or more urinary catheter(s), appropriate for either sex, and anaesthetic gel;
- basic delivery kit;
- bag-valve masks (masks two sizes: one for adults, one for children);
- intubation set;
- aspirator;
- blood glucose testing equipment; and
- scalpel.

Instructions

The instructions should contain a list of contents (medications in trade names and generic names). This should include information on the effects and side effects of medications carried. There should also be basic instructions for use of the medications in the kit and Advanced Cardiac Life Support (ACLS) cards (summarising and depicting the current algorithm for advanced cardiac life support).

Medications

- coronary vasodilator e.g. glyceril trinitrate-oral;
- antispasmodic;
- epinephrine/adrenaline 1:1,000 (if a cardiac monitor is carried);
- adrenocorticoid - injectable;
- major analgesic;
- diuretic - injectable;
- antihistamine - oral and injectable;
- sedative/anticonvulsant - injectable, rectal and oral sedative;
- medication for hypoglycaemia (e.g. hypertonic glucose);
- antiemetic;
- atropine - injectable;
- bronchial dilator - injectable or inhaled;
- IV fluids in appropriate quantity e.g. sodiumchloride 0.9 % (minimum 250 ml);
- acetylsalicylic acid 300 mg - oral and/or injectable;
- antiarrhythmic - if a cardiac monitor is carried;
- antihypertensive medication;
- beta-blocker - oral.

* Epinephrine/Adrenaline 1:10,000 can be a dilution of epinephrine 1:1,000

The Emergency Medical Kit should be:

- a. dustproof and moisture-proof; and
- d. stowed under secure conditions.

GM 121.640 Crash axe or crowbar

If an aircraft has any crash axes or crowbars located in the passenger compartment, they should be stored in a position not visible to passengers.

AMC 121.645 Megaphones

Location of megaphones

Where one megaphone is required, it should be readily accessible at the assigned seat of a cabin crew member or crew members other than flight crew.

Where two or more megaphones are required, they should be suitably distributed in the passenger compartment(s) and readily accessible to crew members assigned to direct emergency evacuations.

This does not necessarily require megaphones to be positioned such that they can be physically reached by a crew member when strapped in a cabin crew member's seat.

General requirements for megaphone

The megaphone should:

- have enough battery capacity to allow for the use of the megaphone in the event of an emergency evacuation; and
- be designed for ease of handling and use with one hand; and
- have a volume control or adequate acoustic feedback suppression; and
- transmit speech intelligibly and with high quality.

GM 121.660 Life-saving equipment for life rafts

The following should be readily available on the aeroplane, in the event of a ditching, for each life-raft:

- means for maintaining buoyancy;
- a sea anchor;
- life-lines and means of attaching one life-raft to another;
- paddles for life-rafts with a capacity of six or less;
- means of protecting the occupants from the elements;
- a water-resistant torch;
- signalling equipment to make the pyrotechnic distress signals described in ICAO Annex 2, Rules of the Air;
- 100 g of glucose tablets for each four, or fraction of four, persons that the life-raft is designed to carry:
 - at least 2 litres of drinkable water provided in durable containers or means of making sea water drinkable or a combination of both; and
 - first-aid equipment.

As far as practicable, items listed above should be contained in a pack.

GM 121.675 Survival equipment

The following additional survival equipment should be carried when required:

- 2 litres of drinkable water for each 50, or fraction of 50, persons on board provided in durable containers (may be included in the calculation of the water required in 121.660 above);
- one knife;
- first-aid equipment; and
- ground/air code instructions.

Subpart 121.N.1 – Flight crew

Division 121.N.1 – General

NOTE:

CASA received feedback at the Part 121 Technical Working Group regarding the use of the terms “initial training” and “conversion training” throughout Subpart 121.N and 121.P of CASR and the potential for these terms to generate confusion within industry due to the historical connotations of “conversion training” in particular pre-Part 61 of CASR.

Noting that these issues persist across Parts 119/121/133/135 of CASR, CASA will further consider modifying these labels post public consultation of Parts 119/121/133/135 of CASR.

For the moment, the following general guidance is provided:

- Initial training is effectively “induction training” or “indoctrination training” where a new crew member is introduced to the operator’s exposition. The minimum requirements for induction training are contained in the Part 121 Manual of Standards. This training is to provide an insight to the operator’s procedures, both normal and abnormal, as well as general survival skills and first aid. This is an ideal opportunity for the operator to expose the new crew member to their operating environment and to instil in the crew member their responsibilities in maintaining a safe and professional work ethic. The initial (or induction or indoctrination) training ground school should be designed to prepare the flight crew to enter the conversion (or transition) training program.
- Conversion training is effectively “transition training” and takes place when a crew member first joins the company or changes aeroplane type. Conversion (or transition) training will normally follow the initial (or induction or indoctrination) training, although the two training programs may be integrated. For pilots, type rating training must be conducted under a Part 141 or Part 142 authorisation. If the operator holds a Part 141 or Part 142 authorisation to conduct type rating training, conversion (or transition) training may be conducted concurrently with the type rating. Training will include safety and emergency equipment, a proficiency check, line flying under supervision and finally a line check. During the training the crew member should also be exposed to training in the operator’s HF and NTS.

GM 121.685 Additional application of this Subpart

This regulation allows an operator to nominate non-air transport operation flights that may be conducted for the operator, to be conducted under this Subpart. For example, ferry flights, charitable flights (non-revenue) and other non-revenue flights for the operator.

The intention is so that flight crew who meet the requirements of this Subpart will be qualified to perform these other flights for the operator in the type of aeroplane even though the operation may not be captured by the applicability of CASR Part 121.

This makes it clear that if an operator’s training and checking system is approved under Part 61 of CASR to substitute for certain Part 61 of CASR requirements, then that training and checking system remains valid even when conducting non-Part 121 of CASR operations, i.e.)

flights that are not passenger transport operations, cargo transport operations or medical transport operations.

GM 121.690 Composition, number, qualifications and training

This regulation sets out the requirements for all flight crew members in a Part 121 operation.

GM 121.695 Experience

This regulation sets out the requirements for paragraph 121.690(2)(c) to be met. A flight crew member who does not meet the requirements in this regulation is deemed to be “inexperienced” on the aeroplane.

The line operations experience as prescribed by subregulation (2) may be conducted for the operator under the AOC, but not necessarily as a Part 121 operation, for example, a ferry flight, provided the flight is conducted as much as possible to replicate a normal line operation flight.

Supervised line flying (e.g. during conversion training) may be included in the hours and sector requirements for this regulation.

The 120-day period only applies to the experience mentioned in paragraph (3)(a)(i).

The operator should consider any operational restrictions to be placed on the “inexperienced” crew member after the completion of the conversion training or post command line check. These considerations may include cross wind limits, aerodrome limits and weather minima limits if the operator assesses these limits suitable for their operation.

For the purposes of the approval mentioned by para 121.695(3)(b), a lesser number of flight hours or sectors, subject to any other conditions that CASA may impose, *may* be acceptable when one or more of the following applies:

- a. a new operator is commencing operations;
- b. an operator introduces a new aeroplane type;
- c. the flight crew member has experience on the aeroplane type as a co-pilot with the operator and then completes command training on the same type with the same operator;
- d. credits for experience are allowed in accordance with 121.765;
- e. the aeroplane type has a maximum certified passenger seating configuration (MCPSC) of not more than 19.

When considering the reduction of hours, CASA will also consider any operating restrictions that the operator may impose on the inexperienced crew. An example of which would be to restrict the flight crew to certain operating ports until the flight crew member meets the experience required by regulation 121.695 of CASR.

GM 121.705 Competence

These training and checking regulations provide a minimum level of competence standards for flight crew operating under this Part. These regulations are not meant to be a one-size-fits-all set of regulations and it is imperative that operators formulate their own specific set of equal or better standards after thorough assessment of their operational characteristics. SMS will be crucial in this development and operations identified by SMS as having a higher

degree of difficulty, may require higher training or checking standards than set out in these regulations.

Procedures should also be incorporated into the training and checking system for flight crew who fail to maintain an adequate standard of competency in their duties. Regulations cannot prescribe the remedial training required and an operator should take reasonable steps to assist in bringing the flight crew member back to a suitable level of competency.

GM 121.715 Pilot in command

A syllabus should be developed to ensure that a pilot is adequately qualified and competent to assume responsibility as pilot in command of the aeroplane. Emphasis should be placed on a commander's authority, company organisation and policy, operational control and other matters relating to the responsibility of the pilot in command.

Knowledge and skills are important elements for a commander; however, Human Factors and Non-Technical Skills (HF and NTS) should be ingrained into this training as an essential component for the suitability for command. These core values will include command principles such as communication, workload management, error prevention and detection, decision making and other HF and NTS

GM 121.720 Co-pilots

The supervised line flying should be conducted over as many as practical of the routes/areas that the co-pilot will be expected to operate on. This may not be possible where a pilot is receiving the training in a different area than where they will eventually be operating.

A commander is qualified as a co-pilot if the requirements of right seat flying as prescribed by the Part 121 Manual of Standards is met in the pilot's proficiency check.

GM 121.725 Cruise relief co-pilots

The qualifications required for a pilot to act as co-pilot in the cruise portion of the flight are set out in this regulation. A pilot who is qualified as commander or co-pilot are also qualified to act as cruise relief co-pilot.

GM 121.730 Use of approved simulators for training and checking

See Part 61.010 – Definitions, for the definition of an approved flight simulator and recognised foreign state.

See also AC 60-02 v2.2 Flight simulator approvals.

Requirements carried across from existing section 7 of CAO 82.0.

Division 121.N.2 - Relief

GM 121.740 Relief of pilot in command

The relief pilot in command (RPIC) may be another qualified commander or for flight above FL200, a co-pilot with the appropriate experience and training for the role as mentioned in subregulation (4). The RPIC will be second in command when more than two pilots are carried.

The RPIC (not command qualified) should be introduced to command principles such as communication, workload management, error prevention and detection, decision making and other HF and NTS. It should not be assumed a senior co-pilot will have these skills, so it is essential to provide the necessary training and a check for competency in this role (E.g. via a line check).

During the RPIC's recurrent training and checking, drills and procedures that would otherwise be the responsibility of the commander (if any) should be performed to the appropriate standard to maintain the ongoing competency required for relief command duties. In some cases, aircraft will not specify a drill for just the commander; however, the command decision making skills in dealing with the emergency and the subsequent operational decisions should be assessed by the operator.

GM 121.745 Relief of co-pilot

Relief of the co-pilot may be achieved by another flight crew member who is qualified as a commander, co-pilot, or for flight above FL200 the holder of a cruise relief co-pilot type rating.

Cruise relief co-pilots may act as pilot flying (PF) or pilot monitoring (PM), it is essential in all operations that the chain of command is established regarding relief flight crew and to ensure that the duties of those crew members are well understood.

Division 121.N.3 - Operation on more than one type of aeroplane

GM 121.755 Application of division 121.N.3

The intent of this division is to ensure that when a crew member is flying multiple types of aeroplanes, the operator has measures in place to ensure the crew member maintains their competence to perform their duties.

Guidance material of a general nature on cross-crew qualification, mixed-fleet flying and cross-credit can be found in FAA Advisory Circular AC 120-53B and in the EASA OEB — Common Procedure Document available on the EASA website. Guidance for specific aeroplane types or variants can be found in evaluation reports prepared by the Flight Standardisation Boards of the FAA and of Transport Canada, and in the reports by the Operations Evaluation Boards on the EASA website.

GM 121.760 Assignment of flight crew to aeroplanes of different type ratings

The operator shall consider the matters mentioned in 121.760(1) as well as the type of operation, before deciding whether to assign flight crew on to two or more different types of aeroplanes. The operator's SMS may be incorporated in to this process to ascertain the risks involved in flying more than one type of aeroplane and in different types of operations.

GM 121.765 Credit for checks, qualifications, training and experience

The intention of this regulation is not to limit the similarity test to be achieved by two aeroplane types of the same manufacturer. An example of this would be in the business/corporate jet operations, whereby the level of technology, operational procedures and handling characteristics could be very similar between two different manufacturer aeroplanes. CASA may require additional training when giving the credits for two different types. This may be in the form of ground-based instruction on any differences for one type when completing a proficiency check on the other type.

When credits are approved for the relevant types or variant, this shall be reflected in the training and checking required by division 121.N.7.

Credits may be approved for operator proficiency checks to alternate between the types; in this case each operator proficiency check will revalidate the operator proficiency check for the other type(s).

When credits are approved for line checks to alternate between types, each line check will revalidate the line check for the other type.

Credit may be approved for recent experience requirements for two similar types of aeroplanes.

Division 121.N.4 - Recent experience

Recurrent training and checking is one method in which competency of a flight crew member may be assessed; however, recent experience requirements help maintain the level of competence between recurrent training events. Flight crew who are successfully participating in a training and checking system with approval under regulation 121.010 may be alleviated from any of these recency requirements, however, the operator shall include in their description of their training and checking system, the procedures required to be met when flight crew have not flown a particular type of aeroplane for any extended period.

GM 121.770 Pilot in command and co-pilot-recent experience requirements

GENERAL RECENCY

This regulation does not apply to the holder of a cruise relief co-pilot type rating, see regulation 121.780 for recency requirements for these pilots.

The 3 take-offs and landings should be conducted whilst the pilot is manually controlling the aeroplane, the use of the autopilot to meet these recency requirements is not permitted.

GENERAL-recommendations

An operator's exposition may set out the refresher training requirements for their flight crew after they have not flown a particular type of aeroplane for extended periods of time or due to minimal flying duties. The following example is a guideline for an operator and may be varied depending on the type of flying the pilot engages in, e.g. long-haul Vs short haul and the number of sectors flown prior to the absence.

- Up to 45 days without flying on type— no refresher training required;
- 45 to 90 days - line flight under supervision with an approved pilot (e.g. Line Training Captain), or simulator exercise; and
- More than 90 days – Aircraft or simulator training which should include at least 3 take-offs and landings, an instrument approach and any other training an operator identifies as relevant to their operational needs.

NIGHT RECENCY

CASA will expect operators to manage their night recency requirements through their SMS and exposition. This may include a line flight under supervision when a pilot in command has not operated at night to an aerodrome, where significant challenges exist for a night approach, for an extended period. This should be the case where aerodromes do not have visual guidance indicators such as VASI or PAPIs and where circling approaches or visual manoeuvring may be required to align with the landing runway.

All operators are expected to maintain pilot competency for flying at night through their recurrent training and checking system regardless of the recency requirements set out in these regulations.

GM 121.775 Exposition to include recent experience requirements

Flight crew who have been conducting flights with the operator and aeroplane type during the previous 90 days but have not managed to achieve the 3 take-offs and landings in the 90 days, may just require some take-offs and landings to bring the flight crew back into recency.

Flight crew who have been absent from all duty for 90 days prior to a flight would require a more in-depth refresher training program. This would include the take-offs and landings as well as any abnormal or emergency procedures that the operator includes in their program. Once again, the operator's SMS should be utilised to identify the training needs relevant to the types of operation conducted by the flight crew member.

GM 121.780 Cruise relief co-pilot-recent experience requirements

This regulation applies to the holders of a cruise relief co-pilot type rating. However, there may be circumstances whereby an operator would only assign duty to a full type rated pilot as a cruise relief co-pilot, in this case, the same requirements will apply as it would a pilot holding a cruise relief co-pilot rating for the aeroplane.

Division 121.N.5 - Non-recurrent training and checking

GM 121.790 Meeting initial training requirements

The initial training, sometimes referred to as “induction training” or “indoctrination training”, introduces a new flight crew member to the operator’s exposition. The minimum requirements for initial training are contained in the Part 121 Manual of Standards. This training is intended to provide an insight to the operator’s procedures, both normal and abnormal, as well as general survival skills and first aid. This is an ideal opportunity for the operator to expose the new crew member to their operating environment and to instil in the crew member the operator’s expectations regarding safety and professional work ethics.

The Part 121 MOS outlines minimum requirements for initial training. Other topics (some based on operational approvals) that might be appropriately housed within the operator initial training include:

- Human Resources Introduction Briefing
- DAMP
- Safety Management System
- Company Operations Manual Briefing
- EFB
- Safety and Emergency Procedures Training
- Wet Drill – Life Raft/Slide Raft
- Dangerous Goods Training
- HF/NTS Training
- Fatigue Risk Management Training
- ETOPS Training
- Dispatch Deviation Guide Training
- ILS PRM Training
- LAHSO Training
- PBN Training (includes RNP-AR)
- RVSM Training
- Aircraft Performance
- Aircraft Loading
- Aviation Security Briefing
- Cold Weather Operations
- Low Visibility Training
- Adverse Weather Avoidance Training
- Volcanic Ash Avoidance Training
- Upset prevention and Recovery Training
- International Operations Briefing

The initial training ground school should be designed to prepare the flight crew to enter the conversion training program.

GM 121.795 Meeting conversion training requirements

Conversion training, sometimes called “transition training”, takes place when a flight crew member first joins the company or changes aeroplane type. Conversion training will normally follow the initial training, although the two training programs may be integrated.

Type rating training must be conducted under a Part 141 or Part 142 authorisation. If the operator holds a Part 141 or Part 142 authorisation to conduct type rating training, an operator may elect to conduct conversion training concurrently with the type rating.

Training will include the requirements outlined in the Part 121 Manual of Standards. It should be noted that certain conversion training [supervised line flying], required by regulation 121.690(2)(j), can only be conducted after the completion a Part 121 proficiency check and provided the flight crew member holds a valid annual emergency and safety equipment check and a valid three yearly emergency and safety equipment check (refer regulation 121.795(3)(c)). Normally the line check will follow the completion of conversion training. During the training the flight crew member should also be exposed to training in the operator’s HF and NTS.

Supervised line flying

Supervised line flying provides the opportunity for a flight crew member to carry into practice the procedures and techniques they have been made familiar with during the ground and flight training of an operator conversion training. This is accomplished under the supervision of a flight crew member specifically nominated and trained for the task. At the end of supervised line flying, the respective crew member should be able to perform a safe and efficient flight conducted within the tasks of their crew member station.

A variety of reasonable combinations may exist with respect to:

- a flight crew member's previous experience;
- the complexity of the aircraft concerned;
- the type of route/area operations.

It is recommended that the following minimum number of sectors be conducted during conversion training and that the operator consider the previous experience of the flight crew member and the complexity of the aeroplane and type of operation when determining minimum requirements to place into their exposition.

- co-pilot undertaking initial operator transition training:
 - minimum 20 flight sectors.
- co-pilot upgrading to pilot-in-command:
 - minimum 20 flight sectors when converting to a new type
 - minimum 10 flight sectors when already qualified on the aeroplane type.

GM 121.800 Command training requirements.

This regulation applies to an initial upgrade from co-pilot to pilot-in-command for an operator and is not intended to apply each time a pilot-in-command changes aeroplane type. It is recommended that training for flight crew who are recruited directly into a command position

with a new operator include having their command attributes assessed during the initial conversion course.

It is recommended that operators cater their Human Factors and non-technical skills (HF and NTS) training to include those responsibilities related to being a pilot in command. These responsibilities would include communication, workload management, error detection and prevention, decision making and crew coordination. It is recommended that the training include:

- Non-technical skills/Crew Resource Management (CRM) including the following behavioural indicators:
 - application of procedure;
 - communication;
 - aircraft flight path management – automation;
 - aircraft flight path management – manual
 - knowledge;
 - leadership and teamwork;
 - problem solving and decision making;
 - situational awareness;
 - workload management;
- Threat and error management;
- Defect reporting;
- Regulatory requirements including:
 - Powers of the pilot in command;
 - Accident and incident reporting;
- Operator obligations of the pilot in command;
- Safety management system;
- Fatigue risk management;

It is recommended that the operator specify any flight simulation training program and the number of sectors that would be suitable for their training organisation to adequately prepare a pilot for unsupervised line flying as a pilot in command.

AMC 121.805 Knowledge of routes and aerodromes

The operator shall provide training for their commanders to maintain an adequate knowledge of the routes/areas and aerodromes, including any alternate aerodromes, facilities and procedures to be used in accordance with the following.

1. Route/Area competence-All operations:

- 1.1 Route/Area competence training must include knowledge of:
 - a. Terrain and minimum safe altitudes
 - b. Seasonal meteorological conditions
 - c. Meteorological, communication and air traffic facilities, services and procedures
 - d. Search and rescue procedures

- e. Navigational facilities associated with the route along which the flight is to take place.

2. Aerodrome competence – Scheduled services:

2.1 Depending on the complexity of the route or area, as assessed by the operator, the following methods of familiarisation shall be used:

- a. For the less complex routes/areas, familiarisation by self-briefing with relevant route/area documentation, or by means of programmed instruction (see Category A aerodromes below)
- b. For the more complex routes/areas, in addition to paragraph (a) above, annual in-flight familiarisation as a pilot in command, co-pilot or line flight under supervision by a trainer or check pilot, or familiarisation in an approved flight simulator using a database appropriate to the route /area concerned (see Category B and C aerodromes below).

Note: Where several routes with similar complexity exist within a similar area (Oceanic, South Asia etc.), the operator can cover the routes under an “area” classification for this qualification.

2.2 The Exposition must include a method of categorisation of destination aerodromes and specify the requirements necessary for each of these categories. If the least demanding aerodromes are Category A, then Category B and C (however named) would be applied to progressively more demanding aerodromes. The Exposition must specify the parameters that qualify an aerodrome to be considered Category A and then provide a list of those aerodromes categorised as B or C.

2.3 All destination aerodromes to which an operator operates scheduled services should be categorised in one of these three categories. The operator’s categorisation should be acceptable to CASA. CASA may require additional training to be undertaken before a pilot in command operates to particular aerodromes. An operator may incorporate SMS risk analysis procedures to assist in the categorisation of these aerodromes and for ongoing monitoring.

2.4 Category A:

Category A aerodromes are aerodromes that satisfy all the following requirements:

- a. An approved instrument approach procedure to more than one runway
- b. At least one runway with no performance limited procedure for take-off and/or landing (e.g. due to obstacle clearance requirements etc)
- c. Where circling manoeuvres are permitted by the operator; published circling minima not higher than 1,000 ft above aerodrome level
- d. Night operations capability.

There are no requirements for qualifications into Category A aerodromes other than general familiarisation.

2.5 Category B:

A category B aerodrome is an aerodrome that does not satisfy the Category A requirements or that requires extra considerations such as:

- a. Non-standard approach aids and/or approach patterns
- b. Unusual local weather conditions
- c. Unusual characteristics or performance limitations

- d. Any other relevant considerations including obstructions, physical layout, lighting, departures requiring high angles of bank (more than 15 degrees bank between 200 ft and 400 ft, or more than 20 degrees bank above 400 ft during the take-off) etc.

Prior to operating to or from a Category B aerodrome, the pilot in command must be briefed, or self-briefed by means of programmed instruction, on the Category B aerodrome(s) concerned and must certify that he or she has carried out these instructions.

Annual renewal of this qualification may be achieved by the same briefing, operating to the aerodrome as a member of the flight crew or as an observer, or via simulator exercise involving the aerodrome.

2.6 Category C:

Category C aerodromes are aerodromes that require additional considerations to a Category B aerodrome, including aerodromes with steep angle approaches and approaches in high terrain areas.

Prior to operating to or from a Category C aerodrome, the pilot in command must be briefed by programmed instruction and visit the aerodrome as an observer or operate the aircraft under supervision by a trainer or checker (who holds a valid qualification for the aerodrome) or undertake instruction in an approved flight simulator.

Annual renewal of this qualification may be achieved by operating to the aerodrome as a member of the flight crew or as an observer, or via simulator exercise involving the aerodrome. If the 12-month validity period expires, renewal must be achieved by undertaking initial qualification.

Division 121.N.6 - Recurrent training and checking

GM 121.810 Recurrent training and checking requirements

An operator's recurrent training and checking system will consist of the following;

- a. Recurrent training;
- b. Part 121 proficiency check;
- c. Annual line check;
- d. Annual emergency and safety equipment check;
- e. Annual ground refresher training;
- f. 3 – Yearly emergency and safety equipment check.

Recurrent flight training

An operator's training system should develop a syllabus for ongoing training for their flight crew, relevant to the needs of their operation. Conversion training will meet the initial requirements for recurrent flight training and the annual ground refresher training (although the operator's records shall still show completion of these items).

Evidence-based training utilising competency-based assessment should be an important element of this development. Further information can be obtained in the ICAO documents 9868-PANS-Training and 9995-Manual of Evidence-based training. For help in developing these programs, IATA has published an extensive guide in their Evidence-Based Training Implementation Guide (July 2013).

Line Flying Under Supervision

The recurrent element of a line check commences once the flight crew member has completed the "supervised flying" element of their conversion training. The supervisory pilot must be qualified by the operator to conduct this flying.

HF and NTS training

Elements of HF and NTS should be integrated into all appropriate phases of recurrent training.

A specific modular HF and NTS training programme should be established such that all major topics of CRM training are covered over a period not exceeding 3 years, as follows:

- human error and reliability, error chain, error prevention and detection;
- operator safety culture, standard operating procedures (SOPs), organisational factors;
- stress, stress management, fatigue and vigilance;
- information acquisition and processing, situation awareness, workload management;
- decision making;
- communication and coordination inside and outside the flight crew compartment;
- leadership and team behaviour, synergy;
- automation and philosophy of the use of automation (if relevant to the type);
- specific type-related differences;

- case studies; and
- additional areas which warrant extra attention, as identified by the safety management system.

GM 121.815 Holding a valid Part 121 proficiency check

The intention of this regulation is that a flight crew member must do two proficiency checks in a rolling 12-month period beginning from the date of their first Part 121 proficiency check. No two proficiency checks shall be more than 8 months apart. If an operator elects to conduct a proficiency check less than 4 months since the most recent check, operators should be aware that this will result in an effective shortening of the rolling 12-month period due to the 8-month requirement.

GM 121.820 Part 121 proficiency check

The operator's proficiency check is the main check of competency of the flight crew. These checking events are also an ideal opportunity to provide training feedback and general training needs identified through the operator's SMS. Once again, the Evidence-based training method mentioned previously is one which CASA is highly supportive of and recommends all operators incorporate into their training programs.

Operators of aeroplanes with a maximum certificated passenger seating capacity of 19 or less may apply to CASA to get approval to allow a proficiency check, conducted by a different operator, to count as a valid proficiency check for the new operator. This would only be considered if both the operator's training organisation utilised the same (or very similar) abnormal and emergency procedures as each other. The operator should conduct a gap analysis of the procedures used to identify any elements that need to be trained during the conversion course. The operator is, as always, responsible for ensuring the competency of their flight crew in performing their duties. The 'differences' training does not necessarily have to occur in flight or simulated flight, the intent is that the new flight crew member would handle an abnormal or emergency in accordance with the new operator's standard procedures, even if an abnormal or emergency event occurred on their first day of flying in a Part 121 operation.

The gap analysis and operator differences training description must be acceptable to CASA.

GM 121.830 Line check requirements

Line checks should establish the ability to perform satisfactorily a complete line operation, including pre-flight and post-flight procedures and use of the equipment provided, as specified in the exposition. The route chosen should be such as to give adequate representation of the scope of a pilot's normal operations. When weather conditions preclude a manual landing, an automatic landing is acceptable. The commander, or any pilot who may be required to relieve the commander, should also demonstrate his/her ability to 'manage' the operation and make appropriate command decisions.

The flight crew should be assessed on their HF and NTS in accordance with a methodology described in the exposition. The purpose of such assessment is to:

- a. provide feedback to the crew collectively and individually and serve to identify retraining; and

- b. be used to improve the HF and NTS training system.

Line Check Pilots

Line check pilots will be appointed by the operator in accordance with their training and checking system approved under Part 119.

AMC 121.840 Refresher training and checking requirements

The operator may incorporate the refresher training and checking into their training and checking system during other elements of the recurrent program. System knowledge may be assessed via technical quizzes, topical discussions and targeted questions during annual line checks or other training or checking events or using computer-based training.

Review of selected accidents and incidents may be provided in regular crew up-dates such as crew newsletters, this may include what outcomes or changes have occurred to the operator's standard operating procedures as a result, if any.

Under subregulation 121.690(5), the operator may apply for approval to provide for an "exception" to the refresher validity period to allow for this incorporated refresher training and checking. The intent is that if the elements of the refresher training are embedded in other training and checking events, there would not be a need to conduct this on a single occasion.

For the purposes of para 121.840(1)(d), CASA would expect the training on operational procedures and requirements to include, amongst other matters, training in relation to operations such as wet runways, contaminated runways, ground de-icing, ground anti-icing and incapacitation of crew members.

AMC 121.850 Annual emergency and safety equipment training and checking requirements

Checking for each piece of safety and emergency equipment should be based on the following, if applicable:

- a. general description;
- b. use;
- c. location(s);
- d. pre-flight serviceability check(s);
- e. removal from stowage;
- f. operation;
- g. conditions for operation;
- h. operational limitations and duration of use;
- i. precautions for use; and
- j. post-use procedures (including relocation of equipment, if applicable).

AMC 121.860 The 3-yearly emergency and safety equipment training and checking requirements

The check for the 3-yearly training and checking shall check the competency of the flight crew member in the use of the equipment mentioned in the Part 121 Manual of Standards.

Subpart 121.P - Cabin Crew

Division 121.P.1 – Preliminary

NOTE:

CASA received feedback at the Part 121 Technical Working Group regarding the use of the terms “initial training” and “conversion training” throughout Subpart 121.N and 121.P of CASR and the potential for these terms to generate confusion within industry due to the historical connotations of “conversion training” in particular pre-Part 61 of CASR.

Noting that these issues persist across Parts 119/121/133/135 of CASR, CASA will further consider modifying these labels post public consultation of Parts 119/121/133/135 of CASR.

For the moment, the following general guidance is provided:

- Initial training is effectively “induction training” or “indoctrination training” where a new crew member is introduced to the operator’s exposition. The minimum requirements for induction training are contained in the Part 121 Manual of Standards. This training is to provide an insight to the operator’s procedures, both normal and abnormal, as well as general survival skills and first aid. This is an ideal opportunity for the operator to expose the new crew member to their operating environment and to instil in the crew member their responsibilities in maintaining a safe and professional work ethic. The initial (or induction or indoctrination) training ground school should be designed to prepare the flight crew to enter the conversion (or transition) training program.
- Conversion training is effectively “transition training” and takes place when a crew member first joins the company or changes aeroplane type. Conversion (or transition) training will normally follow the initial (or induction or indoctrination) training, although the two training programs may be integrated. For pilots, type rating training must be conducted under a Part 141 or Part 142 authorisation. If the operator holds a Part 141 or Part 142 authorisation to conduct type rating training, conversion (or transition) training may be conducted concurrently with the type rating. Training will include safety and emergency equipment, a proficiency check, line flying under supervision and finally a line check. During the training the crew member should also be exposed to training in the operator’s HF and NTS.

GM 121.865 Application of Subpart 121.P

This regulation sets out the applicability of Subpart 121.P. All divisions, except for Division 121.P.7, in this Subpart would apply to flights where a cabin crew member is required to be carried. Division 121.P.7 captures only those flights where a cabin crew member is carried but not required by regulation 121.875, the rest of Subpart 121.P would not apply to these flights.

It is essential that, any time where a cabin crew member is boarded for a flight, that they are appropriately trained for the duties they will be expected to carry out.

GM 121.870 Meaning of aeroplane type

This regulation clarifies the intention of the use of the term “aeroplane type” for the purposes of cabin crew training, qualification and experience.

Where aircraft from the same manufacturer are similar in relation to emergency exit operation, location and type of portable safety and emergency equipment and emergency procedures, CASA may give approval for the operator to consider the two aeroplane types as one type, for the purposes of this Subpart.

CASA may, in granting the approval, give direction to the operator to include training for the purposes of meeting the differences between the types.

GM 121.875 When cabin crew are required

Cabin crew members are required for a passenger transport flight of an aeroplane, which has more than 19 passenger seats installed, or is certified to carry more than 19 passengers but has more than 9 passenger seats installed.

Division 121.P.2 - General

GM 121.880 Number of cabin crew

The main difference between single aisle and twin aisle aeroplanes in calculating the number of cabin crew required for a flight is that for twin aisle aeroplanes, the number of floor level exits on the aeroplane need to be considered.

When determining the minimum required cabin crew for its specific aircraft cabin configuration, the operator should request information regarding the minimum number of cabin crew established by the aeroplane type certificate (TC) holder.

The *demonstration number* is:

- the number of cabin crew who actively participated in the aircraft cabin during the relevant emergency evacuation demonstration, or who were assumed to have taken part in the relevant analysis, carried out by the aircraft TC holder when demonstrating the maximum passenger seating capacity (MPSC) of the aeroplane type at the time of initial type certification.

The *demonstration additional number* is:

- the number by which the number of cabin crew members used in the demonstration for the aircraft exceeds the demonstration base number (1:50 ratio of cabin crew to passenger seats). This number may be reduced with approval by CASA once a demonstration of the operator's emergency evacuation procedures has shown an equivalent level of safety, with the lower number of cabin crew for the configuration and passenger capacity of the aircraft. This number could in fact be zero (121.880(5)).

Example:

Aircraft A is type certificated for a maximum passenger seating capacity of 335, during the emergency evacuation *demonstration*, 9 cabin crew were used to meet the evacuation requirements. Using the 1:50 ratio (or part thereof), 335 passengers would require 7 cabin crew (*the demonstration base number*). Therefore, for this aircraft the demonstration additional number is $9-7=2$.

The new operator wishes to utilise this aircraft but only with a maximum operational passenger seating capacity of 280. In this case, the *flight base number* would be 6 using the 1:50 (or part thereof).

Regulation 121.880 requires the greater of:

- a. The sum of flight base number and demonstration additional number; or
- k. The number of floor level exits on the aeroplane (if twin aisles).

In this example, aircraft A is twin aisle with 6 floor level exits. Therefore, the minimum number of cabin crew required is; 6 (flight base number) + 2 (demonstration additional number) = 8.

However, the operator has performed an emergency evacuation demonstration (partial or full) to CASA and shown that their procedures are adequate to allow for the demonstration

additional number to be reduced to 1. So now the minimum number of cabin crew for the configuration will be $6+1=7$.

GM 121.885 Qualifications, experience and training

This regulation sets out the training and experience a cabin crew member must meet prior to being assigned for duty for a flight.

Subregulation (5) provides the opportunity for an operator to have an approved training and checking system which will meet the training and checking requirements mentioned in subregulation (2) albeit by an alternative means of compliance. This will allow an operator to provide CASA with a program which provides the same standard of training and checking as in subregulation (2) but designed around different time frames or combinations of training and checking content, more suitable to the needs of the operator.

Approval for persons to conduct safety and emergency equipment training may involve individual approvals or approval for an operator to conduct training and assessment of their own trainers and checkers. This training will be set out in the operator's exposition as required by Part 119 of CASR.

GM 121.890 Competence

The operator's recurrent training and checking program should ensure that a cabin crew member is suitably competent to perform their duties for a flight.

Guidance on competency-based approach to cabin crew safety training is provided in Chapter 3, Document 10002, ICAO Cabin Safety Training Manual.

The cabin crew member must also be physically able to perform their duties for a flight in normal and abnormal procedures. This will include being able to open emergency exits without power assist mechanisms, assist passengers in an emergency evacuation and any other duty as required by the operator's exposition.

Checking required for each training course should be accomplished by the method appropriate to the training element to be checked. These methods include:

- practical demonstration;
- computer-based assessment;
- in-flight checks;
- oral or written tests.

Training elements that require individual practical participation may be combined with practical checks. For further guidance, see Document 10002, ICAO Cabin Crew Safety Training Manual.

AMC 121.900 English proficiency

A person authorised by an operator to conduct English language proficiency assessments shall be proficient in the use of the English language but also have training (operator or other) in assessing English language standards.

No formal training is required for this position however the operator must be satisfied that the person will be competent to perform their duty.

GM 121.905 Senior cabin crew member-training and checking

The intention of assigning a cabin crew member as the senior member of the crew is to establish a chain of command, this is important for not only managing crew in the normal operation but also for handling abnormal and emergency procedures.

GM 121.910 Senior cabin crew member- training and checking

Senior cabin crew shall receive training in management of emergencies, administration duties for a flight, flight time limitations and rest requirements as well as human factors and non-technical skills training.

The minimum experience and qualifications required for the senior cabin crew member should be set out in the operator's exposition. The senior cabin crew member should have a required minimum experience for the operator, but previous experience may be taken into consideration.

In unforeseen circumstances, the operator may assign another cabin crew member who has not done the training required by 121.910, as senior cabin crew member, where the flight commences from a place where a replacement senior cabin crew member is not available. This will apply for multi-journey flights as well as duty patterns which involve overnight stops. If the operator cannot within reason replace the senior cabin crew member, the flight is permitted to commence.

AMC 121.915 Operating with reduced number of cabin crew

The minimum number of cabin crew required for a flight by 121.880 may be reduced with the following considerations.

A flight shall not commence with less than the minimum number of cabin crew from a place where a cabin crew base for the aeroplane type is established.

Procedures ensuring that an equivalent level of safety is achieved with the reduced number of cabin crew, in particular the management, training and checking of dual exit operation, shall be established in the exposition.

The reduced number of cabin crew shall still include a senior cabin crew member as specified in 121.905.

Procedures for briefing and reseating of passengers with due regard to doors/exits and other applicable limitations shall be included in the exposition.

For a twin aisle aeroplane, each floor level exit immediately forward and aft of a passenger occupied zone must be manned by a cabin crew member. Any floor level exit pairs in the vacant passenger zones shall have at least one cabin crew member on duty at a cabin crew seat adjacent to one of the floor level exits.

CASA shall be notified as soon as practicable of the circumstances and the procedures implemented for the flight with the reduced cabin crew number. CASA will review the frequency

of the occurrences for an operator and if required issue a direction as allowed under Part 119, that may suspend or alter the circumstances allowing flight with a reduced number of cabin crew.

GM 121.920 Second senior cabin crew member

This regulation provides a requirement for the operator to nominate a second senior cabin crew member for the flight. This crew member will not have to go through the same training as the senior cabin crew member, but the operator should select appropriately experienced crew who would assist the senior cabin crew member in normal, abnormal and emergency procedures.

The operator should specify the duties required for the second senior crew member for a flight. The intent is that the senior cabin crew member will have a second pair of eyes and ears in a part of the passenger cabin where they may be limited in their ability to manage, for example, the upper deck of an aeroplane or the rear of the aeroplane on a medium to large size aeroplane.

Duties should include but not be limited to:

- preparing cabin for arrival/departure
- monitoring other cabin crew to ensure all safety requirements are met for a flight (e.g. no baggage in aisles)
- managing that part of the cabin in an emergency

GM 121.925 Manual of Standards-training facilities and devices

This regulation provides for standards to be met by operators or their approved training organisations, for training facilities and devices. Only these facilities and devices shall be used by the operator. Refer to the Part 121 Manual of Standards.

Where reference to replicating actual weights of safety and emergency equipment is made, CASA will accept that if the cabin crew member has had the opportunity to handle the equipment which replicates the actual weight of the item on board an aircraft at the initial stage of training, this would be suffice. CASA recommends that on a recurrent basis the cabin crew should have the opportunity to handle the equipment which replicates the actual weight.

Division 121.P.3 - Operation of aeroplanes of different aeroplane types

GM 121.930 Application of Division 121.P.3

For the purposes of cabin crew training, qualification and experience, CASA provides the following guidance in relation to what is considered an aeroplane type.

An aeroplane type is a single type of aircraft and is not the same as multiple aircraft types covered under a single common pilot type rating. For example, the A320 and A321 are separate aeroplane types for the purposes of cabin crew training and competency.

GM 121.935 Content of exposition in relation to aeroplane types

This regulation requires the operator to state in their exposition the different aeroplane types for cabin crew training and checking purposes.

GM 121.940 Maximum number of aeroplane types

For the purposes of an approval for cabin crew to be qualified on a 4th aeroplane type, CASA will consider this where the operator can demonstrate that on at least two of the types:

- safety and emergency equipment and type-specific normal and emergency procedures are similar
- non-type-specific normal and emergency procedures are identical.

GM 121.945 Assignment to different aeroplane types

The intent of this regulation is to ensure that an operator has procedures in place to manage the risks involved with multi-fleet flying by a cabin crew member and cover issues such as;

- combinations of aeroplane types would the cabin crew member be assigned
- measures in place to ensure a cabin crew member is adequately prepared for a duty on a different aeroplane type, after completing a flight on another aeroplane type in the same duty period
- recency on type

A cabin crew member may be assigned to operate up to a maximum of three aircraft types and a fourth as a variant if the following factors are taken into consideration:

- similarity of emergency procedure and drills;
- similarity and location of emergency equipment.

When assessing aeroplane variants as same types the following factors must be taken into consideration:

- whether each variant has the same type of exits with identical operating mechanisms such as
 - exit arming/disarming
 - direction of movement of the operating handle
 - power assist mechanisms

- assist means, e.g. evacuation slides
- self-help exits.
- emergency procedures and drills are essentially the same. Examples include but not limited to:
 - land and water evacuation
 - in-flight fire
 - decompression
 - pilot incapacitation.

When determining the similarity and location of emergency equipment the following factors should be considered:

- all portable safety equipment is stowed in the same, (or in exceptional circumstances), in substantially the same location;
- all portable safety equipment requires the same method of operation;
- examples of portable safety equipment include;
 - firefighting equipment
 - protective Breathing Equipment (PBE)
 - oxygen equipment
 - crew lifejackets
 - torches
 - megaphones
 - first aid equipment
 - survival equipment and signalling equipment
 - other safety equipment where applicable.

Aeroplane variants not meeting these criteria are a separate aeroplane type.

Division 121.P.4 - Recent experience

GM 121.950 Recent experience requirements-6 months before flight

This regulation sets out the recency requirements for cabin crew before a flight. If the cabin crew member has not flown on the aeroplane type (supervised or unsupervised) in the 6-month period prior to a flight, then they must do the operator's refresher training or fly 2 sectors (as extra crew) under the supervision of an in-flight trainer.

Qualifications and training requirements for in-flight trainers should be described in the operator's exposition. Approval by CASA is not required for this position.

AMC 121.955 Recent experience requirements-12 months before flight

The following table specifies the training requirements for cabin crew members to regain recency on a type of aeroplane or after a period of absence from work duties (return to work). These specifications are in addition to the normal recurrent training and checking requirements, for example, the annual training and check.

Period	Recency on Type	Return to work
>12 months	2 sectors under supervision of an in-flight trainer on the aeroplane type, scheduled as extra crew, prior to conducting the line check.	2 sectors under supervision of an in-flight trainer on at least one of the aeroplane types, scheduled as extra crew, prior to conducting the line check.
>36 months	Conversion training on type	Initial operator training* and conversion training on all aeroplane types.

*the initial training course may be adapted to consider the previous experience of the cabin crew. The course may focus on the changes that have occurred during the cabin crew member's absence, rather than introduce them to the operating environment.

Period: Time since last operated as a cabin crew member for the operator.

Recency on type: If the cabin crew member has been operating on another type or types with the operator but has not operated on a type for the period in column 1.

Return to work: If the cabin crew member has been absent from operating as a cabin crew member on any type with the operator for the time in column 1.

Extra crew: additional to the minimum cabin crew required for the flight under regulation 121.880.

Division 121.P.5 - Non-recurrent training and checking

GM 121.960 Meeting initial training requirements

The intent of this regulation is to set out the initial or induction training for cabin crew when they first start with an operator. The initial training required is set out in the Part 121 Manual of Standards and is intended to prepare a person for duty in the airline environment.

For training in human factors and non-technical skills refer to CAAP SMS-3(1), for training in dangerous goods see AC 92-1(1) and 92-3(0).

AMC 121.965 Meeting conversion training requirements

Conversion training check:

The conversion training check shall demonstrate the competency of the cabin crew member in performing their duties in normal and abnormal procedures. The conversions training check meets the requirements of the annual training and 3-yearly training and check requirements for the aeroplane type.

Checking for each piece of safety and emergency equipment should be based on the following, if applicable:

- a. general description;
- b. use;
- c. location(s);
- d. pre-flight serviceability check(s);
- e. removal from stowage;
- f. operation;
- g. conditions for operation;
- h. operational limitations and duration of use;
- i. precautions for use; and
- j. post-use procedures (including relocation of equipment, if applicable).

Familiarisation training

Familiarisation training of cabin crew to a new aeroplane type shall be completed in accordance with the following, as relevant.

Each cabin crew member should participate in:

- a. a familiarisation flight,
- b. a familiarisation visit, to the aircraft to be operated.

Cabin crew operating on a subsequent aeroplane type:

A cabin crew member assigned to operate on a subsequent aeroplane type with the same operator should participate either in:

- a. a familiarisation flight,
- b. a familiarisation visits to the aeroplane type to be operated.

If the cabin crew member only conducts a familiarisation visit, then the visit shall also include the training mentioned for familiarisation flights in a to d below.

Familiarisation flights:

During familiarisation flights, the cabin crew member shall be assigned in addition to the minimum number of cabin crew required in accordance with regulation 121.880. No safety or emergency related duties shall be assigned to the cabin crew member during the familiarisation flight.

Familiarisation flights should be:

- a. conducted under the supervision of the senior cabin crew member (if any)
- b. structured and conducted with the cabin crew member participating in observing pre-flight, in-flight and post-flight safety duties
- c. operated with the cabin crew member wearing the operator's cabin crew uniform
- d. recorded in the training record of the cabin crew member.

Aircraft familiarisation visits

Aircraft visits should enable the cabin crew member to become familiar with the aircraft environment and its equipment. Accordingly, aircraft visits should be conducted by appropriately qualified persons. The aircraft visit should provide an overview of the aircraft's exterior, interior and aircraft systems with emphasis on the following:

- a. interphone and public-address systems
- b. evacuation alarm systems
- c. emergency lighting
- d. smoke detection systems
- e. safety and emergency equipment
- f. flight crew compartment
- g. cabin crew stations
- h. lavatories
- i. galleys, galley security and water shut-off
- j. cargo areas if accessible from the passenger compartment during flight
- k. circuit breaker panels located in the passenger compartment
- l. crew rest areas
- m. doors/exits location and environment.

SUPERVISED LINE FLYING

The operator's exposition will describe the supervised line flying a cabin crew member must conduct prior to the performing the initial line check.

The number of sectors may consider the familiarisation flight mentioned above.

GM 121.965 Meeting conversion training requirements

Conversion training is also known in the industry as a 'type endorsement'. The first conversion course for a cabin crew member may be combined with the initial training stated above. The training is focused on type-specific safety and emergency equipment and procedures.

GM 121.970 Meeting differences training requirements

Where aeroplanes of the same type may be different in terms of emergency exit operation or location and type of portable safety and emergency equipment, the operator shall ensure the cabin crew member receives training on any of the differences. The programs and syllabi of aircraft differences training should consider the cabin crew member's previous training as documented in his/her training records.

Division 121.P.6 - Recurrent training and checking

GM 121.975 Meeting recurrent training and checking requirements

This regulation sets out the requirements for the ongoing maintenance of competency for a cabin crew member in the use of safety and emergency equipment and the operator's emergency procedures for each aeroplane type.

Subregulation (2) allows for the cases whereby a cabin crew member has supervised line flying, prior to a line check. Once the cabin crew member passes the line check, they are then 'released to line'.

AMC 121.980 Annual training and holding annual training check

The annual training check shall demonstrate the competency of the cabin crew member in performing their duties in abnormal and emergency procedures.

Checking for each piece of safety and emergency equipment should be based on the following, if applicable:

- a. general description;
- b. use;
- c. location(s);
- d. pre-flight serviceability check(s);
- e. removal from stowage;
- f. operation;
- g. conditions for operation;
- h. operational limitations and duration of use;
- i. precautions for use; and
- j. post-use procedures (including relocation of equipment, if applicable).

GM 121.980 Annual training and holding annual training check

This regulation sets out the requirements for ongoing annual training for cabin crew for safety and emergency equipment training. The requirements for the training are set out in the Part 121 Manual of Standards.

GM 121.985 Holding valid line check

Line checks are a test of an individual cabin crew members ability to perform line operational duties and responsibilities specified in an operator's exposition.

A line check is intended to ensure the individual cabin crew member can operate effectively under normal conditions whereas emergency and safety equipment training is primarily intended to prepare the crew member for abnormal/emergency procedures.

An operator should ensure that the line check is conducted:

- for each individual cabin crew member to demonstrate their competence in carrying out normal line operations in accordance with procedures described in the operator's exposition
- by suitably qualified personnel approved by the operator to conduct the check and specified in the exposition
- on a twelve-month basis

Line checks can be a particularly important factor in the development, maintenance and refinement of high operating standards, and can provide the operator with a valuable indication of the usefulness of their training policy and methods.

If an operator has more than one aircraft type an annual line check may be conducted on one type provided there is sufficient similarities in standard operating procedures. For example, a line check conducted on a B747 with similar standard operating procedures as a B787 would be deemed to have been a valid line check for both types.

To satisfy line check requirements, an operator would also need to demonstrate in their exposition to the satisfaction of CASA sufficient similarities to support the single event when there are multiple types.

Consideration should also be given to ensure appropriate processes are in place to monitor line check validity of cabin crew members and a mechanism to ensure cabin crew members are exposed to different aircraft types at each subsequent line check.

AMC 121.990 Three-yearly training and holding valid 3-yearly training check

The 3-yearly training check shall include the competencies required to perform the duties mentioned in the Part 121 Manual of Standards for the 3-yearly training and checking.

Instruction or demonstration of the method to operate a slide and the effects of smoke in an enclosed area, may be covered every 3 years by instruction using methods to simulate the environment e.g. evacuation drills using goggles which adequately simulate the expected lack of vision in a smoke-filled environment, or by video demonstration where appropriate.

The 3-yearly training / check may be satisfied for more than one aeroplane type where the procedures, training and (where utilised) demonstrations to be carried out are sufficiently similar. The operator would need to demonstrate sufficient similarity in their exposition to the satisfaction of CASA in order to have a single event satisfy this requirement for multiple aeroplane types for cabin crew.

GM 121.990 Three yearly training and holding valid 3 yearly training check

The 3-yearly training is focused on more hands-on training that is not otherwise covered in the annual check. Items such as fire extinguishing, life raft demonstration training and effects

of smoke in an enclosed environment are all covered in the Part 121 Manual of Standards for the 3-yearly training and checking.

Training and assessment of competence of crew in the matters detailed for the 3-yearly training check may be completed at intervals not exceeding 3 years. As such, it is not a requisite for all matters to be covered concurrently 3 years after initial training. A training matrix could be used to manage training requirements and ensure mandatory training and checking is completed within the 3-year requirement, albeit at different times. For example, if life-raft training was conducted 12 months after initial training, the 3 yearly training check validity date would be reset to 3 years from that date for the raft training component.

Operators may consider including different 3 yearly components into the annual recurrent program in the year they become due (for example see Fig 1).

Table 1 Cabin Crew 3 Yearly Training Cycle

	Slide	Fire Drills	Effects of Smoke	Signalling equipment	Life Rafts	Pilot Incapacitation
Year 1		X	X			
Year 2				X	X	
Year 3	X					X

Some of the matters required for the 3-yearly training check are generic in nature e.g. effects of smoke in an enclosed area, and some require consideration of differences in the aircraft types being operated by crew.

If the differences between aircraft types affect the knowledge, skills or performance required of cabin crew, the 3-year training check needs to accommodate training and assessment of competency in those differences. For crew training and checking of pilot incapacitation, for example, the inclusion of any differences in equipment location, characteristics, operating mechanisms or use, is applicable.

The 3 yearly training checks may be satisfied for more than one aeroplane type where the mechanisms, procedures, training and (where utilised) demonstrations to be carried out are sufficiently similar.

The operator would need to demonstrate sufficient similarity in their exposition to the satisfaction of CASA to have a single event satisfy this requirement for multiple aeroplane types for cabin crew.

Division 121.P.7 - When cabin crew carried but not required

The intention of this division is to allow for those operators electing to board cabin crew members for the flight even though this Subpart does not require them. This is typical in business jet operations, where the maximum passenger seating capacity is normally less than 19. The intention is to ensure anyone that is boarded for a flight who has any abnormal or emergency duty to perform, is competent to carry out those duties.

CASA recognises the uniqueness of these types of operations and therefore allows more emphasis on the operator to provide their own syllabus for training and checking.

Appendix A

Sample Operations Specification

AIR TRANSPORT OPERATIONS - LARGE AEROPLANE OPERATIONS

OPERATIONS SPECIFICATIONS				
(subject to the approved conditions in the exposition)				
Civil Aviation Safety Authority¹				
Telephone: 061 262 171111		Fax: _____		E-mail: _____
AOC# ² : _____		Operator name ³ : _____		Date ⁴ : _____ Signature: _____
Dba trading name: _____				
Aircraft model ⁵ :				
Types of operation: Commercial air transportation <input type="checkbox"/> Passengers <input type="checkbox"/> Cargo <input type="checkbox"/> Other ⁶ : _____				
Area(s) of operation ⁷ :				
Special limitations ⁸ :				
SPECIAL APPROVAL	YES	NO	DESCRIPTION ⁹	REMARKS
Dangerous goods	<input type="checkbox"/>	<input type="checkbox"/>		
Low visibility operations				
Approach and landing	<input type="checkbox"/>	<input type="checkbox"/>	CAT ¹⁰ : __ RVR: _____ m DH: _____ ft	
Take-off	<input type="checkbox"/>	<input type="checkbox"/>	RVR ¹¹ : _____ m	
Operational credit(s)	<input type="checkbox"/>	<input type="checkbox"/>	¹²	
RVSM ¹³ <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>		
EDTO ¹⁴ <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>	Threshold time ¹⁵ : _____ minutes Maximum diversion time ¹⁵ : _____ minutes	
Complex navigation specifications for PBN operations ¹⁶	<input type="checkbox"/>	<input type="checkbox"/>	¹⁶	¹⁶
Continuing airworthiness	<input type="checkbox"/>	<input type="checkbox"/>	¹⁷	
EFB	<input type="checkbox"/>	<input type="checkbox"/>	¹⁹	
Other ¹⁹	<input type="checkbox"/>	<input type="checkbox"/>		

For each aircraft model in the operator's fleet, identified by aircraft registration, model and series, the list of (121.010) approvals, conditions and limitations should be included. If the approvals and limitations are identical for two or more models, then these models may be combined in a single list.

AIR TRANSPORT OPERATIONS - LARGE AEROPLANE OPERATIONS

Notes:

1. Telephone and fax contact details of CASA, including the country code. E-mail to be provided if available.
2. Insert the associated AOC number.
3. Insert the operator's registered name and the operator's trading name, if different. Insert 'dba' before the trading name (for 'doing business as').
4. Issuance date of the operations specifications (dd-mm-yyyy) and signature of the authority representative.
5. Insert the Commercial Aviation Safety Team (CAST)/ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232). The CAST/ICAO taxonomy is available at: <http://www.intlaviationstandards.org/>.
6. Other type of transportation to be specified (e.g. emergency medical service).
7. List the geographical area(s) of authorized operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).
8. List the applicable special limitations (e.g. VFR only, day only).
9. List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).
10. Insert the applicable precision approach category (CAT II, IIIA, IIIB or IIIC). Insert the minimum RVR in metres and decision height in feet. One line is used per listed approach category.
11. Insert the approved minimum take-off RVR in metres. One line per approval may be used if different approvals are granted.
12. List the airborne capabilities (i.e. automatic landing, HUD, EVS, SVS, CVS) and associated operational credit(s) granted.
13. "Not applicable (N/A)" box may be checked only if the aircraft maximum ceiling is below FL 290.
14. If extended diversion time operations (EDTO) approval does not apply based on the provisions in Part 121 MOS Chapter 2, select "N/A". Otherwise a threshold time and maximum diversion time must be specified.
15. The threshold time and maximum diversion time may also be listed in distance (NM), as well as the engine type.
16. Performance-based navigation (PBN): one line is used for each complex PBN navigational specification approval (e.g. RNP AR ARCH), with appropriate limitations listed in the "Specific Approvals" and/or "Remarks" columns.
17. Insert the name of the person/organization responsible for ensuring that the continuing airworthiness of the aircraft is maintained and the regulation that requires the work, i.e. within the AOC regulation or a specific approval (e.g. EC2042/2003, Part M, Subpart G).
18. List the EFB class and functionality with any applicable limitations.
19. Other authorizations or data can be entered here, using one line (or one multi-line block) per authorization (e.g. special approach authorization, MNPS, approved navigation performance).

Appendix B Safety briefing cards

DESIGN, LAYOUT AND LOCATION

Consideration should be given to the design, layout and location of the passenger safety briefing card to promote quick comprehension of its content, in a self-explanatory manner, and to allow passengers to easily see and retrieve it.

Systems, equipment and the actions required to operate them should be depicted pictorially or diagrammatically. Multi-action sequence procedures should be presented in correct sequence, and the sequence should be clearly identified (e.g. numbered steps). The use of international symbols is encouraged

Information on the passenger safety briefing card should be clear and presented in an understandable manner. If text is necessary, it should be in English and in any other language(s) which the operator deems necessary. The operator should consider providing specific safety briefing cards for special categories of passengers, such as persons with disabilities. Examples include braille or large character cards

The information contained should be interesting, uncluttered and attractive so passengers will want to read it. For example, a multi-coloured card that has pictures and drawings will be picked up and read more often than a black and white printed card or a card that contains too much text

All depictions should be simple and easy to understand. Steps should be taken to verify that any symbols used in a passenger safety briefing card are easily recognized and understood by naïve test subjects. Passenger safety briefing cards should be tested for comprehension in accordance with recognized standards. If the operator modifies or changes the information included on its passenger safety briefing card, it should evaluate the content and take steps to verify naive passenger comprehension.

No advertisements or promotional items should be included in the passenger safety briefing card. It should only contain safety-related information. Anytime a specific crew member is reflected on the card or sequence, the figure in the pictogram should clearly reflect a uniformed crew member

The passenger safety briefing card should be designed and located within easy access of the seated passenger to retrieve; with an eye-catching title or symbol for easy identification, identifying the name of the operator and the aeroplane type. The card should be sufficiently large enough to compete with magazines for attention.

The passenger safety briefing card should have a conspicuous title or symbol identifying itself as safety or emergency instructions. The card should include colours to draw the attention of the passengers, versus only black and white.

The design of the passenger safety briefing card should make it easy to identify the aircraft type. The emphasis should be placed on aircraft make, model and series versus the operator's name or logo. If the operator has multiple aircraft makes, models and series in its fleet, consideration should be given to colour-code the different aircraft makes, models and series to ensure that employees restocking the cards on aircraft use the corresponding card since exit locations or emergency equipment could vary between the different aircraft makes, models and series in the operator's fleet.

To ensure consistency and to minimize confusion for passengers, the information provided on the passenger safety briefing card should be comparable to the instructions on the passenger safety information signs, markings and placards installed in the cabin. Pictograms should be identical across all of these. Differences in style and technical content between the forms of information may be confusing and may even provide conflicting information. The operator should review the content of the passenger safety briefing cards, passenger information signs, markings and placards to ensure that it is essentially the same and is presented in the same manner.

The card should be made of a durable material. The operator should have a process to verify that correct cards are on board and to remove and replace damaged cards from the aircraft.

CONTENT

The information on the passenger safety briefing card should be specific to the make, model and series of aircraft on which it is used, reflect the specific systems and equipment installed as well as procedures relevant to the systems and equipment on the specific aircraft make, model and series. The passenger safety briefing card should include the following:

- cabin secured aspects information such as the:
 - correct stowage of carry-on baggage
 - required position of tray tables, seat backs, footrests, IFE and window blinds
- passenger compliance with the safety instructions including placards, signs and crew member instructions including use of and compliance with the seat belt signs, smoking prohibition and additional features
- the use of seat belts and additional features:
 - when and how to fasten, adjust and release seat belts and or shoulder harnesses
 - information on the use of child restraint system
 - indicate they must be fastened for take-off, landing and whenever the fasten seatbelt sign is on
- the location and use of oxygen masks, (if applicable), including:
 - actions to be performed by a passenger to:
 - o don and secure a mask
 - o means of adjustment and actions required to initiate oxygen flow
 - o instructions to passengers to don and secure their own mask prior to assisting others.
- the location and use of life jackets (adult and infant) or individual flotation devices, including:
 - location
 - removal from stowage and packaging
 - method of donning and inflation
 - when to inflate and associated features such as inflation tags, manual inflation tubes, whistle, light; removal and use of flotation devices such as seat cushions (if applicable)
- emergency exits (including over/under-wing exits):
 - Location
 - diagrams for depicting the opening of each type of exit type and any manual operations necessary:
 - o checking for hazards before opening the exit (i.e. fire, water, debris)

- o method of operation illustrations should depict a person operating the exit with the direction of movement of handles clearly indicated, including what to do with the exit hatch (if removable) and alternative egress routes in case of unusable exit(s)
- o leaving carry-on baggage behind
- o awareness of exit height
- o awareness of propellers (if applicable)
- o method of egress through exits and route of escape after evacuating.
- evacuation slide use (if applicable):
 - the safety briefing card should contain instructions consistent with the manufacturer’s recommended procedures. Use of the slide or other assist means should be consistent with the exits on that aircraft
- escape paths and evacuation routes:
 - emergency lighting system (the form, function, colour and location of the floor proximity emergency escape path markings)
 - depiction of routes to the exits inside the aircraft movement on a double-deck aircraft
 - movement via the wing to the ground or water
 - and movement on the ground or water away from the aircraft
- life rafts
 - location of available equipment (e.g. life-raft, slide-raft)
 - the location, removal and use
 - method of activation of the slide-raft(s)
 - method of boarding the life-raft or slide-raft including with infants and children
 - method of egress through exit including with infants and children
 - removal of high-heeled shoes in an evacuation
 - method of detaching from the aircraft.
- brace position for emergency landing or ditching including brace positions for children and infants, appropriate method based on the seat type, direction and restraint
- the use and stowage of portable electronic devices
 - permissible times, conditions and limitations of use
 - restrictions on the use of smoking devices (e.g. cigarettes, pipes, cigars, electronic smoking devices, etc.).

On flights where cabin crew are not required, consideration should be given to incorporating additional information, such as:

- location of first aid kits
- location of fire extinguishers that are accessible to passengers
- location of emergency locator transmitter(s), if removable from the aircraft
- location of survival equipment, and if the stowage compartment is locked, the means of access.