



**Australian Government**  

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**Civil Aviation Safety Authority**

**DRAFT**

ACCEPTABLE MEANS OF  
COMPLIANCE (AMC)  
AND  
GUIDANCE MATERIAL (GM)

**Large aeroplane operations**

Part 121 of CASR 1998

*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.*

*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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# 1 Reference material

## 1.1 Acronyms

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

<b>Acronym</b>	<b>Description</b>
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 References

Part 11

Subpart 42.C of CASR

Part 91

Regulation 92.025 of CASR

Part 92 Consignment and carriage of dangerous goods by air)

Subpart 119.H and its associated AMC/GM

Part 1 of the CASR Dictionary

CAAP 235A-1.

ICAO FPFMM Doc 9976

ICAO Annex 2, Rules of the Air;

JAR/FAR-23/JAR/FAR-25

FAA Advisory Circular AC 120-53A

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.

## Subpart 121.A – Preliminary

### GM 121.005 – Application of Part 121

The following definitions are found in Part 1 of the Dictionary for CASR

- Australian air transport operation
- maximum operational passenger seat configuration
- maximum take-off weight

### Relationship with Part 91 of CASR

The intent of Part 121 is to ensure that operators understand the need to create procedures that are commensurate with the level of risk associated with operations at this level. Provisions in Part 121 are such that they impose requirements over and above the standards in Part 91, but where no provisions appear in this part concerning a particular matter, then the relevant Part 91 regulations apply.

### 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 set out other conditions of approvals and offences relating to those conditions. Regulation 11.077, 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.

### 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.2 - Operational documents

#### **GM 121.025 Compliance with flight manual**

The operator and pilot in command are required under this regulation to operate the aeroplane in accordance with all the requirements and limitations set out in the flight manual.

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 take into account all items specified by the aeroplane manufacturer. The MEL should also include all operational requirements relevant to the AOC holder's operations. Subpart 91.Y of CASR sets out requirements for the approval of, and variations to, MELs. It also sets out the rules for operation of aircraft in relation to the MEL.

#### **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 and its associated AMC/GM.

Regulation 91.060—*Authority and responsibilities of the 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**

All crew members shall be informed of their duties under the exposition. This may be in the form of a duty statement or other titled document, the intent is that all crew are fully aware of their



responsibilities in relation to a flight.

**GM 121.045 Availability of checklists**

Personnel are required to comply with any instructions that are provided in an operator's exposition. Operators will need to provide relevant information to all persons, including any ground support personnel, This covers crew checklists for normal, abnormal and emergency procedures for the aeroplane.

For information on who is regarded as a member of the operator's ground support personnel see the definition in Part 1 of the CASR Dictionary.

**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.

**AMC 121.055 Carriage of documents**

For the purpose of this regulation and for flights within Australian territory, the carriage of an electronic copy of the flight crew's medical certificate and flight crew licence will be suffice, provided the flight crew can produce a document that includes a photograph of the holder showing the holder's full face and his or her head and shoulders:

- a. that was issued within the previous 10 years by the government, or a government authority, of:
  - i. the commonwealth or a State or Territory
  - or
  - ii. a foreign country, or a state or province (however described) of a foreign country
- b. that has not expired or been cancelled.

**GM 121.055 Carriage of documents**

The requirements for what documents are required to be carried for a flight are contained in the Part 121 Manual of Standards. The contents of the listed documents are detailed in subsequent rules.

Requirements for the flight technical log are in Subpart 42.C of CASR.

See regulation 92.025 of CASR for documentation requirements for dangerous goods.

**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.

For each aircraft model in the operators 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. 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 kept 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 or record keeping requirements which is detailed in Part 119, 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 for the pilot in command to ensure the recording of defects and exceedances of operating limits in the flight technical log, see regulation Part 91 Subpart M.

The operator's Safety Management System (SMS) should also include a template and procedure for reporting incidents which, although 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 91.165 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 121.030 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**

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. This is often referred to as 'the sterile cockpit' procedures. Subregulation (2) provide for the requirement that the 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 staff**

Operators may require their ground support staff 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 by the operator as competent to carry out that duty before commencing such duties. Training programs and completion standards for ground support operations should be included in the operator's exposition.

The intent of this regulation is to cover only those staff directly employed by the operator.

### **GM 121.105 Duty statement to be available to ground support staff**

All ground support staff shall be informed of their duties. This may be in the form of a duty statement or other titled document, the intent is that all crew are fully aware of their responsibilities in relation to a flight of the aeroplane.

### **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 particular 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 taking into account 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 (which are published in the AIP).

The matters to be taken into account 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) that is 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 lessor of 2 hours at normal cruising speed or 400 nautical miles from land.

**GM 121.145 Polar operations**

The requirement for cold weather, anti-exposure suits may be alleviated if, for a certain time of the year, the operator can show that the seasonal trends indicate that the temperatures will be such that the suits will not be necessary for outside activity.

## Division 121.D.3 - Flight preparation

### GM 121.150 Operational flight plans

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.

## Division 121.D.4 - Flight planning

### GM 121.165 Flight planning requirements

The requirements for weather and alternate aerodrome 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.

### AMC 121.170 Flight planning (Part 121 alternate aerodrome) requirements

Operational variations:

The Part 121 MOS prescribes that a destination alternate aerodrome must be provided if certain weather or operational considerations cannot be met at the destination aerodrome. The MOS also allows an operator to specify other conditions acceptable to CASA other than those mentioned in the MOS, the following sections are some examples of when this would be acceptable to CASA.

#### **1. Destinations with separate runways but forecast below MOS 2.3.4 a)(i) conditions:**

A destination alternate aerodrome will not be required if the following conditions exist at a destination with separate runways:

- Weather forecast to be at or above the aerodrome operating minima and at least two independent means by which a flight can conduct an approach are available and conform to one or more of the following criteria:

- two runways are available each with an operational instrument approach
  - Note:** Two runways can be the same runway but operations from either runway number
- a categorised ILS shall be considered as two independent approaches provided the aircraft has two ILS receivers available
- GNSS approach systems may be considered as two independent means providing the aircraft is fitted with dual receivers that meet specifications equivalent to those detailed in FAA TSO 145/146 with the exception of the Wide Area Augmentation System (WAAS) requirements
- the operator may utilise GNSS capability as a substitution for a ground based aid providing the aid is in commission at the time of the approach and the approach is coded in the aircraft's FMS. (Note: There is no requirement for the aid to be serviceable). The minima for such an approach should not be less than 250 feet above the applicable reference unless specifically approved by CASA
- a GNSS approach with vertical guidance may be considered as being equivalent to a CAT I ILS. In this case the GNSS approach should not be considered as two independent approaches, unless the aircraft is fitted with dual receivers that meet specifications equivalent to those provided for in FAA TSO 145/146 with the exception of the WAAS requirements

or

- for destination aerodromes serviced by operational CAT III or CAT II ILS approaches:
  - the weather is forecast to be at, or above CAT I minima for the estimated time of use
  - the flight crew are authorised to conduct the approaches
  - the operator has a process to alert the flight of a change in weather forecast.

## **2. Destinations without separate runways:**

An operator may plan a flight to an aerodrome without separate runways and without providing for a destination alternate aerodrome if all the following conditions are met:

- the weather at the destination aerodrome at the estimated time of use is forecast to be at or above the alternate aerodrome weather minima in Table 2 of the Part 121 MOS
- a critical point shall be determined for the flight
- a flight shall not continue to the destination past the critical point unless a current assessment of the meteorological conditions, traffic and other operational conditions indicate a safe landing can be made at the estimated time of use
- the destination aerodrome shall have at least one operational instrument approach procedure for which the flight crew are authorised to conduct, or in accordance with section 3 below.

## **3. Destinations without an Instrument Approach Procedure:**

An operator may plan a flight under the IFR to a destination not served with an instrument approach procedure, without providing for a destination alternate if:

- distance information is available to touchdown (DME or GNSS updated information to the FMS distance i.e. the runway threshold in the FMC data base)



- the aircraft can be navigated to the destination aerodrome either in VMC or in accordance with en-route navigation aid or GNSS
- a visual approach can be conducted to the landing runway from the LSALT;
- the weather conditions shall be at least the following:
  - Cloud ceiling is not below final segment LSALT plus 500 ft
  - Visibility is not less than 5 km.

### **GM 121.175 Availability of flight planning information**

All personnel involved with the planning and flight following of a flight should have access to all relevant information including weather and NOTAMS.

## **Division 121.D.5 - Flight rules**

### **AMC 121.180 Take-off and landing minima for aerodromes**

When the reported meteorological visibility (VIS), RVR or RV is reported and below the required minimum for take-off, a take-off should only be commenced if the pilot in command can determine that the visibility along the take-off runway is equal to or better than the required minimum.

#### VISUAL REFERENCES FOR INSTRUMENT APPROACH OPERATIONS

##### NPA, APV AND CAT I APPROACHES:

At DH or MDH, at least one of the visual references specified below should be distinctly visible and identifiable to the pilot:

- elements of the approach lighting system;
- the threshold;
- the threshold markings;
- the threshold lights;
- the threshold identification lights;
- the visual glide slope indicator;
- the touchdown zone or touchdown zone markings;
- the touchdown zone lights; or
- runway edge lights.

##### CIRCLING APPROACHES:

At the MDA/H, at least one of the visual references specified above or other features such as the runway threshold, approach lighting aids or other markings identifiable with the runway environment have been established and can be maintained until landing.

**GM 121.180 Take-off and landing minima for aerodromes**

CASA sets out its take-off and landing minima in the Part 91 MOS. The take-off minima must also take into account for 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 LVO-1-(1).

**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 with regard to 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.

**Division 121.D.7 – Fuel requirements****AMC 121.235 Fuel requirements****Performance based contingency fuel planning:**

Contingency fuel may be reduce 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 center 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% ERA (En-route Alternate) 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 similar to in-flight re-planning in that it requires the mandatory selection in the Operational Flight Plan of an En-Route Alternate (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 % En-route Average (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

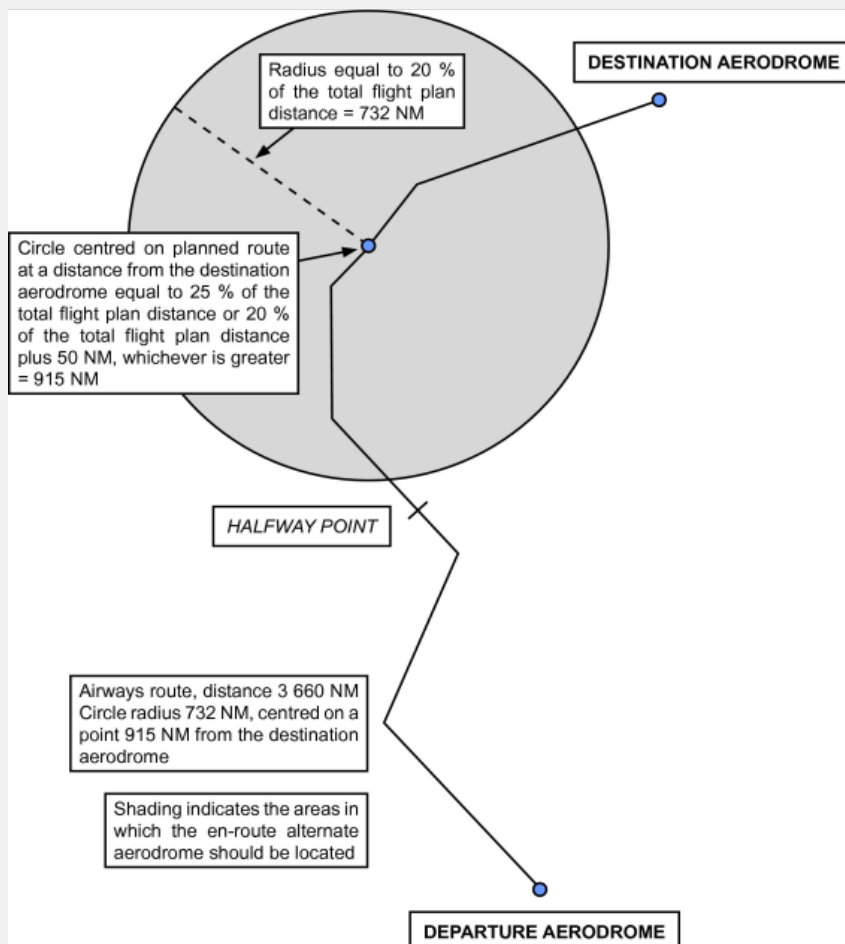
Operators who wish to use 3% ERA contingency fuel planning should demonstrate the following processes and controls in addition to those specified in Chapter 5 of the ICAO FPFMM Doc 9976.

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% en-route (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 by definition 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 take into account the following requirements:

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

- a. passengers suffering from obvious physical or mental disability to the extent that they would have difficulty in moving quickly if asked to do so
- b. passengers who are either substantially blind or substantially deaf to the extent that they might not readily assimilate printed or verbal instructions given
- c. passengers who because of age or sickness are so frail that they have difficulty in moving quickly

- d. passengers who are so obese that they would have difficulty in moving quickly or reaching and passing through the adjacent emergency exit
- e. children (whether accompanied or not) and infants
- f. restricted persons
- g. 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 121.280 Safety briefing cards**

The safety briefing card shall provide pictorial-type instructions which indicate the operation of emergency equipment and exits likely to be used by passengers.

The safety briefing card should be designed and located so that the seated passenger will be able to see and have access to the card when it is placed in its normal location aboard the aircraft. It should be large enough so that passengers will be able to visually locate the card, and it should have an eye-catching title or symbol that identifies it as safety or emergency instructions.

The method used to depict the operation of equipment and passenger actions should be diagrammatic or pictorial, keeping the use of written information to a minimum. The use of international symbols is encouraged. All depictions should be easy to understand and not complex.

The cards should bear the name of the operator and the aeroplane type and should contain only information that is essential to safety.

They should be interesting, attractive and uncluttered so passengers will want to read them. 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.

The cards should be sufficiently large enough so as to compete with magazines for attention.

Safety information cards shall include:

- a. diagrams of the emergency exits and methods of operating;
- b. other instructions necessary for the use of emergency equipment; and
- c. the brace position for emergency landing or ditching.

### **AMC 121.285 Safety briefings and instructions**

The operator may replace the briefing as set out in 121.285 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 the flight without receiving a briefing. Operators should ensure each passenger who has conducted this training is satisfied they do not require a further briefing 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.

### **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.

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 located 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 121.350 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;
- b. an authorised officer carrying out an in-flight passenger cabin inspection;
- c. 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 the purpose of 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.
- b. *Sample size.* The survey plan should cover the weighing of at least the greatest of:
  - i. a number of 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.
- c. *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.
- d. *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.
- e. *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.
- f. *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.
- b. On aeroplanes with more than 19 passenger seats, the averages apply as standard male and female weights.
- c. However, all-adult revised standard weight values may be applied on aeroplanes with more than 30 passenger seats.
- d. 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.
- e. Standard baggage weights are applicable only to aeroplanes with more than 19 passenger seats.
- f. 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.
- g. 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 particular 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.
- h. 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 the purpose of 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 the purpose of 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

An acceptable means of compliance with the chart holder requirement is to display a pre-composed chart on an electronic flight bag (EFB).

### 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 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 CASR 91.195.

## 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.

See regulation 91.770 for other requirements regarding lighting.

### 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 so as 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 so as 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 so as 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
- b. 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

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****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

#### **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.

#### **GM 121.690 Composition, number, qualifications and training**

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

Subregulation (5) allows for some of the requirements to be met by an approved training and checking system via an alternative means. The operator may gain such approval only after showing CASA how they intend to meet the requirements albeit through an alternative means of compliance. An operator may choose to incorporate some of the training in other elements of the recurrent training and checking program rather than do a single training and checking event.

#### **AMC 121.695 Experience**

CASA approval;

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 take into account 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.

**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 time 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.

**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.

**AMC 121.715 Pilot in command**

An operator may apply to CASA for approval for a different level of experience to that set out in 121.715(4)(b). Matters to be taken into account are the following;

- a. previous similar experience (e.g. military);
- b. an operator with an approved training and checking system in which the pilot has been successfully participating in for a number of years; and
- c. the complexity of the aircraft and type of operations to be flown as a commander.

**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. Particular emphasis shall 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 as long as 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 60-2 Flight simulator approvals.

CASA will also review aircraft which have a maximum certificated seating capacity of 19 or less but due to the complex nature of the aeroplane CASA may require the use of simulators for recurrent training and checking, if the simulator is available in Australia or in a foreign state. These aircraft will be listed in the Part 121 Manual of Standards.

## 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 in regards to 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 120-53A 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 take into account the matters mentioned in 121.760(1) as well as the type of operation, before deciding whether or not 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



an 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 of time.

### **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 aeroplane type 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 of time. 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 the 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 is commonly referred to as 'indoctrination training'. The requirements for which are contained in the Part 121 Manual of Standards. This training is to provide a full 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 check should cover items where competency is required, for example swimming proficiency, use of fire and smoke equipment and dangerous goods.

### GM 121.795 Meeting conversion training requirements

Conversion training for an operator takes place when a flight crew member first joins the company on an aeroplane type (initial conversion) or changes aeroplane type. The training will include the CASR Part 61 requirements for an aircraft type rating if not already qualified, safety and emergency equipment training and checking, a proficiency check, line flying under supervision and finally a line check. 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 course. 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. a flight crew member's previous experience
- b. the complexity of the aircraft concerned
- c. the type of route/area operations.

The following figures to be flown under supervision are guidelines for operators to use when establishing their individual requirements; they may be varied depending on the previous experience of the flight crew member and the complexity of the aeroplane and type of operation:

- a. co-pilot undertaking initial operator conversion course:
  - i. minimum 20 flight sectors.
- b. co-pilot upgrading to commander:
  - i. minimum 20 flight sectors when converting to a new type
  - ii. minimum 10 flight sectors when already qualified on the aeroplane type.

### GM 121.800 Command training requirements.

This regulation applies to an initial up-grade from co-pilot to pilot in command for an operator and is not intended to apply each time a commander changes aeroplane type. Commanders

who are recruited directly into that position with a new operator should have their command attributes assessed during the initial conversion course conducted by the new operator.

An operator will 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.

The operator must also specify 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 a number of routes with similar complexity exist within a similar area (Oceanic, South Asia etc.), the operator can cover the routes under an "area" classification for the purpose of 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 satisfies all of 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 instruction.

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). Further information can be found in the AC-119-Evidence-based training.

#### 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. No two proficiency checks shall be more than 8 months apart.

**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 by the use of 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 as long as 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.

**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

#### **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 taken into account.

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
- b. 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 as long as 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 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 off aeroplanes of different aeroplane types

### 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 the purpose of cabin crew training and checking purposes.

### 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. The circumstances mentioned in the regulation would cover issues such as; which combinations of aeroplane types would the cabin crew member be assigned to and what measures are 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.

## 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 take into account 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 particular type for the period of time 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 period 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-(0) and 92-03 (03).

### 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 new entrant 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 visit 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 take into account 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 take into account 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 intended to ensure the crew member's ability to operate efficiently under normal conditions, whereas emergency and safety equipment training are primarily intended to prepare the crew member for abnormal/emergency procedures.

The line check is considered 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 his/her training policy and methods. Line checks are a test of a crew member's ability to perform a complete line operation and an opportunity for an overall assessment of his/her ability to perform the duties required as specified in the exposition.

For operators who may assign their cabin crew to duty on more than one aeroplane type, the annual line check will only need to be conducted on one type, as long as the two aeroplane type's standard operating procedures are similar enough. In this case, with CASA approval, both the aeroplane types would be considered one type, under regulation 121.870.

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

Instruction or demonstration of a simulated smoke-filled environment may be covered every 3 years by video demonstration or instruction using methods to simulate a smoke-filled environment, e.g. evacuation drills using goggles which adequately simulate the expected lack of vision.

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.

**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.

## 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**

<b>OPERATIONS SPECIFICATIONS</b>				
(subject to the approved conditions in the exposition)				
<b>Civil Aviation Safety Authority<sup>1</sup></b>				
Telephone: 061 262 171111		Fax: _____		E-mail: _____
AOC# <sup>2</sup> : _____		Operator name <sup>3</sup> : _____		Date <sup>4</sup> : _____ Signature: _____
Dba trading name: _____				
Aircraft model <sup>5</sup> :				
Types of operation: Commercial air transportation <input type="checkbox"/> Passengers <input type="checkbox"/> Cargo <input type="checkbox"/> Other <sup>6</sup> : _____				
Area(s) of operation <sup>7</sup> :				
Special limitations <sup>8</sup> :				
SPECIAL APPROVAL	YES	NO	DESCRIPTION <sup>9</sup>	REMARKS
Dangerous goods	<input type="checkbox"/>	<input type="checkbox"/>		
Low visibility operations				
Approach and landing	<input type="checkbox"/>	<input type="checkbox"/>	CAT <sup>10</sup> : __ RVR: _____ m    DH: _____ ft	
Take-off	<input type="checkbox"/>	<input type="checkbox"/>	RVR <sup>11</sup> : _____ m	
Operational credit(s)	<input type="checkbox"/>	<input type="checkbox"/>	<sup>12</sup>	
RVSM <sup>13</sup> <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>		
EDTO <sup>14</sup> <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>	Threshold time <sup>15</sup> : _____ minutes Maximum diversion time <sup>15</sup> : _____ minutes	
Complex navigation specifications for PBN operations <sup>16</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<sup>16</sup>	<sup>16</sup>
Continuing airworthiness	<input type="checkbox"/>	<input type="checkbox"/>	<sup>17</sup>	
EFB	<input type="checkbox"/>	<input type="checkbox"/>	<sup>19</sup>	
Other <sup>19</sup>	<input type="checkbox"/>	<input type="checkbox"/>		

**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).