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LEGAL SUPPLEMENT — B

GUYANA No. 14 of 2024

GUYANA CIVIL AVIATION AUTHORITY

REQUIREMENTS FOR INSTRUMENTS AND EQUIPMENT 2024

Made Under

THE CIVIL AVIATION ACT 2018

(Act No. 21 of 2018)

In exercise of the powers conferred upon the Guyana Civil Aviation Authority by section 142 of the Civil Aviation Act 2018, the Guyana Civil Aviation Authority prescribe the following Requirements which may be cited as the Civil Aviation Requirements for Instruments and Equipment 2024.

These Requirements are prescribed in respect of the Civil Aviation (Operations) Regulations 2024 and contain –

(a) applicable standards;

(b) rules and recommended practices of international aviation organisations; and

(c) other requirements of the Authority.

These Requirements are numbered 7.1.1 to 7.1.9. and include a Schedule.

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7.1.1 General

7.1.1.1 APPLICABILITY

(a) Part 7 prescribes the minimum instrument and equipment requirements for all aircraft in all operations.

(b) Part 7 requirements use the following key designators—

(1) AAC: all aircraft, including Commercial Air Transport and AOC Holders appropriate to the subject of the regulations, e.g., an all aircraft regulation may only refer to seaplanes, but will include CAT and AOC seaplanes;

(2) CAT: commercial air transport (includes AOC Holders)), appropriate to the subject of the regulations, e.g., a CAT regulation may only refer to seaplanes, but will include AOC seaplanes; and

(3) AOC: AOC Holders. Where AOC requirements are redundant to AAC or CAT requirements, or more detailed, the AOC requirements will be followed.

7.1.1.2 DEFINITIONS

In these Requirements, and in any other requirements issued by the Authority pursuant to any regulations made under the Civil Aviation Act with regard to civil aviation operations, the words and phrases found in the left column of the table of definitions in the Schedule to these Requirements have the corresponding meanings assigned to them in the right column of the table.

7.1.1.3 ACRONYMS

(a) The following acronyms are used in Part 7:

(1) ADF – Automatic Direction Finder

(2) AOC - Air Operator Certificate

(3) DH – Decision Height

(4) DME – Distance Measuring Equipment

(5) ELT – Emergency Locator Transmitter

(6) ILS – Instrument Landing System

(7) IFR – Instrument Flight Rating

(8) IMC - Instrument Meteorological Conditions

(9) LRNS - Long Range Navigation Systems

(10) MEL – Minimum Equipment List (Part 1)

(11) MHz - Megahertz

(12) MLS – Microwave Landing System

(13) MNPS - Minimal Navigation Performance Specifications

(14) NDB – Non-Directional Beacon

(15) PBE - Pressure Breathing Equipment

(16) RVSM – Reduced Vertical Separation Minimum

(17) SSR – Secondary Surveillance Radar

(18) VFR – Visual Flight Rules (see 8.8.3.1)

(19) VMC - Visual Meteorological Conditions

(20) VOR – VHF Omnidirectional Range

(21) VSM – Vertical Separation Minimum

7.1.1.4 GENERAL INSTRUMENT AND EQUIPMENT REQUIREMENTS

(a) [AAC] In addition to the minimum equipment necessary for the issuance of a certificate of airworthiness, the instruments, equipment and flight documents prescribed in Part 7 shall be installed or carried, as appropriate, in aircraft according to the aircraft used and to the circumstances under which the flight is to be conducted.

(b) [AAC] All required instruments and equipment shall be approved and installed in accordance with applicable airworthiness requirements.

(c) [AAC] Prior to operation in Guyana of any aircraft not registered in Guyana that uses an airworthiness inspection program approved or accepted by the State of Registry, the owner/operator shall ensure that instruments and equipment required by Guyana but not installed in the aircraft are properly installed and inspected in accordance with the requirements of the State of Registry.

(d) [AOC] An AOC holder shall ensure that a flight does not commence unless the required equipment—

(1) Meets the minimum performance standard and the operational and airworthiness requirements;

(2) Is installed such that the failure of any single unit required for either communication or navigation purposes, or both, will not result in the inability to communicate and/or navigate safely on the route being flown; and

(3) Is in operable condition for the kind of operation being conducted, except as provided in the MEL.

(e) [AAC] If equipment is to be used by one flight crewmember at his station during flight, it shall be installed so as to be readily operable from his or her station.

(f) [AAC] When a single item of equipment is required to be operated by more than one flight crew member, it shall be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.

7.1.2 Flight and Navigational Instruments

7.1.2.1 GENERAL REQUIREMENTS

(a) [AAC] All aircraft shall be equipped with flight and navigational instruments which will enable the flight crew to—

(1) Control the flight path of the aircraft;

(2) Carry out any required procedural manoeuvres; and

(3) Observe the operating limitations of the aircraft in the expected operating conditions.

(b) [AAC] When a means is provided for transferring an instrument from its primary operating system to an alternative system, the means shall include a positive positioning control and shall be marked to indicate clearly which system is being used.

(c) [AAC] Those instruments that are used by any one flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his station, with the minimum practicable deviation from the position and line of vision which he normally assumes when looking forward along the flight path

7.1.2.2 MINIMUM FLIGHT AND NAVIGATIONAL INSTRUMENTS

(a) [AAC] No person may operate any aircraft unless it is equipped with the following flight and navigational instruments:

(1) An airspeed indicating system calibrated in knots.

(2) A sensitive pressure altimeter calibrated in feet with a sub-scale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.

(3) An accurate timepiece indicating the time in hours, minutes and seconds (approval not required).

(4) A magnetic compass.

7.1.2.3 INSTRUMENTS FOR OPERATIONS REQUIRING TWO PILOTS

(a) [AAC] Whenever two pilots are required, each pilot's station shall have separate flight instruments as follows:

(1) An airspeed indicator calibrated in knots;

(2) A sensitive pressure altimeter calibrated in feet with a sub-scale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight;

(3) A vertical speed indicator;

(4) A turn and slip indicator, or a turn co-ordinator incorporating a slip indicator;

(5) An attitude indicator; and

(6) A stabilised direction indicator.

7.1.2.4 IFR AND CONTROLLED VFR INSTRUMENTS

(a) All aircraft when operated under IFR, controlled VFR, or when the aircraft cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:

(1) a magnetic compass

(2) an accurate timepiece indicating the time in hours, minutes and seconds

(3) An airspeed indicating system with a means of preventing malfunctioning due to either condensation or icing;

(4) A turn and slip indicator;

(5) An attitude indicator (artificial horizon);

(6) A heading indicator (directional gyroscope);

(7) A means of indicating whether the supply of power to the gyroscopic instruments is adequate;

(8) A means of indicating in the flight crew compartment the outside air temperature;

(9) A rate-of-climb and descent indicator; and

(10) Two (2) sensitive pressure altimeters calibrated in feet with a subscale setting calibrated in hectopascals/millibars or inches mercury adjustable for any barometric pressure likely to be set during flight'.

(11) Such additional instruments or equipment as may be prescribed by the Authority.

(12) Lights required by 7.1.4.1

(b) [AOC] No person may operate an aeroplane under IFR, or under VFR over routes that cannot be navigated by reference to visual landmarks, unless the aeroplane is equipped with navigation equipment in accordance with the requirements of air traffic services in the area(s) of operation, but not less than:

(1) One VOR receiving system, one ADF system, one DME and one Marker Beacon receiving system;

(2) One ILS or MLS where ILS or MLS is required for approach navigation purposes;

(3) An Area Navigation System when area navigation is required for the route being a flown;

(4) An additional VOR receiving system on any route, or part thereof, where navigation is based only on VOR signals; and

(5) An additional ADF system on any route, or part thereof, where navigation is based only on NDB signals.

(c) [AAC] All aircraft intended to land in IMC or at night shall be provided with radio navigation equipment capable of receiving signals providing guidance to—

(1) A point from which a visual landing can be effected; or

(2) Each aerodrome at which it is intended to land in IMC; and

(3) Any designated alternate aerodromes.

(d) [AOC] No person may conduct single pilot IFR operations unless the aeroplane is equipped with an autopilot with at least altitude hold and heading mode.

(e) For commercial helicopter operations, a stabilization system, unless it has been demonstrated to the satisfaction of the certificating authority that the helicopter possesses, by nature of its design, adequate stability without such a system;

7.1.2.5 STANDBY ATTITUDE INDICATOR

(a) [AAC] No person may operate an aeroplane with a maximum certified take-off mass exceeding 5,700 kg or having a maximum approved passenger seating configuration of more than 9 seats unless it is equipped with a single standby attitude indicator (artificial horizon) that—

(1) Operates independently of any other attitude indicating system;

(2) Is powered continuously during normal operation; and

(3) After a total failure of the normal electrical generating system, is automatically powered for a minimum of 30 minutes from a source independent of the normal electrical generating system.

(b) [AAC] When the standby attitude indicator is being operated by emergency power, it shall be clearly evident to the flight crew.

(c) [AAC] Where the standby attitude indicator has its own dedicated power supply there shall be an associated indication, either on the instrument or on the instrument panel when this supply is in use.

Note: Paragraph (c) shall be complied with no later than 1 April 2000.

(d) [AAC] If the standby attitude instrument system is installed and usable through flight attitudes of 360° of pitch and roll, the turn and slip indicators may be replaced by slip indicators.

7.1.2.6 INSTRUMENTS AND EQUIPMENT FOR CATEGORY II OPERATIONS

(a) The instruments and equipment listed in this subsection shall be installed in each aircraft operated in a Category II operation:

Note: This subsection does not require duplication of instruments and equipment required by 7.1.2.2 or any other provisions of Part 7.

(1) Group I.

(i) Two localizer and glide slope receiving systems.

Note: Each system shall provide a basic ILS display and each side of the instrument panel must have a basic ILS display. However, a single localizer antenna and a single glide slope antenna may be used.

(ii) A communications system that does not affect the operation of at least one of the ILS systems.

(iii) A marker beacon receiver that provides distinctive aural and visual indications of the outer and the middle markers.

(iv) Two gyroscopic pitch and bank indicating systems.

(v) Two gyroscopic direction indicating systems.

(vi) Two airspeed indicators.

(vii) Two sensitive altimeters adjustable for barometric pressure, having markings at 20 foot intervals and each having a placarded correction for altimeter scale error and for the wheel height of the aircraft.

(viii) Two vertical speed indicators.

(ix) A flight control guidance system that consists of either an automatic approach coupler or a flight director system.

Note: A flight director system must display computed information as steering command in relation to an ILS localizer and, on the same instrument, either computed information as pitch command in relation to an ILS glide slope or basic ILS glide slope information. An automatic approach coupler must provide at least automatic steering in relation to an ILS localizer. The flight control guidance system may be operated from one of the receiving systems required by paragraph (a)(1)(i).

(x) For Category II operations with decision heights below 150 feet either a marker beacon receiver providing aural and visual indications of the inner marker or a radio altimeter.

(2) Group II.

(i) Warning systems for immediate detection by the pilot of system faults in items (a)(1)(i), (a)(1)(iv), (a)(1)(v) and (a)(1)(ix), of Group I and, if installed for use in Category III operations, the radio altimeter and autothrottle system.

(ii) Dual controls.

(iii) An externally vented static pressure system with an alternate static pressure source.

(iv) A windshield wiper or equivalent means of providing adequate cockpit visibility for a safe visual transition by either pilot to touchdown and rollout.

(v) A heat source for each airspeed system pitot tube installed or an equivalent means of preventing malfunctioning due to icing of the pitot system.

Implementing Standard: See IS: 7.1.2.6 for Category II instrument and equipment approval and maintenance requirements.

7.1.2.7 NAVIGATION EQUIPMENT FOR OPERATIONS IN MNPS AIRSPACE

(a) [AOC] No AOC holder may operate an aeroplane in MNPS airspace unless it is equipped with navigation equipment that-

(1) Continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track; and

(2) Has been authorised by the State of Registry for MNPS operations concerned.

Note: Equipment shall comply with minimum navigation performance specifications prescribed in ICAO Doc 7030 in the form of Regional Supplementary Procedures.

(b) [AOC] The navigation equipment required for operations in MNPS airspace shall be visible and usable by either pilot seated at his duty station.

(c) [AOC] For unrestricted operation in MNPS airspace an aeroplane shall be equipped with two independent Long-Range Navigation Systems (LRNS).

(d) [AOC] For operation in MNPS airspace along notified special routes, an aeroplane shall be equipped with one LRNS, unless otherwise specified.

7.1.3 Communication Equipment

7.1.3.1 RADIO EQUIPMENT

(a) [AAC] No person may operate an aircraft unless it is equipped with radio equipment required for the kind of operation being conducted.

(b) [AAC] All aircraft operated in VFR as a controlled flight or in IFR shall be provided with radio communication equipment capable of conducting two-way communication with those aeronautical stations and on those frequencies prescribed by the Authority, including the aeronautic emergency frequency 121.5 MHz.

Note: This requirement is considered fulfilled if the ability to conduct the communications specified therein is established during radio propagation conditions which are normal for the route.

(c) [AOC] No person may operate an aeroplane in IFR, or in VFR over routes that cannot be navigated by reference to visual landmarks, unless the aeroplane is equipped with communication and navigation equipment in accordance with the requirements of air traffic services in the area(s) of operation, but not less than—

(1) Two independent radio communication systems necessary under normal operating conditions to communicate with an appropriate ground station from any point on the route including diversions.

Note: Each system shall have an independent antenna installation except that, where rigidly supported non-wire antennae or other antenna installations of equivalent reliability are used, only one antenna is required.

(2) Secondary Surveillance Radar transponder equipment as required for the route being flown.

(d) [AOC] When more than one communications equipment unit is required, each shall be independent of the other or others to the extent that a failure in any one will not result in failure of any other.

(e) [AAC] No person may operate an aeroplane under IFR unless it is equipped with an audio selector panel accessible to each required flight crewmember.

(f) [AOC] No person may conduct single pilot IFR or night operations unless the aeroplane is equipped with a headset with boom microphone or equivalent and a transmit button on the control wheel.

7.1.3.2 CREW MEMBER INTERPHONE SYSTEM

(a) [AOC] No AOC holder may operate an aeroplane on which a flight crew of more than one is required unless it is equipped with a flight crew interphone system, including headsets and microphones, not of a handheld type, for use by all members of the flight crew.

(b) [AOC] No AOC holder may operate an aeroplane with a maximum certified take-off mass exceeding 15,000 kg or having a maximum approved passenger seating configuration of more than 19 unless it is equipped with a crew member interphone system that—

(1) Operates independently of the public address system except for handsets, headsets, microphones, selector switches and signalling devices;

(2) Provides a means of two-way communication between the flight crew compartment and each—

(i) Passenger compartment;

(ii) Galley located other than on a passenger deck level; and

(iii) Remote crew compartment that is not on the passenger deck and is not easily accessible from a passenger compartment;

(3) Is readily accessible for use—

(i) From each of the required flight crew stations in the flight crew compartment; and

(ii) At required cabin crew member stations close to each separate or pair of floor level emergency exits;

(4) Has an alerting system incorporating aural or visual signals for use by flight crew members to alert the cabin crew and for use by cabin crew members to alert the flight crew;

(5) Has a means for the recipient of a call to determine whether it is a normal call or an emergency call; and

(6) Provides on the ground a means of two-way communication between ground personnel and at least two flight crew members.

(c) All flight crew members required to be on flight deck duty shall communicate through boom or throat microphone when below the transition level/altitude.

7.1.4 Aircraft Lights and Instrument Illumination

7.1.4.1 AIRCRAFT LIGHTS AND INSTRUMENT ILLUMINATION

(a) [AAC] All aircraft operated at night shall be equipped with:

(1) Lights required by the Civil Aviation Rules of the Air Regulations

(2) Two landing lights. One of the landing lights shall be trainable, at least in the vertical plane.

(3) Illumination for all flight instruments and equipment that are essential for the safe operation of the aircraft;

(4) Lights in all passenger compartments;

(5) A flashlight for each crew member station (approval not required);

(6) Navigation/position lights; and

(7) Lights to conform to the International regulations for preventing collisions at sea if the aircraft is a seaplane or an amphibian aircraft.

(b) [AOC] No AOC holder may operate an aircraft by night unless in addition to the equipment specified in paragraph (a) above, it is equipped with:

(1) An additional landing light (a single landing light having two separately energised filaments may fulfil the combined requirements of this sub-paragraph and (a) (1)); and

(2) An anti-collision light system.

7.1.5 Engine Instruments

7.1.5.1 ENGINE INSTRUMENTS

(a) [CAT] Unless the Authority allows or requires different instrumentation for turbine engine powered aeroplanes to provide equivalent safety, no person may conduct any commercial air transport operations in any aircraft without the following engine instruments:

(1) A fuel pressure indicator for each engine.

(2) A fuel flowmeter.

(3) A means for indicating fuel quantity in each fuel tank to be used.

(4) An oil pressure indicator for each engine.

(5) An oil quantity indicator for each oil-tank when a transfer or separate oil reserve supply is used.

(6) An oil-in temperature indicator for each engine.

(7) A tachometer for each engine.

(8) An independent fuel pressure warning device for each engine or a master warning device for all engines with a means for isolating the individual warning circuits from the master warning device.

(b) [AOC] In addition to the listed equipment requirements in paragraph (a), reciprocating engine aircraft shall have the following:

(1) A carburettor air temperature indicator for each engine.

(2) A cylinder head temperature indicator for each air-cooled engine.

(3) A manifold pressure indicator for each engine.

(4) A fuel pressure indicator for each engine.

(5) A fuel flowmeter or fuel mixture indicator for each engine not equipped with an automatic altitude mixture control;

(6) An oil quantity indicator for each oil-tank when a transfer or separate oil reserve supply is used.

(7) An independent fuel pressure warning device for each engine or a master warning device for all engines with a means for isolating the individual warning circuits from the master warning device.

(8) A device for each reversible propeller, to indicate to the pilot when the propeller is in reverse pitch, that complies with the following:

(i) The device may be actuated at any point in the reversing cycle between the normal low pitch stop position and full reverse pitch, but it may not give an indication at or above the normal low pitch stop position.

(ii) The source of indication shall be actuated by the propeller blade angle or be directly responsive to it.

7.1.6 Warning Instruments and Systems

7.1.6.1 MACH NUMBER INDICATOR

[AAC] All aircraft with speed limitations expressed in terms of Mach number shall be equipped with a Mach number indicator.

7.1.6.2 LOSS OF PRESSURISATION INDICATOR

[AAC] All pressurised aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 376hPa shall be equipped with a device to provide positive warning to the flight crew of any dangerous loss of pressurisation.

7.1.6.3 LANDING GEAR: AURAL WARNING DEVICE

(a) [AOC] Each aeroplane with landing gear shall have a landing gear aural warning device that functions continuously under the following conditions:

(1) For aeroplanes with an established approach wing-flap position, whenever the wing flaps are extended beyond the maximum certified approach climb configuration position in the Aeroplane Flight Manual and the landing gear is not fully extended and locked.

(2) For aeroplanes without an established approach climb wingflap position, whenever the wing flaps are extended beyond the position at which landing gear extension is normally performed and the landing gear is not fully extended and locked.

(b) [AOC] The warning system required by paragraph (a) of this section:

(1) May not have a manual shutoff;

(2) Shall be in addition to the throttle-actuated device installed under the type certification airworthiness requirements; and

(3) May utilise any part of the throttle-actuated system including the aural warning device.

(c) [AOC] The flap position-sensing unit may be installed at any suitable place in the aeroplane.

7.1.6.4 ALTITUDE ALERTING SYSTEM

(a) [AOC] No AOC holder may operate a turbine propeller powered aeroplane with a maximum certified take-off mass in excess of 5,700 kg or having a maximum approved passenger seating configuration of more than 9 seats, or a turbojet powered aeroplane, unless it is equipped with an altitude alerting system capable of—

(1) Alerting the flight crew upon approaching preselected altitude in either ascent or descent; and

(2) Alerting the flight crew by at least an aural signal, when deviating above or below a preselected altitude.

(b) [AAC] For operations in defined portions of airspace where, based on Regional Air Navigation Agreement, a VSM of 300 m (1,000 ft) is applied above FL 290, an aircraft shall be provided with equipment which is capable of providing an alert to the flight crew when a deviation occurs from the selected flight level. The threshold for the alert may not exceed ±90 m (300 ft).

7.1.6.5 GROUND PROXIMITY WARNING SYSTEM

(a) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers intended for international operations, shall be equipped with a ground proximity warning system which has a forward-looking terrain avoidance function

(b) The operator shall implement database management procedures that ensure the timely distribution and update of current terrain and obstacle data to the ground proximity warning system.

(c) All turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less and authorized to carry more than five but not more than nine passengers should be equipped with a ground proximity warning system which provides the warnings of 7.1.6.5 g) (1 & 3), warning of unsafe terrain clearance and a forward looking terrain avoidance function.

(d) All turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less and authorized to carry more than five, but not more than nine, passengers for which the individual certificate of airworthiness is first issued on or after 1 January 2026, shall be equipped with a ground proximity warning system which provides the warnings of 7.1.6.5 g) (1 & 3), warning of unsafe terrain clearance, and a forward looking terrain avoidance function.

(e) All piston-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system which provides the warnings in 7.1.6.5 g) (1 & 3), warning of unsafe terrain clearance and a forward-looking terrain avoidance function.

(f) Each ground proximity warning system shall automatically provide, by means of aural signals which may be supplemented by visual signals, timely and distinctive warning to the flight crew of sink rate, ground proximity, altitude loss after take-off or go around, incorrect landing configuration and downward glideslope deviation.

(g) A ground proximity warning system shall provide, as a minimum, warnings of the following circumstances—

(1) Excessive descent rate.

(2) Excessive terrain closure rate.

(3) Excessive altitude loss after take-off or go-around.

(4) Unsafe terrain clearance while not in landing configuration:

1. Gears not locked down.

2. Flaps not in a landing position; and

3. Excessive descent below the instrument glide path.

7.1.6.6 WEATHER RADAR

[AOC] No person may operate an aircraft in commercial air transport in an area where potentially hazardous weather conditions may be expected unless it is equipped with a weather radar.

[AOC] No person may operate a helicopter in commercial air transport when carrying passengers in an area where thunderstorms or other potentially hazardous weather conditions may be expected unless it is equipped with a weather radar.

7.1.6.7 AIRBORNE COLLISION AVOIDANCE SYSTEM (ACAS II)

(a) All aeroplanes should be equipped with an airborne collision avoidance system (ACAS II).

(b) (AAC) No person may operate a turbine-engined aeroplane of a maximum certificated take-off mass in excess of 15,000kg or authorized to carry more than 30 passengers unless it is equipped with an airborne collision avoidance system (ACAS II).

(c) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg but not exceeding 15,000kg, or authorized to carry more than 19 passengers, for which the individual airworthiness certificate is first issued after 1 January 2008, should be equipped with an airborne collision avoidance system (ACAS II).

(d) (AOC) No person shall operate a turbine engine aeroplane with a maximum certificated takeoff mass in excess of 5700 kg or authorized to carry more than 19 passengers, unless it is equipped with an ACAS.

(e) An airborne collision avoidance system shall operate in accordance with the relevant provisions of Annex 10, Volume IV.

FORWARD LOOKING WIND SHEAR WARNING SYSTEM – TURBOJET AEROPLANES

(a) [AOC] All turbojet aeroplanes of a maximum certificated takeoff mass in excess of 5700 kg or authorised to carry more than nine passengers should be equipped with a forward-looking wind shear warning system

(b) [AOC] The system should be capable of providing the pilot with a timely aural and visual warning of wind shear ahead of the aircraft and the information required to permit the pilot to safely commence and continue a missed approach or go-around or to execute an escape manoeuvre if necessary.

(c) [AOC] The system should also provide an indication to the pilot when the limits specified for the certification of automatic landing equipment are being approached, when such equipment is in use.

7.1.7 Flight and Cockpit Voice Recorders

7.1.7.1 COCKPIT VOICE RECORDERS

(a) No operator may operate a large multi-engine turbine powered aeroplane with approved passenger seating of 10 or more unless an approved cockpit voice recorder system is installed.

(b) All turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less for which the individual certificate of airworthiness is first issued on or after 1 January 2016 and required to be operated by more than one pilot should be equipped with either a CVR or a CARS.

(c) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR.

(d) All helicopters of a maximum certificated take-off mass of over 7 000 kg shall be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.

(e) All helicopters of a maximum certificated take-off mass of over 3 175 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1987 should be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed should be recorded on the CVR.

(f) To facilitate location and identification in case of an accident, the cockpit voice recorder shall—

(1) Be either bright orange or bright yellow;

(2) Have reflective tape affixed to the external surface to facilitate its location under water; and

(3) Have an approved underwater locating device on or adjacent to the recorder, which is secured in such a manner that it is not likely to be separated during a crash impact.

7.1.4.1.1 Recording Technology

a) CVRs and CARS shall not use magnetic tape or wire.

7.1.4.1.2 Duration

a) All CVRs shall retain the information recorded during at least the last 2 hours of their operation.6

b) All aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2022 shall be equipped with a CVR which shall retain the information recorded during at least the last 25 hours of its operation.

c) All aeroplanes that are required to be equipped with CARS, and for which the individual certificate of airworthiness is first issued on or after 1 January 2025, shall be equipped with a CARS which shall retain the information recorded during at least the last two hours of their operation.

d) All helicopters required to be equipped with a CVR shall be equipped with a CVR which shall retain the information recorded during at least the last two hours of its operation. CVRs and CARS shall not use magnetic tape or wire.

7.1.7.2 Flight Data Recorders

(a) All FDRs on aeroplanes shall be capable of retaining the information recorded during at least the last 25 hours of their operation, with the exception of those installed on aeroplanes referenced in 7.1.7.2 (4) for which the FDR shall retain the information recorded during at least the last 30 minutes of its operation, and, in addition, sufficient information from the preceding take-off for calibration purposes.

(b) All FDRs on helicopters shall retain the information recorded during at least the last 10 hours of their operation.

(1) All turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less for which the individual certificate of airworthiness is first issued on or after 1 January 2016 shall be equipped with:

a. an FDR which shall record at least the first 16 parameters listed in Table A8-1 of Appendix 8; or

b. a Class C AIR or AIRS which shall record at least the flight path and speed parameters displayed to the pilot(s), as

c. an ADRS which shall record at least the first 7 parameters listed in Table A8-3 of Appendix 8.

(2) All aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1989 shall be equipped with an FDR which shall record at least the first 32 parameters listed in Table A8-1 of Appendix 8.

(3) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, up to and including 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1989, shall be equipped with an FDR which shall record at least the first 16 parameters listed in Table A8-1 of Appendix 8.

(4) All multi-engined turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less for which the individual certificate of airworthiness is first issued on or after 1 January 1990 should be equipped with an FDR which should record at least the first 16 parameters listed in Table A8-1 of Appendix 8.

(5) All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued before 1 January 1989, with a maximum certificated take-off mass of over 5 700 kg, except those in 6.3.1.1.8, shall be equipped with an FDR which shall record at least the first 5 parameters listed in Table A8-1 of Appendix 8.

(6) All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued on or after 1 January 1987 but before 1 January 1989, with a maximum certificated take-off mass of over 5 700 kg, except those in 6.3.1.1.8, should be equipped with an FDR which should record at least the first 9 parameters listed in Table A8-1 of Appendix 8.

(7) All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued on or after 1 January 1987 but before 1 January 1989, with a maximum certificated take-off mass of over 27 000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 shall be equipped with an FDR which shall record at least the first 16 parameters listed in Table A8-1 of Appendix 8.

(8) All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued before 1 January 1987, with a maximum certificated take-off mass of over 27 000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 should

be equipped with an FDR which should record, in addition to the first 5 parameters listed in Table A8-1 of Appendix 8, such additional parameters as are necessary to meet the objectives of determining:

a. the attitude of the aeroplane in achieving its flight path; and

b. the basic forces acting upon the aeroplane resulting in the achieved flight path and the origin of such basic forces.

(9) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued after 1 January 2005 shall be equipped with an FDR which shall record at least the first 78 parameters listed in Table A8-1 of Appendix 8.

(10) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2023 shall be equipped with an FDR capable of recording at least the 82 parameters listed in Table A8-1 of Appendix 8.

(11) All helicopters of a maximum certificated take-off mass of over 3 175 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2016 shall be equipped with an FDR which shall record at least the first 48 parameters listed in Table A4-1 of Appendix 4.

(12) All helicopters of a maximum certificated take-off mass of over 7 000 kg, or having a passenger seating configuration of more than nineteen, for which the individual certificate of airworthiness is first issued on or after 1 January 1989 shall be equipped with an FDR which shall record at least the first 30 parameters listed in Table A4-1 of Appendix 4.

(13) All helicopters of a maximum certificated take-off mass of over 3 175 kg, up to and including 7 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1989, should be equipped with an FDR which should record at least the first 15 parameters listed in Table A4-1 of Appendix 4.

(14) All helicopters of a maximum certificated take-off mass of 3 175 kg or less for which the individual certificate of airworthiness is first issued on or after 1 January 2018 should be equipped with:

a) an FDR which should record at least the first 48 parameters listed in Table A4-1 of Appendix 4: or

b) a Class C AIR or AIRS which should record at least the flight path and speed parameters displayed to the pilot(s), as defined in Appendix 4, Table A4-3; or

c) an ADRS which should record the first 7 parameters listed in Table A4-3 of Appendix 4.

d) All helicopters of a maximum certificated take-off mass of over 3 175 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2023 should be equipped with an FDR capable of recording at least the first 53 parameters listed in Table A4-1 of Appendix 4.

7.1.7.2.1 Recording Technology

a) FDRs, ADRS, AIRs or AIRS shall not use engraving metal foil, frequency modulation (FM), photographic film or magnetic tape.

7.1.7.2.2 Combination Recorders

a) All aeroplanes of a maximum certificated take-off mass over 5 700 kg, required to be equipped with an FDR and a CVR, may alternatively be equipped with two combination recorders (FDR/CVR).

b) All multi-engined turbine-powered aeroplanes of a maximum certificated take-off mass of 5 700 kg or less, required to be equipped with an FDR and/or a CVR, may alternatively be equipped with one combination recorder (FDR/CVR).

7.1.7.2.3 OPERATION

(a) Flight recorder systems shall not be switched off during flight time.

(b) To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with the accident/incident regulations of Guyana.

Note 1: The need for removal of the flight recorder records from the aircraft will be determined by the investigation authority in the State conducting the investigation with due regard to the seriousness of an occurrence and the circumstances, including the impact on the operation.

7.1.7.2.4 DISCONTINUATION

(a) Flight data recorder media not acceptable for use in aircraft registered in Guyana], or operated in commercial air transport operations in Guyana, are:

(1) Engraving metal foil

(2) Photographic film

(3) Analogue data using frequency modulation (FM)

(4) Magnetic tape

7.1.8 Emergency, Rescue, and Survival Equipment

7.1.8.1 EMERGENCY EQUIPMENT: ALL AIRCRAFT

(a) [AAC] Each item of emergency and flotation equipment shall be—

(1) Readily accessible to the crew and, with regard to equipment located in the passenger compartment, to passengers without appreciable time for preparatory procedures;

(2) Clearly identified and clearly marked to indicate its method of operation;

(3) Marked as to date of last inspection; and

(4) Marked as to contents when carried in a compartment or container.

7.1.8.2 EMERGENCY EXIT EQUIPMENT

(a) [AOC] Each passenger-carrying land plane emergency exit (other than over-the-wing) that is more than 6 feet from the ground with the aeroplane on the ground and the landing gear extended, shall have an approved means to assist the occupants in descending to the ground.

(b) [AOC] Each passenger emergency exit, its means of access, and its means of opening shall be conspicuously marked by a sign visible to occupants approaching along the main passenger aisle.

(c) [AOC] Each passenger-carrying aeroplane shall have an emergency lighting system, independent of the main lighting system that—

(1) Illuminates each passenger exit marking and locating sign;

(2) Provides enough general lighting in the passenger cabin; and

(3) Includes floor proximity emergency escape path marking.

(d) [AOC] Each passenger emergency exit and the means of opening that exit from the outside shall be marked on the outside of the aeroplane.

(e) [AOC] Each passenger-carrying aeroplane shall be equipped with a slip-resistant escape route that meets the requirements under which that aeroplane was type certified.

Implementing Standard: See IS: 7.1.8.2 for details of the emergency exit equipment requirements.

(f) No person shall operate a helicopter certificated with a maximum certificated take-off mass of 3 175 kg (7 000 lbs) or less and nine or less passenger seats without the following emergency exit equipment:

(1) NUMBER AND LOCATION.

(i) There shall be at least one emergency exit on each side of the cabin readily accessible to each passenger. One of these exits shall be usable in any probable attitude that may result from a crash.

(i) Doors intended for normal use may also serve as emergency exits, provided that they meet the requirements of this section.

(1) If emergency flotation devices are installed, there shall be an emergency exit accessible to each passenger on each side of the cabin that is shown by test, demonstration, or analysis to:

(ii) Be above the waterline; and

(iii) Be open without interference from flotation devices, whether stowed or deployed.

(a) TYPE AND OPERATION. Each emergency exit prescribed by paragraph 7.9.1.2(a) of this subsection shall:

(1) Consist of a movable window or panel, or an additional external door, providing an unobstructed opening that will admit a 48 cm (19 in) by 66 cm (26 in) ellipse;

(2) Have simple and obvious methods of opening, from the inside and from the outside, that do not require exceptional effort;

(3) Be arranged and marked so as to be readily located and opened even in darkness; and

(4) Be reasonably protected from jamming by fuselage deformation.

(b) DITCHING EMERGENCY EXITS FOR PASSENGERS. If certification with ditching provisions is requested, the markings required by paragraph 7.9.1.2(c)(3) of this subsection shall be designed to remain visible if the helicopter is capsized and the cabin is submerged.

(c) No person shall operate a helicopter certificated with a maximum certificated take-off mass of over 9 071 kg (20 000 lbs) and 10 or more passenger seats without the following emergency exit equipment:

(1) PASSENGER EMERGENCY EXITS AND OPENINGS. Openings with dimensions larger than those specified below may be used, regardless of shape, if the base of the opening has a flat surface of not less than the specified width. For the purpose of this part, the types of passenger emergency exit shall be as follows:

(i) TYPE I. This type shall have a rectangular opening of not less than 61 cm (24 in) wide by 122 cm (48 in) high, with corner radii not greater than one-third the width of the exit, in the passenger area in the side of the fuselage at floor level and as far away as practicable from areas that might become potential fire hazards in a crash.

(ii) TYPE II. This type is the same as Type I, except that the opening shall be at least 51 cm (20 in) wide by 112 cm (44 in) high.

(iii) TYPE III. This type is the same as Type I, except that:

(A) The opening shall be at least 51 cm (20 in) wide by 91 cm (36 in) high; and

(B) The exits need not be at floor level.

(iv) TYPE IV. This type shall have a rectangular opening of not less than 48 cm (19 in) wide by 66 cm (26 in) high, with corner radii not greater than one-third the width of the exit, in the side of the fuselage with a step-up inside the rotorcraft of not more than 74 cm (29 in).

(2) PASSENGER EMERGENCY EXITS – SIDE-OF-FUSELAGE. Emergency exits shall be accessible to the passengers and, except as provided in paragraph 7.9.1.2(e)(4) of this subsection, shall be provided in accordance with the following table: Emergency exits for each side of the fuselage.

Passenger Seating Capacity	**Emergency Exits for Each Side of the Fuselage**			
	Type I	**Type II**	**Type III**	**Type IV**
1 through 10				1
11 through 19			1 or	2
20 through 39		1		1
40 through 59	1			1
60 through 79	1		1 or	2

(3) PASSENGER EMERGENCY EXITS – OTHER THAN SIDE-OF-FUSELAGE. In addition to the requirements of paragraph 7.9.1.2(e)(2) of this subsection:

(v) There shall be enough openings in the top, bottom, or ends of the fuselage to allow evacuation with the rotorcraft on its side; or

(vi) The probability of the rotorcraft coming to rest on its side in a crash landing shall be extremely remote.

(4) DITCHING EMERGENCY EXITS FOR PASSENGERS. If the helicopter was certificated with ditching provisions, ditching emergency exits shall be provided in accordance with the following:

(vii) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 9 seats or less, 1 exit above the waterline in each side of the rotorcraft, meeting at least the dimensions of a Type IV exit.

(viii) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 10 seats or more, 1 exit above the waterline in a side of the rotorcraft meeting at least the dimensions of a Type III exit, for each unit (or part of a unit) of 35 passenger seats, but no less than 2 such exits in the passenger cabin, with 1 on each side of the rotorcraft. However, where it has been shown through analysis, ditching demonstrations, or any other tests found necessary, that the evacuation capability of the rotorcraft during ditching is improved by the use of larger exits, or by other means, the passenger seat-to-exit ratio may be increased.

(ix) Flotation devices, whether stowed or deployed, may not interfere with or obstruct the exits.

(5) RAMP EXITS. One Type I exit only, or one Type II exit only, that is required in the side of the fuselage under paragraph 7.9.1.2(e)(2) of this subsection, may be installed instead in the ramp of floor ramp rotorcraft

if:

(i) Its installation in the side of the fuselage is impractical; and

(ii) Its installation in the ramp meets emergency exit access requirements in paragraph 7.9.1.2(e)(4) of this subsection.

(6) EMERGENCY EXIT ARRANGEMENT.

(iii) Each emergency exit shall consist of a movable door or hatch in the external walls of the fuselage and shall provide an unobstructed opening to the outside.

(iv) Each emergency exit shall be openable from the inside and from the outside.

(v) The means of opening each emergency exit shall be simple and obvious and shall not require exceptional effort.

(vi) There shall be means for locking each emergency exit and for preventing opening in flight inadvertently or as a result of mechanical failure.

(vii) There shall be means to minimise the probability of the jamming of any emergency exit in a minor crash landing as a result of fuselage deformation under the ultimate inertial forces:

(C) Upward – 1.5g

(D) Forward – 4.0g

(E) Sideward – 2.0g

(F) Downward – 4.0g

(7) Except as provided in paragraph 7.9.1.2(e)(9) of this subsection, each land-based rotorcraft emergency exit shall have an approved slide as stated in paragraph 7.9.1.2(e)(8) of this subsection, or its equivalent, to assist occupants in descending to the ground from each floor-level exit, and an approved rope, or its equivalent, for all other exits, if the exit threshold is more than 1.8 m (6 ft) above the ground:

(viii) With the rotorcraft on the ground and with the landing gear extended;

(ix) With one or more legs or part of the landing gear collapsed, broken, or not extended; and

(x) With the rotorcraft resting on its side, provided this was accomplished during the emergency evacuation test during type certification of the helicopter.

(8) The slide for each passenger emergency exit shall be a self-supporting slide or equivalent, and shall be designed to meet the following requirements:

(xi) It shall be automatically deployed, and deployment shall begin during the interval between the time the exit opening means is actuated from inside the rotorcraft and the time the exit is fully opened. However, each passenger emergency exit that is also a passenger entrance door or a service door shall be provided with means to prevent deployment of the slide when the exit is opened from either the inside or the outside under non-emergency conditions for normal use.

(xii) It shall be automatically erected within 10 seconds after deployment is begun.

(xiii) It shall be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs or part of the landing gear.

(xiv) It shall have the capability, in 25-knot winds directed from the most critical angle, to deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.

(9) For helicopters having 30 or fewer passenger seats and having an exit threshold more than 1.8 m (6 ft) above the ground, a rope or other assist means may be used in place of the slide specified in paragraph 7.9.1.2(e)(7) of this subsection, provided this was accomplished during the emergency evacuation test during type certification of the helicopter.

(10) If a rope, with its attachment, is used for compliance with paragraphs 7.9.1.2(e)(7), (8), or (9) of this subsection, it shall:

(xv) Withstand a 181-kg (400-lb) static load; and

(xvi) Attach to the fuselage structure at or above the top of the emergency exit opening, or at another approved location if the stowed rope may reduce the pilot's view in-flight.

(11) EMERGENCY EXIT MARKING.

(xvii) Each passenger emergency exit, its means of access, and its means of opening shall be conspicuously marked for the guidance of occupants using the exits in daylight or in the dark. Such markings shall be designed to remain visible for rotorcraft equipped for overwater flights if the rotorcraft is capsized and the cabin is submerged.

(xviii) The identity and location of each passenger emergency exit shall be recognisable from a distance equal to the width of the cabin.

(xix) The location of each passenger emergency exit shall be indicated by a sign visible to occupants approaching along the main passenger aisle. There shall be a locating sign:

(G) Next to or above the aisle near each floor emergency exit, except that one sign may serve two exits if both exits can be seen readily from that sign; and

(H) On each bulkhead or divider that prevents fore and aft vision along the passenger cabin, to indicate emergency exits beyond and obscured by it, except that if this is not possible, the sign may be placed at another appropriate location.

(xx) Each passenger emergency exit marking and each locating sign shall have white letters 2.5 cm (1 in) high on a red background 5 cm (2 in) high, shall be self or electrically illuminated, and shall have a minimum luminescence (brightness) of at least 160 micro lamberts. The colours may be reversed if this will increase the emergency illumination of the passenger compartment.

(xxi) The location of each passenger emergency exit operating handle and instructions for opening shall be shown:

(A) For each emergency exit, by a marking on or near the exit that is readable from a distance of 76 cm (30 in); and

(B) For each Type I or Type II emergency exit with a locking mechanism released by rotary motion of the handle, by:

1. A red arrow, with a shaft at least three-fourths of an inch wide and a head twice the width of the shaft, extending along at least 70 degrees of arc at a radius approximately equal to three-fourths of the handle length; and

2. The word "open" in red letters 2.5 cm (1 in) high, placed horizontally near the head of the arrow.

(12) Each emergency exit, and its means of opening, shall be marked on the outside of the rotorcraft. In addition, the following apply:

(xxii) There shall be a 2-inch coloured band outlining each passenger emergency exit, except small rotorcraft with a maximum certificated take-off mass of 5 700 kg (12 500 lbs) or less may have a 5-cm (2-in) coloured band outlining each exit release lever or device of passenger emergency exits that are normally used doors.

(xxiii) Each outside marking, including the band, shall have colour contrast to be readily distinguishable from the surrounding fuselage surface. The contrast shall be such that, if the reflectance of the darker colour is 15 per cent or less, the reflectance of the lighter colour shall be at least 45 per cent. "Reflectance" is the ratio of the luminous flux reflected by a body to the luminous flux it receives. When the reflectance of the darker colour is greater than 15 per cent, at least a 30 per cent difference between its reflectance and the reflectance of the lighter colour shall be provided.

(13) EMERGENCY LIGHTING. The following apply:

(i) A source of light with its power supply independent of the main lighting system shall be installed to:

(A) Illuminate each passenger emergency exit marking and locating sign; and

(B) Provide enough general lighting in the passenger cabin so that the average illumination, when measured at 102-cm (40-in) intervals at seat armrest height on the centerline of the main passenger aisle, is at least 0.05 foot-candle.

(ii) Exterior emergency lighting shall be provided at each emergency exit. The illumination may not be less than 0.05 foot-candle (measured normal to the direction of incident light) for minimum width on the ground surface, with landing gear extended, equal to the width of the emergency exit where an evacuee

is likely to make first contact with the ground outside the cabin. The exterior emergency lighting may be provided by either interior or exterior sources with light intensity measurements made with the emergency exits open.

(iii) Each light required by paragraph 7.9.1.2(e)(13)(i) or (ii) of this subsection shall be operable manually from the flight deck and from a point in the passenger compartment that is readily accessible. The flight deck control device shall have an "on," "off," and "armed" position so that when turned on at the flight deck or passenger compartment or when armed at the flight deck, the emergency lights will either illuminate or remain illuminated upon interruption of the rotorcraft's normal electric power.

(iv) Any means required to assist the occupants in descending to the ground shall be illuminated so that the erected assist means is visible from the rotorcraft.

(A) The assist means shall be provided with an illumination of not less than 0.03 foot-candle (measured normal to the direction of the incident light) at the ground end of the erected assist means where an evacuee using the established escape route may normally make first contact with the ground, with the rotorcraft in each of the attitudes corresponding to the collapse of one or more legs of the landing gear.

(B) If the emergency lighting subsystem illuminating the assist means is independent of the rotorcraft's main emergency lighting system, it will:

1. Automatically be activated when the assist means is erected;

2. Provide the illumination required by paragraph 7.9.1.2(e)(13)(iv)(A) of this subsection; and

3. Not be adversely affected by stowage.

(v) The energy supply to each emergency lighting unit shall provide the required level of illumination for at least 10 minutes at the critical ambient conditions after an emergency landing.

(vi) If storage batteries are used as the energy supply for the emergency lighting system, they may be recharged from the rotorcraft's main electrical power system provided the charging circuit is designed to preclude inadvertent battery discharge into charging circuit faults.

4) EMERGENCY EXIT ACCESS.

(i) Each passageway between passenger compartments, and each passageway leading to Type I and Type II emergency exits, shall be:

(A) Unobstructed; and

(B) At least 51 cm (20) in wide.

(ii) For each emergency exit covered by paragraph 7.9.1.2(e)(7) of this subsection, there shall be enough

space adjacent to that exit to allow a crew member to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required for that exit.

(iii) There shall be access from each aisle to each Type III and Type IV exit, and:

(A) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 20 or more, the projected opening of the exit provided shall not be obstructed by seats, berths, or other protrusions (including seatbacks in any position) for a distance from that exit of not less than the width of the narrowest passenger seat installed on the rotorcraft; and

(B) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 19 or less, there may be minor obstructions in the region described in paragraph 7.9.1.2(e)(14)(iii)(C) of this subsection, if there are compensating factors to maintain the effectiveness of the exit.

(15) MAIN ISLE WIDTH. The main passenger aisle width between seats shall equal or exceed the values in the following table:

Passenger Seating Capacity	**Minimum Main Passenger Aisle Width**	
	Less Than 64 cm (25 in) From Floor (inches)	**64 cm (25 in) and More From Floor (inches)**
10 or less	30 cm (12 in)	38 cm (15 in)
11 through 19	30 cm (12 in)	51 cm (20 in)
20 or more	38 cm (15 in)	51 cm (20 in)

Note: A narrower width not less than 23 cm (9 in) may be approved when substantiated by tests found necessary by the State of Manufacturer.

7.1.8.3 VISUAL SIGNALLING DEVICES

(a) [AAC] No person may operate an aircraft over water or across land areas which have been designated by Guyana as areas in which search and rescue would be especially difficult, unless equipped with such signalling devices as may be appropriate to the area overflown, to include—

(1) Visual signals for use by intercepting and intercepted aircraft; and

(2) At least one pyrotechnic signalling device for each life raft required for overwater operations.

7.1.8.4 SURVIVAL KITS

[AOC] No person may operate an aircraft across land areas which have been designated by Guyana as areas in which search and rescue would be especially difficult, unless equipped with enough survival kits for the number of occupants of the aeroplane and is appropriately equipped for the route to be flown.

(a)[AAC] No person may operate an aircraft across land areas that have been designated by Guyana as areas in which search and rescue may be especially difficult, unless it is equipped with enough of the survival kits specified in 7.9.1.18(d)(2) of this part for the number of occupants of the aeroplane or helicopter appropriate for the route to be flown.

(b)[AAC] No person may operate an aircraft over water as specified in 7.9.1.18(a) of this part unless it is equipped with enough of the survival kits specified in 7.9.1.18(d)(2) of this part for the number of occupants of the aeroplane or helicopter.

7.1.8.5 EMERGENCY LOCATOR TRANSMITTER

(a) [AAC] All aircraft should carry an automatic ELT.

(b) [AOC] No person may operate an aeroplane in extended overwater operations without having on the aeroplane a survival type ELT that transmits simultaneously on 121.5 and 243.0 MHz, and meets technical standards specified by the Authority.

(c) [AOC]At least one survival type ELT shall be located with each liferaft carried (See 7.1.8.17).

(d) [AAC] Batteries used in ELT's shall be replaced (or recharged if the battery is rechargeable) when—

(1) The transmitter has been in use for more than one cumulative hour; or

(2) 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired.

(e) [AAC] The expiration date for a replacement or recharged ELT battery shall be legibly marked on the outside of the transmitter.

(f) Except as provided for in 7.1.5.5 (g), all aeroplanes authorized to carry more than 19 passengers shall be equipped with at least one automatic ELT or two ELTs of any type.

(g) All aeroplanes authorized to carry more than 19 passengers for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with either:

1. at least two ELTs, one of which shall be automatic; or

2. at least one ELT and a capability that meets the requirements of 8.8.2.12

(h) Except as provided for in 7.1.5.5 (i), all aeroplanes authorized to carry 19 passengers or less shall be equipped with at least one ELT of any type.

(i) All aeroplanes authorized to carry 19 passengers or less for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least one automatic ELT.

(j) ELT equipment carried to satisfy the requirements of 7.1.5.5 (a), 7.1.5.5 (e), 7.1.5.5 (f), 7.1.5.5 (g) and 7.1.5.5

(k) shall operate in accordance with the relevant provisions of Annex 10, Volume III.

(l) From 1 July 2008, all helicopters operating in performance Class 1 and 2 shall be equipped with at least one automatic ELT and, when operating on flights over water as described in 7.1.5.18, with at least one automatic ELT and one ELT(S) in a raft or life jacket.

(m) From 1 July 2008, all helicopters operating in performance Class 3 shall be equipped with at least one automatic ELT and, when operating on flights over water as described in 7.1.5.18, with at least one automatic ELT and one ELT(S) in a raft or life jacket.

(n) ELT equipment carried to satisfy the requirements above shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note: The battery useful life (or useful life of charge) requirements do not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

7.1.8.6 PORTABLE FIRE EXTINGUISHERS

7.1.8.7 PORTABLE FIRE EXTINGUISHERS

(d) [AAC] No person may operate an aircraft unless the aircraft is equipped with portable fire extinguishers of a type that, when discharged, will not cause dangerous contamination of the air within the aircraft. At least one portable fire extinguisher shall be located in:

(16) The pilot's compartment; and

(17) Each passenger compartment that is separate from the pilot's compartment and not readily accessible to the flight crew.

Note: Any portable fire extinguisher so fitted in accordance with the certificate of airworthiness of the aeroplane may count as one prescribed.

(a) [AOC] No person may operate an aircraft unless the aircraft is equipped with portable fire extinguishers accessible for use in crew, passenger, and cargo compartments as follows:

(18) The type and quantity of extinguishing agent shall be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used.

(19) At least one portable fire extinguisher shall be provided and conveniently located for use in each Class E

cargo compartment that is accessible to crew members during flight, and at least one portable fire extinguisher shall be located in each upper and lower lobe galley.

(20) At least one portable fire extinguisher shall be conveniently located on the flight deck for use by the flight crew.

(21) At least one portable fire extinguisher shall be conveniently located in the passenger compartment if the passenger compartment is separate from the flight deck and not readily accessible to the flight crew.

(22) For each aeroplane having a passenger seating capacity of more than 30, there shall be at least the following number of portable fire extinguishers conveniently located and uniformly distributed throughout the compartment:

Minimum Number of Hand Fire Extinguishers Passenger Seating Capacity	
7 through 29	1
30 through 60	2
61 through 200	3
201 through 300	4
301 through 400	5
401 through 500	6
501 through 600	7
601 and more	8

(b) [AAC] Any agent used in a portable fire extinguisher in an aircraft for which the individual certificate of airworthiness is first issued on or after 31 December 2011, and any extinguishing agent used in a portable fire extinguisher in an aircraft for which the individual certificate of airworthiness is first issued on or after 31 December 2018, shall:

(23) Meet the applicable minimum performance requirements of the Authority; and

(24) Not contain Halon 1211, Halon 1301, or Halon 2402.

Note 1: The substances listed in paragraph 7.9.1.6(c)(2) of this part, Halon 1211, Halon 1301, and Halon 2402, are listed Annex A, Group II, of the Montreal Protocol on Substances that Deplete the Ozone Layer, *8th Edition, 2009, which is listed in ICAO Annex 6, Part I: 6.2.2.1; ICAO Annex 6, Part II: 2.4.2.3; and ICAO Annex 6, Part III, Section III: 4.1.3.2. and 4.2.2.1.*

Note 2: Information concerning extinguishing agents is contained in the UNEP Halons Options Committee Technical Note 1, New Technology Halon Alternatives, and FAA Report DOT/FAA/AR-99-63, Options to the Use of Halons for Aircraft Fire Suppression Systems.

7.1.8.8 LAVATORY FIRE EXTINGUISHER

(c) [AAC] No person may operate an aircraft unless each lavatory in the aircraft is equipped with a built-in fire extinguisher for each disposal receptacle for towels, paper, or waste located within the lavatory.

(d) [AAC] Built-in lavatory fire extinguishers shall be designed to discharge automatically into each disposal receptacle upon occurrence of a fire in the receptacle.

(e) [AAC] Any agent used in a built-in fire extinguisher for each lavatory disposal receptacle for towels or waste in an aircraft for which the individual certificate of airworthiness is first issued on or after 31 December 2011 shall:

(25) Meet the applicable minimum performance requirements of the Authority; and

(26) Not contain Halon 1211, Halon 1301, or Halon 2402.

Note 1: The substances listed in paragraph 7.9.1.7(c)(2) of this part, Halon 1211, Halon 1301, and Halon 2402, are listed Annex A, Group II of the Montreal Protocol on Substances that Deplete the Ozone Layer, *8th Edition, 2009, which is listed in ICAO Annex 6, Part I: 6.2.2.1; ICAO Annex 6, Part II: 2.4.2.3; and ICAO Annex 6, Part III, Section III: 4.1.3.2.*

Note 2: Information concerning extinguishing agents is contained in the UNEP Halons Options Committee Technical Note 1, New Technology Halon Alternatives, *and FAA Report DOT/FAA/AR-99-63,* Options to the Use of Halons for Aircraft Fire Suppression Systems.

7.1.8.9 LAVATORY SMOKE DETECTOR

(a) [AOC] No person may operate a passenger-carrying transport category aeroplane unless each lavatory in the aeroplane is equipped with a smoke detector system or equivalent that provides—

(1) A warning light in the cockpit; or

(2) A warning light or audio warning in the passenger cabin which would be readily detected by a flight attendant, taking into consideration the positioning of flight attendants throughout the passenger compartment during various phases of flight.

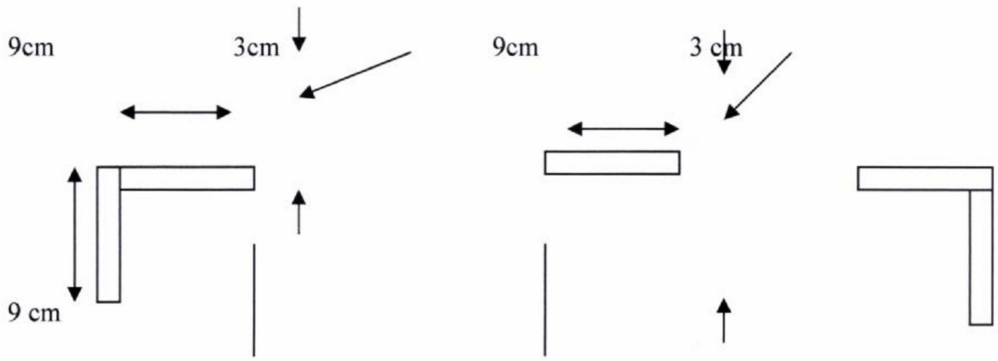
7.1.8.10 CRASH AXE

[AOC] No AOC holder shall operate a large aeroplane unless it is equipped with a crash axe appropriate to effective use in that type of aeroplane, stored in a place not visible to passengers on the aeroplane.

7.1.8.11MARKING OF BREAK-IN POINTS

(a) [AAC] If areas of the fuselage suitable for break-in by rescue crews in an emergency are marked on an aeroplane, such areas shall be marked as shown below, and the colour of the markings shall be red or yellow and, if necessary, they shall be outlined in white to contrast with the background.

(b) If the corner markings are more than 2 m apart, intermediate lines 9 cm x 3 cm shall be inserted so that there is no more than 2 m between adjacent markings.



Not over 2 m



3 cm



7.1.8.12FIRST-AID AND EMERGENCY MEDICAL KIT

(a) [AOC] No person may operate and aircraft unless it is equipped with accessible first-aid kits and, on passenger flights, an approved emergency medical kit for treatment of injuries or medical emergencies that might occur during flight time or in minor accidents.

(b) [AOC] The number of first-aid kits to be carried shall be to the following scale:

(27) The location of first aid kits shall be:

(iv) Distributed evenly throughout the aircraft;

(v) Readily accessible to cabin crew members, if cabin crew members are required for flight; and

(vi) Located near the aircraft exits, should their use be required outside the aircraft in an emergency situation.

(f) UNIVERSAL PRECAUTION KIT.

(28) No person shall operate an aircraft that requires a cabin crew member unless the aircraft is equipped with at least one universal precaution kit.

(29) The contents of universal precaution kits to be carried shall comply with the requirements prescribed in IS 7.9.1.11.

(30) Each aircraft shall carry universal precaution kits in accordance with the following:

(vii) Two kits; and

(viii) Additional kits, as determined by the Authority, at times of increased public health risk, such as during an outbreak of a serious communicable disease having pandemic potential.

7.1.8.13EMERGENCY MEDICAL KIT – AEROPLANES

(g) [AOC] No person may operate a passenger flight in an aeroplane with 30 seats or more unless the aeroplane is equipped with an approved emergency medical kit for treatment of injuries or medical emergencies that might occur during flight time or in minor accidents.

(h) [AOC] The contents of emergency medical kits to be carried shall comply with the requirements prescribed in IS 7.9.1.12.

(i) [AOC] The medical kit shall be stored in a secure location.

7.1.8.14OXYGEN STORAGE AND DISPENSING APPARATUS

ALL AEROPLANES ON HIGH ALTITUDE FLIGHTS

Note.— Approximate altitude in the Standard Atmosphere corresponding to the value of absolute pressure used in this text is as follows:

Absolute pressure Metres Feet

700 hPa 3 000 10 000

620 hPa 4 000 13 000

376 hPa 7 600 25 000

An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa in personnel compartments shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 4.3.9.1.

An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa but which is provided with means of maintaining pressures greater than 700 hPa in personnel compartments shall be provided with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in IS: 7.1.8.12.

Pressurized aeroplanes newly introduced into service on or after 1 July 1962 and intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa shall be equipped with a device to provide positive warning to the flight crew of any dangerous loss of pressurization.

An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or

which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa, cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa and for which the individual certificate of airworthiness is first issued on or after 9 November 1998, shall be provided with automatically deployable oxygen equipment to satisfy the requirements of 4.3.9.2. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew seats by at least 10 per cent.

An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, and for which the individual certificate of airworthiness was first issued before 9 November 1998, should be provided with automatically deployable oxygen equipment to satisfy the requirements of 4.3.9.2. The total number of oxygen dispensing units should exceed the number of passenger and cabin crew seats by at least 10 per cent.

ALL HELICOPTERS ON HIGH ALTITUDE FLIGHTS

A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa in

personnel compartments shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.1.

A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa, but which is provided with means of maintaining pressures greater than 700 hPa in personnel compartments, shall be provided with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.2.

A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa, cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, and for which the individual certificate of airworthiness was issued on or after 9 November 1998, shall be provided with automatically deployable oxygen equipment to satisfy the requiements of 2.3.8.2. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew seats by at least 10 per cent.A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa, cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, and for which the individual certificate of airworthiness was issued before 9 November 1998, should be provided with automatically deployable oxygen equipment to satisfy the requirements of 2.3.8.2. The total number of oxygen dispensing units should exceed the number of passenger and cabin crew seats by at least 10 per cent.

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Implementing Standard: See IS: 7.1.8.12 to determine the amount of supplemental oxygen needed for non-pressurised and pressurised aircraft.

7.1.8.15PROTECTIVE BREATHING EQUIPMENT

(a) [AOC] No AOC holder may operate an aeroplane with a maximum certified takeoff mass exceeding 5700 kg. or having a maximum approved seating configuration of more than 19 seats unless—

(1) It has PBE to protect the eyes, nose and mouth of each flight crew member while on flight deck duty and to provide oxygen for a period of not less than 15 minutes; and

(2) It has sufficient portable PBE to protect the eyes, nose and mouth of all required cabin crew members and to provide breathing gas for a period of not less than 15 minutes.

(b) [AOC] The oxygen supply for PBE may be provided by the required supplemental oxygen system.

(c) [AOC] The PBE intended for flight crew use shall be conveniently located on the flight deck and be easily accessible for immediate use by each required flight crew member at their assigned duty station.

(d) [AOC] The PBE intended for cabin crew use shall be installed adjacent to each required cabin crew member duty station.

(e) [AOC] Easily accessible portable PBE shall be provided and located at or adjacent to the required hand fire extinguishers except that, where the fire extinguisher is located inside a cargo compartment, the PBE shall be stowed outside but adjacent to the entrance to that compartment.

(f) [AOC] The PBE while in use shall not prevent required communication.

7.1.8.16FIRST AID OXYGEN DISPENSING UNITS

(a) [AOC] No AOC holder may conduct a passenger carrying operation in a pressurised aeroplane at altitudes above 25,000 feet, when a cabin crew member is required to be carried, unless it is equipped with—

(1) Undiluted first-aid oxygen for passengers who, for physiological reasons, may require oxygen following a cabin depressurisation; and

(2) A sufficient number of dispensing units, but in no case less than two, with a means for cabin crew to use the supply.

(b) [AOC] The amount of first-aid oxygen required in paragraph (a) for a particular operation and route shall be determined on the basis of—

(1) Flight duration after cabin depressurisation at cabin altitudes of more than 8,000 feet;

(2) An average flow rate of at least 3 litres Standard Temperature Pressure Dry/minute/person; and

(3) At least 2% of the passengers carried, but in no case for less than one person.

(j) The amount of first aid oxygen required for a particular operation shall be determined on the basis of cabin pressure altitudes and flight duration, consistent with the operating procedures established for each operation and route.

The oxygen equipment provided shall be capable of generating a mass flow to each user of at least 4 litres per minute, STPD. Means may be provided to decrease the flow to not less than 2 litres per minute, STPD, at any altitude.

7.1.8.17 MEGAPHONES

(a) [AOC] Each person operating a passenger-carrying aeroplane shall have a portable battery-powered megaphone or megaphones readily accessible to the crew members assigned to direct emergency evacuation.

(b) [AOC] The number and location of megaphones required in paragraph (a) shall be determined as follows:

(1) On aeroplanes with a seating capacity of more than 60 and less than 100 passengers, one megaphone shall be located at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat; and

(2) On aeroplanes with a seating capacity of more than 99 passengers, two megaphones in the passenger cabin on each aeroplane one installed at the forward end and the other at the most rearward location where it would be readily accessible to a normal flight attendant seat.

(31) For aeroplanes with more than one passenger deck, in all cases when the total passenger seating configuration of a deck is more than 60, at least one megaphone is required on the deck.

Note: The Authority may grant an exemption from the requirements of paragraph 7.9.1.16(b) of this part if the Authority finds that a different location will be more useful for evacuation of persons during an emergency.

7.1.8.18 INDIVIDUAL FLOTATION DEVICES

(a) [AAC] All aircraft operated on flights over water at a distance of more than 93 km (50 NM) from land suitable for making an emergency landing shall be equipped with one life jacket or equivalent individual floatation device for each person on board.

(b) [AAC] All life jackets or equivalent individual floatation devices shall be stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.

(c) [AAC] For extended overwater operations, each individual floatation device shall be fitted with an approved survivor locator light.

(d) [AAC] Upon application by an aircraft operator, the Authority may approve the operation of an aeroplane over water without individual flotation devices, if the aircraft operator shows that the water over which the aeroplane is to be operated is not of such size and depth that individual flotation devices should be required for the survival of its occupants in the event the flight terminates in that water.

(k) SEAPLANES.

(1) [AoC] For all flights, seaplanes shall be equipped with the equipment prescribed in paragraph 7.9.1.17(a)(2) of this subsection.

Note: Life jackets accessible from seats or berths located in crew rest compartments are required only if the seats or berths concerned are certified to be occupied during take-off and landing.

7.1.8.19 LIFE RAFT

(a) [AOC] No person may operate an aeroplane in commercial air transport in extended overwater operations without having on the aeroplane enough life rafts with rated capacities and buoyancy to accommodate the occupants of the aeroplane.

Note: Unless excess rafts of enough capacity are provided, the buoyancy and seating capacity of the rafts shall accommodate all occupants of the aeroplane in the event of a loss of one raft of the largest rated capacity.

(b) [AOC] Life rafts shall be stowed so as to facilitate their ready use in emergency.

(c) [AOC] Life rafts shall be equipped with—

(1) A survivor locator light;

(2) A survival kit;

(3) A pyrotechnic signalling device; and

(4) An ELT (See 7.1.8.5).

(d) [AOC] Life rafts which are not deployable by remote control and which have a mass of more than 40 kg shall be equipped with some means of mechanically assisted deployment.

7.1.8.20 FLOTATION DEVICE FOR HELICOPTER DITCHING

[AAC] All helicopters flying over water at a distance from land corresponding to more than 10 minutes at normal cruise speed in the case of performance Class 1 or 2 helicopters, or flying over water beyond autorotational or safe forced landing distance from land in the case of performance Class 3 helicopters, shall be fitted with a permanent or rapidly deployable means of floatation so as to ensure a safe ditching of the helicopter.

7.1.9 Miscellaneous Systems and Equipment

7.1.9.1 SEATS, SAFETY BELTS, AND SHOULDER HARNESSES

(a) [AOC] Each aircraft used in passenger operations shall be equipped with the following seats, safety belts, and shoulder harnesses that meet the airworthiness requirements for type certification of that aircraft:

(1) A seat or berth with safety belt for each person on board over an age of 2.

Note: A berth designed to be occupied by two persons, such as a multiple lounge or divan seat, shall be equipped with an approved safety belt for use by two occupants during en route flight only.

(2) A safety harness for each flight crew member seat.

(ix) The safety harness for each pilot seat shall incorporate a device that will automatically restrain the occupant's torso in the event of rapid deceleration.

(x) The safety harness for each pilot seat, which includes shoulder straps and a seat belt, shall incorporate a restraining device to prevent a suddenly incapacitated pilot from interfering with the flight controls.

A forward or rearward facing (within 15 degrees of the longitudinal axis of the aeroplane) seat equipped with a safety harness for each cabin crew member station in the passenger compartment.

The cabin crew member seats shall be located near floor level and other emergency exits as required by the Authority for emergency evacuation.

7.1.9.2 PASSENGER AND PILOT COMPARTMENT DOORS

(a) [AOC] PILOT COMPARTMENT DOOR.

(1) No person may operate a passenger-carrying aeroplane of a maximum certificated take-off mass of over 45 500 kg (100 310 lbs) or with a passenger seating capacity greater than 60 unless that aircraft is equipped with an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons.

(2) No person may operate a passenger-carrying aeroplane having a certificated take-off mass of less than 45 500 kg (100 310 lbs) or with a passenger seating capacity of less than 60 unless that aircraft is equipped with an approved flight crew compartment door, where practicable, that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons.

(3) Each pilot compartment door shall be capable of being locked and unlocked from either pilot station.

(4) A means shall be provided for monitoring from either pilot station the entire door area outside the pilot compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.

(b) [AOC] PASSENGER COMPARTMENT DOORS.

(1) Each passenger compartment door shall have:

(i) A means for the crew, in an emergency, to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers;

(ii) A placard on each door used to access a required passenger emergency exit, indicating that such door shall be open during take-off and landing; and

(iii) A means readily available for each crew member to unlock any door that separates a passenger compartment from another compartment that has emergency exit provisions.

7.1.9.3 PASSENGER INFORMATION SIGNS

(a) [AOC] No AOC holder may operate a passenger carrying aeroplane unless it is equipped with—

(1) At least one passenger information sign (using either letters or symbols) notifying when smoking is prohibited and one sign (using either letters or symbols) notifying when safety belts should be fastened shall, when illuminated, be legible to each person seated in the passenger cabin under all probable conditions of cabin illumination;

(2) Signs which notify when safety belts should be fastened and when smoking is prohibited shall be so constructed that the crew can turn them on and off;

(3) A sign or placard affixed to each forward bulkhead and each passenger seat back that reads "Fasten Seat Belt While Seated."

7.1.9.4 PUBLIC ADDRESS SYSTEM

(a) [AOC] No AOC holder may operate a passenger carrying aeroplane with a maximum approved passenger seating configuration of more than 19 unless a public address system is installed that—

(1) Operates independently of the interphone systems except for handsets, headsets, microphones, selector switches and signalling devices;

(2) For each required floor level passenger emergency exit which has an adjacent cabin crew seat, has a microphone which is readily accessible to the seated cabin crew member, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin crew members; and

(3) Is capable of operation within 10 seconds by a cabin crew member at each of those stations in the compartment from which its use is accessible; and

(4) Is audible and intelligible at all passenger seats, toilets, and cabin crew seats and workstations

(5) ICAO Annex 6: 6.2.2

7.1.9.5 MATERIALS FOR CABIN INTERIORS

(a) [AOC] Upon the first major overhaul of an aeroplane cabin or refurbishing of the cabin interior, all materials in each compartment used by the crew or passengers that do not meet the current airworthiness requirements pertaining to materials used in the interior of the cabin for type certification in the transport category as cited by the Authority, shall be replaced with materials that meet the requirements specified by the Authority.

(b) [AOC] Seat cushions, except those on flight crew member seats, in any compartment occupied by crew or passengers shall meet requirements pertaining to fire protection as specified by the Authority.

7.1.9.6 MATERIALS FOR CARGO AND BAGGAGE COMPARTMENTS

(a) [AOC] Each Class C or D cargo compartment greater than 200 cubic feet in volume in a transport category aeroplane type certified after January 1, 1958 shall have ceiling and sidewall liner panels which are constructed of—

(1) Glass fibre reinforced resin;

(2) Materials which meet the test requirements for flame resistance of cargo compartment liners as prescribed for type certification; or

(3) In the case of installations approved prior to March 20, 1989, aluminium.

Note: The term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain fire.

7.1.9.7 POWER SUPPLY, DISTRIBUTION, AND INDICATION SYSTEM

(a) [AOC] No AOC holder may operate an aeroplane unless it is equipped with—

(1) A power supply and distribution system that meets the airworthiness requirements for certification of an aeroplane in the transport category, as specified by the Authority, or

(2) A power supply and distribution system that is able to produce and distribute the load for the required instruments and equipment, with use of an external power supply if any one power source or component of the power distribution system fails.

Note: The use of common elements in the power system may be approved if the Authority finds that they are designed to be reasonably protected against malfunctioning.

(3) A means for indicating the adequacy of the power being supplied to required flight instruments.

(b) [AOC] Engine-driven sources of energy, when used, shall be on separate engines.

7.1.9.8 PROTECTIVE CIRCUIT FUSES

[AOC] No AOC holder may operate an aeroplane in which protective fuses are installed unless there are spare fuses available for use in flight equal to at least 10% of the number of fuses of each rating or three of each rating whichever is the greater.

7.1.9.9 ICING PROTECTION EQUIPMENT

(a) [AAC] Unless an aeroplane is certified under the transport category airworthiness requirements relating to ice protection, no person may operate an aeroplane in icing conditions unless it is equipped for the prevention or removal of ice on windshields, wings, empennage, propellers, and other parts of the aeroplane where ice formation will adversely affect the safety of the aeroplane.

(b) [AOC] No AOC holder may operate an aircraft in expected or actual icing conditions at night unless it is equipped with a means to illuminate or detect the formation of ice.

Note: Any illumination that is used shall be of a type that will not cause glare or reflection that would handicap crew members in the performance of their duties.

7.1.9.10PITOT HEAT INDICATION SYSTEMS

(a) [AoC] No person may operate an aircraft in instrument flight conditions unless the aircraft is equipped with a pitot heat system.

(b) [AOC] No AOC holder may operate an aeroplane equipped with a flight instrument pitot heating system unless the aeroplane is also equipped with an operable pitot heat indication system that complies with the following requirements:

(2) The indication provided shall incorporate an amber light that is in clear view of a flight crew member. The indication provided shall be designed to alert the flight crew if either:

(3) The pitot heating system is switched "off"; and

(4) The pitot heating system is switched "on" and any pitot tube heating element is inoperative; or

(5) An integrated flight crew alerting system that will notify the crew if the pitot system is malfunctioning.

7.1.9.11 STATIC PRESSURE SYSTEM

(a) [AOC] No person may operate an aircraft unless the aircraft is equipped with a static pressure system vented to the outside atmospheric pressure so that it will be least affected by airflow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent.

(b) [AOC] No person may operate an aircraft in IFR or VFR at night unless the aircraft is equipped with a static pressure system vented to the outside atmospheric pressure so that it will be least affected by airflow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent, and a means of selecting an alternative source of static pressure.

(c) [AOC] No person may operate an aircraft unless the aircraft is equipped with two independent static pressure systems vented to the outside atmospheric pressure so that they will be least affected by airflow variation or moisture or other foreign matter and installed so as to be airtight except for the vent.

7.1.9.12WINDSHIELD WIPERS

[AOC] No AOC holder may operate an aeroplane with a maximum certified take-off mass of more than 5700 kg unless it is equipped at each pilot station with a windshield wiper or equivalent means to maintain a clear portion of the windshield during precipitation.

7.1.9.13CHART HOLDER

[AOC] No AOC holder may operate an aeroplane unless a chart holder is installed in an easily readable position which can be illuminated for night operations.

7.1.9.14COSMIC RADIATION DETECTION EQUIPMENT

[AAC] No person shall operate an aeroplane intended to be operated above 15 000 m (49 000 ft) unless the aeroplane is equipped with:

(1) An instrument to measure and indicate continuously the dose rate of total cosmic radiation being received (i.e., the total of ionising and neutron radiation of galactic and solar origin) and the cumulative dose on each flight;

(2) A system of on-board quarterly radiation sampling acceptable to the Authority; and

(3) A display unit readily visible to a flight crew member.

The operator shall have the equipment calibrated on the basis of assumptions acceptable to the Authority.

SCHEDULE

Table of Definitions

Terms	Definitions
Accelerate-stop distance available (ASDA).	The length of the take-off run available plus the length of stopway, if provided.
Advanced aircraft.	An aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach or landing operation.
Aerial work.	An aircraft operation in which an aircraft is used for specialized services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue, aerial advertisement, etc.
Aerodrome.	A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
Aerodrome operating minima.	The limits of usability of an aerodrome for: a) take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions; b) landing in 2D instrument approach operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and c) landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.
Aeroplane.	A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.
Agreement summary.	When an aircraft is operating under an Article 83 bis agreement between the State of Registry and another State, the agreement summary is a document transmitted with the Article 83 bis Agreement registered with the ICAO Council that identifies succinctly and clearly which functions and duties are transferred by the State of Registry to that

	other State. Note.— The other State in the above definition refers to the State of the Operator for commercial air transport operations.
Aircraft.	Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.
Aircraft operating manual.	A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft. Note.— The aircraft operating manual is part of the operations manual.
Aircraft tracking.	A process, established by the operator, that maintains and updates, at standardized intervals, a ground-based record of the four dimensional position of individual aircraft in flight.
Air operator certificate (AOC).	A certificate authorizing an operator to carry out specified commercial air transport operations.
Air traffic service (ATS).	A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).
Airworthy.	The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.

Alternate aerodrome	An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate aerodromes include the following: Take-off alternate. An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure. En-route alternate. An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route. Destination alternate. An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing. Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.
Altimetry system error (ASE).	The difference between the altitude indicated by the altimeter display, assuming a correct altimeter barometric setting, and the pressure altitude corresponding to the undisturbed ambient pressure.
Appropriate airworthiness requirements.	The comprehensive and detailed airworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.
Approval.	An authorization granted by an appropriate national authority for: a) the transport of dangerous goods forbidden on passenger and/or cargo aircraft where the Technical Instructions state that such goods may be carried with an approval; or b) other purposes as provided for in the Technical Instructions. Note.— In the absence of a specific reference in the Technical Instructions allowing the granting of an approval, an exemption may be sought.

Area navigation (RNAV).	Area navigation (RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these. Note.— Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.
Basic aircraft.	An aircraft which has the minimum equipment required to perform the intended take-off, approach or landing operation.
Cabin crew member.	A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.
Cargo aircraft.	Any aircraft, other than a passenger aircraft, which is carrying goods or property.
Consignment.	One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.
COMAT.	Operator material carried on an operator's aircraft for the operator's own purposes.
Combined vision system (CVS).	A system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS).
Commercial air transport operation.	An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.
Configuration deviation list (CDL).	A list established by the organization responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction.

Contaminated runway.	A runway is contaminated when a significant portion of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by one or more of the substances listed in the runway surface condition descriptors. Note.— Further information on runway surface condition descriptors can be found in the Annex 14, Volume I —Definitions.
Continuing airworthiness.	The set of processes by which an aircraft, engine, propeller or part complies with the applicable airworthiness requirements and remains in a condition for safe operation throughout its operating life.
Continuing airworthiness records.	Records which are related to the continuing airworthiness status of an aircraft, engine, propeller or associated part.
Continuous descent final approach (CDFA).	A technique, consistent with stabilized approach procedures, for flying the final approach segment (FAS) of an instrument non-precision approach (NPA) procedure as a continuous descent, without leveloff, from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre begins for the type of aircraft flown; for the FAS of an NPA procedure followed by a circling approach, the CDFA technique applies until circling approach minima (circling OCA/H) or visual flight manoeuvre altitude/height are reached.
Crew member.	A person assigned by an operator to duty on an aircraft during a flight duty period.
Cruise relief pilot.	A flight crew member who is assigned to perform pilot tasks during cruise flight, to allow the pilot-incommand or a co-pilot to obtain planned rest.
Cruising level.	A level maintained during a significant portion of a flight.
Dangerous goods.	Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Dangerous goods accident.	An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.
Dangerous goods incident.	An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to constitute a dangerous goods incident.
Decision altitude (DA) or decision height (DH).	A specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. Note 1.— Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation. Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation. Note 3.— For convenience where both expressions are used they may be written in the form "decision altitude/height" and abbreviated "DA/H".
Designated postal operator.	Any governmental or non-governmental entity officially designated by a Universal Postal Union (UPU) member country to operate postal services and to fulfil the related obligations arising from the acts of the UPU Convention on its territory.

Dry runway.	A runway is considered dry if its surface is free of visible moisture and not contaminated within the area intended to be used.
Duty.	Any task that flight or cabin crew members are required by the operator to perform, including, for example, flight duty, administrative work, training, positioning and standby when it is likely to induce fatigue.
Duty period.	A period which starts when a flight or cabin crew member is required by an operator to report for or to commence a duty and ends when that person is free from all duties.
EDTO critical fuel.	The fuel quantity necessary to fly to an en-route alternate aerodrome considering, at the most critical point on the route, the most limiting system failure. Note.— Guidance on EDTO critical fuel scenarios is contained in the Extended Diversion Time Operations (EDTO) Manual (Doc 10085).
EDTO significant system.	An aeroplane system whose failure or degradation could adversely affect the safety particular to an EDTO flight, or whose continued functioning is specifically important to the safe flight and landing of an aeroplane during an EDTO diversion.
Electronic flight bag (EFB).	An electronic information system, comprised of equipment and applications for flight crew, which allows for the storing, updating, displaying and processing of EFB functions to support flight operations or duties.
Emergency locator transmitter (ELT).	A generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated. 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
Engine.	A unit used or intended to be used for aircraft propulsion. It consists of at least those components and equipment necessary for functioning and control, but excludes the propeller/rotors (if applicable).
Enhanced vision system (EVS).	A system to display electronic real-time images of the external scene achieved through the use of image sensors. Note.— EVS does not include night vision imaging systems (NVIS).
Exception.	A provision in this Annex which excludes a specific item of dangerous goods from the requirements normally applicable to that item.
Exemption.	An authorization, other than an approval, granted by an appropriate national authority providing relief from the provisions of the Technical Instructions.
Extended diversion time operations (EDTO)	. Any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by the State of the Operator
Extended overwater operation.	In the case of single-engine land planes, extended overwater operation means a distance of more than 185 km (100 nm) from land suitable for making an emergency landing. In the in the case of multi-engine land planes, more than 370 km (200 nm) from land suitable for making an emergency landing, with the capability of continuing flight with one engine inoperative.
Fatigue.	A physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and/or workload (mental and/or physical activity)

	that can impair a person's alertness and ability to perform safety-related operational duties.
Fatigue Risk Management System (FRMS).	A data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.
Final approach segment (FAS).	That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.
Flight crew member.	A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.
Flight data analysis.	A process of analysing recorded flight data in order to improve the safety of flight operations.
Flight duty period.	A period which commences when a flight or cabin crew member is required to report for duty that includes a flight or a series of flights and which finishes when the aircraft finally comes to rest and the engines are shut down at the end of the last flight on which he/she is a crew member.
Flight manual.	A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft.
Flight operations officer/flight dispatcher.	A person designated by the operator to engage in the control and supervision of flight operations, whether licensed or not, suitably qualified in accordance with Annex 1, who supports, briefs and/or assists the pilot-in-command in the safe conduct of the flight.
Flight plan.	Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.
Flight recorder.	Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation. Automatic deployable flight recorder (ADFR). A

	combination flight recorder installed on the aircraft which is capable of automatically deploying from the aircraft.
Flight safety documents system.	A set of interrelated documentation established by the operator, compiling and organizing information necessary for flight and ground operations, and comprising, as a minimum, the operations manual and the operator's maintenance control manual.
Flight simulation training device.	Any one of the following three types of apparatus in which flight conditions are simulated on the ground: A flight simulator, which provides an accurate representation of the flight deck of a particular aircraft type to the extent that the mechanical, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated; A flight procedures trainer, which provides a realistic flight deck environment, and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, etc. aircraft systems, and the performance and flight characteristics of aircraft of a particular class; A basic instrument flight trainer, which is equipped with appropriate instruments, and which simulates the flight deck environment of an aircraft in flight in instrument flight conditions.
Flight time — aeroplanes.	The total time from the moment an aeroplane first moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight. Note.— Flight time as here defined is synonymous with the term "block to block" time or "chock to chock" time in general usage which is measured from the time an aeroplane first moves for the purpose of taking off until it finally stops at the end of the flight
General aviation operation.	An aircraft operation other than a commercial air transport operation or an aerial work operation.

Ground handling.	Services necessary for an aircraft's arrival at, and departure from, an airport, other than air traffic services
Head-up display (HUD).	A display system that presents flight information into the pilot's forward external field of view.
Human Factors principles.	Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.
Human performance.	Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.
Instrument approach operations.	An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations: a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance. Note.— Lateral and vertical navigation guidance refers to the guidance provided either by: a) a ground-based radio navigation aid; or b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Instrument approach procedure (IAP)	A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows: Non-precision approach (NPA) procedure. An instrument approach procedure designed for 2D instrument approach operations Type A. Note.— Non-precision approach procedures may be flown using a continuous descent final approach (CDFA) technique. CDFAs with advisory VNAV guidance calculated by on-board equipment are considered 3D instrument approach operations. CDFAs with manual calculation of the required rate of descent are considered 2D instrument approach operations. For more information on CDFAs, refer to PANS-OPS (Doc 8168), Volume I, Part II, Section 5. Approach procedure with vertical guidance (APV). A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A. Precision approach (PA) procedure. An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach operations Type A or B. Note.— Refer to 4.2.8.3 for instrument approach operation types.
Instrument meteorological conditions (IMC).	Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling,* less than the minima specified for visual meteorological conditions. Note.— The specified minima for visual meteorological conditions are contained in Chapter 4 of Annex 2.
Isolated aerodrome.	A destination aerodrome for which there is no destination alternate aerodrome suitable for a given aeroplane type.

Landing distance available (LDA).	The length of runway which is declared available and suitable for the ground run of an aeroplane landing
Large aeroplane.	An aeroplane of a maximum certificated take-off mass of over 5 700 kg.
Low-visibility operations (LVO).	Approach operations in RVRs less than 550 m and/or with a DH less than 60 m (200 ft) or take-off operations in RVRs less than 400 m.
Maintenance.	The performance of tasks on an aircraft, engine, propeller or associated part required to ensure the continuing airworthiness of an aircraft, engine, propeller or associated part including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair.
Maintenance programme.	A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies.
Maintenance release.	A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner in accordance with appropriate airworthiness requirements.
Master minimum equipment list (MMEL).	A list established for a particular aircraft type by the organization responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures.
Maximum diversion time.	Maximum allowable range, expressed in time, from a point on a route to an en-route alternate aerodrome.
Maximum mass.	Maximum certificated take-off mass.

Minimum descent altitude (MDA) or minimum descent height (MDH).	A specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference. Note 1.— Minimum descent altitude (MDA) is referenced to mean sea level and minimum descent height (MDH) is referenced to the aerodrome elevation or to the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. A minimum descent height for a circling approach is referenced to the aerodrome elevation. Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment. Note 3.— For convenience when both expressions are used they may be written in the form "minimum descent altitude/ height" and abbreviated "MDA/H".
Minimum equipment list (MEL)	A list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the MMEL established for the aircraft type.
Modification.	A change to the type design of an aircraft, engine or propeller. Note.— A modification may also include the embodiment of the modification which is a maintenance task subject to a maintenance release. Further guidance on aircraft maintenance — modification and repair is contained in the Airworthiness Manual (Doc 9760).

Navigation specification.	A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications: Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH. Area navigation (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1. Note 1.— The Performance-based Navigation (PBN) Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications. Note 2.— The term RNP, previously defined as "a statement of the navigation performance necessary for operation within a defined airspace", has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.
Night.	The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise, as may be prescribed by the appropriate authority. Note.— Civil twilight ends in the evening when the centre of the sun's disc is 6 degrees below the horizon and begins in the morning when the centre of the sun's disc is 6 degrees below the horizon.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH).	The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria. Note 1.— Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approach procedures to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach procedure is referenced to the aerodrome elevation. Note 2.— For convenience when both expressions are used they may be written in the form "obstacle clearance altitude/ height" and abbreviated "OCA/H".
Operational control	The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.
Operational credit.	A credit authorized for operations with an advanced aircraft enabling a lower aerodrome operating minimum than would normally be authorized for a basic aircraft, based upon the performance of advanced aircraft systems utilizing the available external infrastructure.
Operational flight plan.	The operator's plan for the safe conduct of the flight based on considerations of aeroplane performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned.
Operations manual.	A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.
Operations specifications.	The authorizations including specific approvals, conditions and limitations associated with the air operator certificate and subject to the conditions in the operations manual.

Operator.	A person, organization or enterprise engaged in or offering to engage in an aircraft operation.
Operator's maintenance control manual.	A document which describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner.
Overpack.	An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage. Note.— A unit load device is not included in this definition.
Package.	The complete product of the packing operation consisting of the packaging and its contents prepared for transport.
Packaging.	Receptacles and any other components or materials necessary for the receptacle to perform its containment function.
Passenger aircraft.	An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment or other cargo.
Performance-based aerodrome operating minimum (PBAOM).	A lower aerodrome operating minimum, for a given take-off, approach or landing operation, than is available when using a basic aircraft. Note 1.— The PBAOM is derived by considering the combined capabilities of the aircraft and available ground facilities. Additional guidance material on PBAOM may be found in the Manual of All-Weather Operations (Doc 9365). Note 2. — PBAOM may be based on operational credits. Note 3.— PBAOM are not limited to PBN operations.
Performance-based communication (PBC).	Communication based on performance specifications applied to the provision of air traffic services. Note.— An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and associated transaction time, continuity, availability, integrity, safety and functionality needed for the proposed

	operation in the context of a particular airspace concept.
Performance-based navigation (PBN).	Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace. Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.
Performance-based surveillance (PBS).	Surveillance based on performance specifications applied to the provision of air traffic services. Note.— An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and associated data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.
Pilot-in-command.	The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.
Point of no return.	The last possible geographic point at which an aircraft can proceed to the destination aerodrome as well as to an available en-route alternate aerodrome for a given flight.
Pressure-altitude.	An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.*
Psychoactive substances.	Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

Repair.	The restoration of an aircraft, engine, propeller or associated part to an airworthy condition in accordance with the appropriate airworthiness requirements, after it has been damaged or subjected to wear.
Required communication performance (RCP) specification.	A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based communication.
Rest period.	A continuous and defined period of time, subsequent to and/or prior to duty, during which flight or cabin crew members are free of all duties.
Runway visual range (RVR).	The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.
Safe forced landing.	Unavoidable landing or ditching with a reasonable expectancy of no injuries to persons in the aircraft or on the surface.
Safety management system (SMS).	A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.
Serious injury.	An injury which is sustained by a person in an accident and which: a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or d) involves injury to any internal organ; or e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or f) involves verified exposure to infectious substances or injurious radiation.
Small aeroplane.	An aeroplane of a maximum certificated take-off mass of 5 700 kg or less
Specific approval.	An approval which is documented in the operations specifications for commercial air transport operations or in the list of specific approvals for general aviation

	operations. Note.— The terms authorization, specific approval, approval and acceptance are further described in Attachment B.
State of Destination.	The State in the territory of which the consignment is finally to be unloaded from an aircraft.
State of Origin.	The State in the territory of which the consignment is first to be loaded on an aircraft.
State of Registry.	The State on whose register the aircraft is entered. Note.— In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).
State of the Aerodrome.	The State in whose territory the aerodrome is located.
State of the Operator.	The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.
Synthetic vision system (SVS).	A system to display data-derived synthetic images of the external scene from the perspective of the flight deck.
Target level of safety (TLS).	A generic term representing the level of risk which is considered acceptable in particular circumstances.
Technical Instructions.	The Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), approved and issued periodically in accordance with the procedure established by the ICAO Council.

Threshold time.	The range, expressed in time, established by the State of the Operator, to an en-route alternate aerodrome, whereby any time beyond requires a specific approval for EDTO from the State of the Operator.
Total vertical error (TVE).	The vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level).
UN number.	The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals to identify an article or substance or a particular group of articles or substances.
Unit load device.	Any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo. Note.— An overpack is not included in this definition.
Visual meteorological conditions (VMC).	Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling*, equal to or better than specified minima.
Wet runway.	The runway surface is covered by any visible dampness or water up to and including 3 mm deep within the intended area of use.

Made this 16TH day of May, 2024.

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Director-General

For the Guyana Civil Aviation Authority