The Official Gazette

(EXTRAORDINARY)

OF GUYANA

Published by the Authority of the Government

GEORGETOWN, THURSDAY 30TH MAY, 2024

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GEORGETOWN, Demerara – Printed and Published every Saturday and on such Extraordinary Days as may be directed by the Government by Guyana National Printers Limited, 1 Public Road, La Penitence, Greater Georgetown.

THURSDAY 30TH MAY, 2024

THE OFFICIAL GAZETTE 30TH MAY, 2024
LEGAL SUPPLEMENT — B

GUYANA No. 39 of 2024

GUYANA CIVIL AVIATION AUTHORITY

REQUIREMENTS FOR OPERATOINS 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 Operations (No. 2 for 2024) 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 8.1 to 8.12.

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8.1 GENERAL

8.1.1 Applicability and Definitions

8.1.1.1 APPLICABILITY

(a) These Requirements prescribe for:

(1) Operations conducted by airman certified in Guyana while operating aircraft registered in Guyana.

(2) Operations of foreign registered aircraft by Guyana AOC holders.

(3) Operations of aircraft within Guyana by airman or AOC holders of a foreign State.

(b) For operations outside of Guyana, all Guyana pilots and operators shall comply with these requirements unless compliance would result in a violation of the laws of the foreign State in which the operation is conducted.

Note: Where the particular requirement is applicable only to a particular segment of aviation operations, it will be identified by a reference to those particular operations, such as "commercial air transport" or "small non-turbojet or turbofan aeroplanes."

Note: Those specific subsections not applicable to foreign operators will include the phrase "This requirement is not applicable to foreign operators."

8.1.1.2 DEFINITIONS

(a) For the purpose of these Requirements, the following definitions shall apply—

(1) **Advisory airspace.** An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.

(2) **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.

(3) **Aerobatic flight.** Maneuvers intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

(4) **Air navigation facility**. Any facility used in, available for use in, or designed for use in aid of air navigation, including aerodromes, landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and take-off of aircraft.

(5) **Calendar day**. The period of elapsed time, using Co-ordinated Universal Time or local time that begins at midnight and ends 24 hours later at the next midnight.

(6) **Check airman (aeroplane).** A person who is qualified, and permitted, to conduct an evaluation in an aeroplane, in a flight simulator, or in a flight training device for a particular type aeroplane, for a particular AOC holder.

(7) **Check airman (simulator)**. A person who is qualified to conduct an evaluation, but only in a flight simulator or in a flight training device for a particular type aircraft, for a particular AOC holder.

(8) **Controlled flight**. Any flight which is subject to an air traffic control clearance.

(9) **Critical engine**. The engine whose failure would most adversely affect the performance or handling qualities of an aircraft.

(10) **Critical phases of flight**. Those portions of operations involving taxiing, takeoff and landing, and all flight operations below 10,000 feet, except cruise flight.

(11) **Deadhead Transportation**. Time spent in transportation on aircraft (at the insistence of the AOC holder) to or from a crew member's home station

(12) **Defined point after takeoff**. The point, within the takeoff and initial climb phase, before which the Class 2 helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

(13) **Defined point before landing**. The point, within the approach and landing phase, after which the Class 2 helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

(14) **Effective length of the runway**. The distance for landing from the point at which the obstruction clearance plane associated with the approach end of the runway intersects the centerline of the runway to the far end.

(15) **Extended overwater operation.** With respect to aircraft other than helicopters, an operation over water at a horizontal distance of more than 50 nm from the nearest shoreline; and to helicopters, an operation over water at a horizontal distance of more than 50 nm from the nearest shoreline and more than 50 nm from an offshore heliport structure.

(16) **Flight Duty Period**. The total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or a series of flights, to the moment the flight crew member is relieved of all duties having completed such flight or series of flights.

(17) **Flight plan**. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft. The term "flight plan" is used to mean variously, full information on all items comprised in the flight plan description, covering the whole route of a flight, or limited information required when the purpose is to obtain a clearance for a minor portion of a flight such as to cross an airway, to take off from, or to land at a controlled aerodrome.

(18) **General aviation operation**. An aircraft operation other than a commercial air transport operation or an aerial work operation.

(19) **Helideck**. A heliport located on a floating or fixed offshore structure.

(20) **Heliport**. An aerodrome or defined area on a structure intended to be used wholly or in part for the arrival, departure, and surface movement of helicopters.

(21) **Journey log**. A form signed by the PIC of each flight that records the aeroplane's registration, crew member names and duty assignments, the type of flight, and the date, place, and time of arrival and departure.

(22) **Landing decision point**. The point used in determining landing performance from which, an engine failure occurring at this point, the landing may be safely continued, or a balked landing initiated.

(23) **Line operating flight time**. Flight time recorded by the PIC or SIC while in revenue service for an AOC holder.

(24) **Master minimum equipment list (MMEL).** A list established for a particular aircraft type by the manufacturer with the approval of the State of Manufacture 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. The MMEL provides the basis for development, review, and approval by the Authority of an individual operator's MEL.

(25) **Obstruction clearance plane**. A plane sloping upward from the runway at a slope of 1:20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area. In the plane view, the centerline of the specified area coincides with the centerline of the runway, beginning at the point where the obstruction clearance plane intersects the centerline of the runway and proceeding to a point at least 1,500 feet from the beginning point. Thereafter, the centerline coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings), or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4,000-foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions. This area extends laterally 200 feet on each side of the centerline at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centerline at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter, it extends laterally 500 feet on each side of the centerline.

(26) **Operational flight plan.** The operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations, and relevant expected conditions on the route to be followed and at the aerodromes or heliports concerned.

(27) **Passengers exit seats**. Those seats having direct access to an exit, and those seats in a row of seats through which passengers would have to pass to gain access to an exit, from the first seat in-board of the exit to the first aisle inboard of the exit. A passenger seat having "direct access" means a seat from which a passenger can proceed directly to the exit without entering an aisle or passing around an obstruction.

(28) **Rest period.** A period free of all restraint, duty or responsibility for an AOC holder conducting commercial air transport operations.

(29) **Takeoff decision point.** The point used in determining takeoff performance of a Class 1 helicopter from which, an engine failure occurring at this point, either a rejected takeoff may be made or a takeoff safely continued.

8.1.1.3 ACRONYMS

(a) The following acronyms are used in these Requirements:

(1) AFM – Aeroplane Flight Manual
(2) AGL – Above Ground Level
(3) AOC – Air Operator Certificate
(4) AOM – Aircraft Operating Manual
(5) APU – Auxiliary Power Unit
(6) ATC – Air Traffic Control
(7) CAT – Category
(8) CDL – Configuration Deviation List
(9) CRM – Crew Resource Management
(10) DH – Decision Height
(11) ETA – Estimated Time of Arrival
(12) EDTO – Extended Diversion Time Operation
(13) FE – Flight Engineer
(14) FL – Flight Level
(15) GPS – Global Positioning System
(16) IMC – Instrument Meteorological Conditions
(17) INS – Inertial Navigation System
(18) LDA – Localizer-type Directional Aid
(19) LOC – Localizer

(20) LORAN – Long-range Navigation
(21) LVTO – Low Visibility Take Off
(22) MDA – Minimum Decent Altitude
(23) MEA — Minimum En Route Altitude
(24) MEL – Minimum Equipment List (Part 1)
(25) MMEL – Master Minimum Equipment List
(26) MOCA — Minimum Obstruction Clearance Altitude
(27) MSL – Mean Sea Level
(28) NOTAM – Notice to Airmen
(29) RFM – Rotorcraft Flight Manual
(30) RVR – Runway Visibility Range
(31) RVSM – Reduced Vertical Separation Minimum
(32) PBE – Protective Breathing Equipment
(33) PIC – Pilot In Command
(34) SIC – Second In Command
(35) SCA – Senior Cabin Crew member
(36) SM – Statute Miles
(37) TACAN – Tactical Air Navigation System
(38) VMC – Visual Meteorological Conditions
(39) VSM – Vertical Separation Minimum
(40) V_1. Takeoff decision speed.
(41) V_{mo}. Maximum operating speed.
(42) V_{so}. Stalling speed or the minimum steady flight speed in the landing configuration.

8.2 GENERAL OPERATIONS REQUIREMENTS

8.2.1 Aircraft Requirements

8.2.1.1 REGISTRATION MARKINGS

No person may operate a Guyana-registered aircraft unless it is displaying the proper markings prescribed in regulations and requirements issued with respect to aircraft registration and markings.

8.2.1.2 CIVIL AIRCRAFT AIRWORTHINESS

(a) No person may operate a civil aircraft unless it is in an airworthy condition.

(b) Each PIC shall determine whether an aircraft is in a condition for safe flight.

(c) The PIC shall discontinue a flight as soon as practicable when an unairworthy mechanical, electrical, or structural condition occurs.

8.2.1.3 SPECIAL AIRWORTHINESS CERTIFICATE OPERATIONAL RESTRICTIONS

No person may operate an aircraft with a special airworthiness certificate except as provided in the limitations issued with that certificate.

8.2.1.4 AIRCRAFT INSTRUMENTS AND EQUIPMENT

No person may operate an aircraft unless it is equipped with the required instruments and navigation equipment appropriate to type of flight operation conducted and the route being flown.

8.2.1.5 INOPERATIVE INSTRUMENTS AND EQUIPMENT

(a) No person may take off an aircraft with inoperative instruments or equipment installed, except as authorized by the Authority.

(b) An AOC Holder shall not operate a multi-engine aircraft with inoperative instruments and equipment installed unless the following conditions are met:

(1) An approved Minimum Equipment List exists for that aircraft.

(2) The Authority has issued the AOC Holder specific operating provisions authorizing operations in accordance with an approved Minimum Equipment List. The flight crew shall have direct access at all times prior to flight to all of the information contained in the approved Minimum Equipment List through printed or other means approved by the Authority in the AOC Holders specific operating provisions. An approved Minimum Equipment List, as authorized by the specific operating provisions, constitutes an approved change to the type design without requiring recertification.

(3) The approved Minimum Equipment List must:

(i) Be prepared in accordance with the limitations specified in paragraph (c) of this section.

(ii) Provide for the operation of the aircraft with certain instruments and equipment in an inoperative condition.

(4) Records identifying the inoperative instruments and equipment and the information required by paragraph (b)(3)(ii) of this section must be available to the pilot.

(5) The aircraft is operated under all applicable conditions and limitations contained in the Minimum Equipment List and the specific operating provisions authorizing use of the Minimum Equipment List.

(c) The following instruments and equipment may not be included in the Minimum Equipment List:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations under the relevant requirements issued by the Authority.

(d) Notwithstanding paragraphs (c)(1) and (c)(3) of this section, an aircraft with inoperative instruments or equipment may be operated under a special flight permit.

Note: See Implementing Standard for specific limitation on inoperative instruments and equipment.

IS:8.2.1.5 INOPERATIVE INSTRUMENTS AND EQUIPMENT

(a) This implementing standard authorizes flight operations with inoperative instruments and equipment installed in situations where no master minimum equipment list (MMEL) is available and no MEL is required for the specific aircraft operation.

(b) The inoperative instruments and equipment may not be—

(1) Part of the VFR-day instruments and equipment prescribed in regulations and requirements;

(2) Required on the aircraft's equipment list or the operations equipment list for the kind of flight operation being conducted;

(3) Required in regulations and requirements for the specific kind of flight operation being conducted; or

(4) Required to be operational by an airworthiness directive.

(c) To be eligible for these provisions, the inoperative instruments and equipment shall be—

(1) Determined by the PIC not to be a hazard to safe operation;

(2) Deactivated and placarded *Inoperative*; and

Note: If deactivation of the inoperative instrument or equipment involves maintenance, it must be accomplished and recorded in accordance with regulations and requirements made under the Civil Aviation Act with respect to airworthiness.

(3) Removed from the aircraft, the flight deck control placarded and the maintenance recorded in accordance with regulations and requirements made under the Civil Aviation Act with respect to airworthiness.

(d) The following instruments and equipment may not be included in the MEL:

(1) Instruments and equipment that are either specifically or otherwise required by the certification airworthiness requirements and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required for operable condition by an airworthiness directive, unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations.

8.2.1.6 CIVIL AIRCRAFT FLIGHT MANUAL, MARKING AND PLACARD REQUIREMENTS

(a) No person may operate a Guyana-registered civil aircraft unless there is available in the aircraft—

(1) the operations manual prescribed in 9.3.1.2 or those parts of it that pertain to flight operations.

(2) A current, approved AFM or RFM (AOC holder must establish procedures to ensure that the AFM/RFM is updated by implementing changes made mandatory or approved by the State of Registry); or

(3) An AOM approved by the Authority for the AOC holder.

(4) If no AFM or RFM exists, approved manual material, markings and placards, or any combination thereof which provide the PIC with the necessary limitations for safe operation.

(b) No person may operate a civil aircraft within or over Guyana without complying with the operating limitations specified in the approved AFM or RFM, markings and placards, or as otherwise prescribed by the certifying authority for the aircraft's State of Registry.

(c) Each operator shall display in the aircraft all placards, listings, instrument markings or combination thereof, containing those operating limitations prescribed by the certifying authority for the aircraft's State of Registry for visual presentation.

IS: 8.2.1.6 USE OF NARCOTICS, DRUGS, OR INTOXICATING LIQUOR

(a) Whenever there is a reasonable basis to believe that a person may not be in compliance with 8.5.1.5, and upon the request of the Authority, that person shall furnish the Authority or authorize any clinic, doctor, or other person to

release to the Authority, the results of each blood test taken for presence of alcohol or narcotic substances up to 8 hours before or immediately after acting or attempting to act as a crew members.

(b) Any test information provided to the Authority under the provisions of this section may be used as evidence in any legal proceeding.

8.2.1.7 REQUIRED AIRCRAFT AND EQUIPMENT INSPECTIONS

(a) Unless otherwise authorized by the Authority, no person may operate a Guyana civil aircraft unless it has had the following inspections—

(1) An annual inspection within the past 12 calendar months;
(2) For remuneration or hire operations, a 100-hour inspection;
(3) For IFR operations, an altimeter and pitot-static system inspection in the past 24 calendar months;
(4) For transponder equipped aircraft, a transponder check within the past 12 calendar months; and
(5) For ELT-equipped aircraft, an ELT check within the past 12 calendar months.

(b) Aircraft maintained under an alternate maintenance and inspection program approved by the Authority, as specified in 5.7.1.3(a), may not have current annual or 100-hour inspections in their maintenance records.

Note: An "alternate maintenance and inspection program" may include a manufacturer's recommended program, instructions for continued airworthiness, or a program designed by the operator and approved by the Authority.

IS:8.2.1.7 FLIGHT CREW MEMBERS AT DUTY STATIONS

(a) A required flight crew member may leave the assigned duty station if the crew member is taking a rest period, and relief is provided—

(1) For the assigned PIC during the enroute cruise portion of the flight by a pilot who holds an airline transport pilot licence and an appropriate type rating, and who is currently qualified as PIC or SIC, and is qualified as PIC of that aircraft during the enroute cruise portion of the flight; and
(2) In the case of the assigned SIC, by a pilot qualified to act as PIC or SIC of that aircraft during enroute operations.

8.2.1.8 DOCUMENTS TO BE CARRIED ON AIRCRAFT: ALL OPERATIONS

(a) Except as provided in 8.2.1.6, no person may operate a civil aircraft unless it has within it the following current and approved documents:

(1) Registration Certificate issued to the owner.
(2) Airworthiness Certificate.
(3) Aircraft Journey Log.
(4) Aircraft Radio License.
(5) List of passenger names and points of embarkation and destination, if applicable.
(6) Cargo manifest including special loads information.
(7) Aeroplane Technical Log.
(8) Air Operator Certificate, if required.
(9) Noise Certificate, if required.
(10) AFM or RFM.
(11) Part(s) of the Operations Manual relevant to operation(s) conducted, if required.
(12) MEL.
(13) Category II or III Manual, as applicable.
(14) Operational Flight Plan.
(15) Filed ATC flight plan.
(16) NOTAMS briefing documentation.
(17) Meteorological information.

(18) Mass and balance documentation.
(19) Roster of special situation passengers.
(20) Maps and charts for routes of proposed flight or possibly diverted flights.
(21) Forms for complying with the reporting requirements of the Authority and the AOC holder.
(22) For international flights, a general declaration for customs.
(23) Any documentation which may be required by the Authority or States concerned with a proposed flight.
(24) Operations Specifications (if required).

Note: "Special situation passengers" includes armed security personnel, deportees, persons in custody, and persons with special medical needs.

Note: The noise certificate shall state the standards in ICAO Annex 16, Volume 1. The statement may be contained in any document, carried on board, approved by the Authority.

8.2.1.9 AIRCRAFT TECHNICAL LOG – JOURNEY RECORDS SECTION: All Operations

(a) Each Operator shall use an aircraft technical log containing a journey records section which includes the following information for each flight:

(1) Aircraft nationality and registration;
(2) Date;
(3) Names of crewmembers;
(4) Duty assignments of crewmembers;
(5) Place of departure;
(6) Place of arrival;
(7) Time of departure;
(8) Time of arrival;
(9) Hours of flight;
(10) Nature of flight (private, aerial work, scheduled, non-scheduled);
(11) Incidents, observations, if any; and (12) Signature of person in charge.
(12) Signature of person in charge.

(b) Entries in the journey logbook should be made currently and in ink or indelible pencil.

(c) Completed journey logbook should be retained to provide a continuous record of the last six months operations.

8.2.1.10 DANGEROUS GOODS

a) The provisions of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)* also apply to the acceptance for carriage, loading and carriage of dangerous goods in any general aviation aircraft.

b) *Exceptions.* The general exceptions contained in Part 1;1.1.5 of the Technical Instructions and the exceptions contained in Part 1;2.2 of the Technical Instructions shall also apply to any general aviation aircraft.

8.3 AIRCRAFT MAINTENANCE REQUIREMENTS

8.3.1.1 APPLICABILITY

(a) This Subpart prescribes the rules governing the inspection of Guyana registered civil aircraft operating within or outside Guyana.

(b) Subsections 8.3.1.3 and 8.3.1.4 do not apply to aircraft subject to an approved continuous maintenance program approved by the Authority for an AOC holder.

(c) This Subpart applies to all aircraft, as designated below, operated as commercial air transport in Guyana if the operator has not been designated an AOC holder by Guyana.

(d) This Subpart applies to all general aviation large, complex aircraft operated in Guyana, whether or not the aircraft is registered in Guyana.

(e) Where any aircraft, not registered in Guyana and operating under an inspection program approved or accepted by the State of Registry, does not have the equipment required by Guyana-for operations within Guyana, the owner/operator shall ensure that such equipment is installed and inspected in accordance with the requirements of the State of Registry, acceptable to the Authority prior to operation of that aircraft in Guyana.

8.3.1.2 GENERAL

(a) The registered owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with all airworthiness directives.

(b) No person may perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in this subpart and other applicable regulations.

(c) No person may operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals and related procedures set forth in specific operating provisions approved by the Authority or in accordance with an inspection program approved under 8.3.1.4(c).

8.3.1.3 MAINTENANCE REQUIRED

(a) Each owner or operator of an aircraft shall—

(1) Have that aircraft inspected as prescribed and discrepancies repaired as prescribed in civil aviation regulations and requirements with respect to airworthiness;

(2) Repair, replace, remove, or inspect any inoperative instruments or items of equipment at the next required inspection, except when permitted under the provisions of an Minimum Equipment List (MEL);

(3) Ensure that a placard has been installed on the aircraft when listed discrepancies include inoperative instruments or equipment; and

(4) Ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service.

8.3.1.4 INSPECTIONS

(a) Except as provided in paragraph (c), no person may operate an aircraft unless, within the preceding 12 calendar months, the aircraft has had—

(1) An annual inspection and has been approved for return to service by a person authorized by 5.6.1.7; or

(2) An inspection for the issuance of an airworthiness certificate.

Note: No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance record.

(b) Except as provided in paragraph (c), no person may operate an aircraft carrying any person (other than a crew member) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection and been approved for return to service or has received an inspection for the issuance of an airworthiness certificate. The 100-hour limitation may be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service.

(c) Paragraphs (a) and (b) of this section do not apply to–

(1) An aircraft that carries a special flight permit, a current experimental certificate, or a provisional airworthiness certificate;

(2) An aircraft subject to the requirements of paragraph (d) or (e) of this section; or

(3) Turbine-powered rotorcraft when the operator elects to inspect that rotorcraft in accordance with paragraph (e) of this section.

(d) Progressive inspection. Each registered owner or operator of an aircraft desiring to use a progressive inspection program shall submit a written request to the Authority, and shall provide—

(1) Appropriately rated lane, an AMO appropriately rated, or the manufacturer of the aircraft to supervise or conduct the progressive inspection;

(2) A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail—

(i) An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;

(ii) An inspection schedule, specifying the intervals in hours or days when routine and detailed inspections will be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en-route and for changing an inspection interval because of service experience;

(iii) Sample routine and detailed inspection forms and instructions for their use; and

(iv) Sample reports and records and instructions for their use.

(3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(4) Appropriate current technical information for the aircraft.

Note: The frequency and detail of the progressive inspection shall provide for the complete inspection of the aircraft within each 12 calendar months and be consistent with the current manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The progressive inspection schedule shall ensure that the aircraft, at all times, will be airworthy and will conform to all applicable aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data acceptable to the Authority. If the progressive inspection is discontinued, the owner or operator shall immediately notify the Authority, in writing, of the discontinuance. After the discontinuance, the first annual inspection is due within 12 calendar months after the last complete inspection of the aircraft under the progressive inspection. The 100-hour inspection under 8.2.1.7(a)(2) is due within 100 hours after that complete inspection. A complete inspection of the aircraft, for the purpose of determining when the annual and 100-hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection. A routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

(e) The registered owner or operator of each large aeroplane, turbojet multi-engine aeroplane, turbo propeller powered multi-engine aeroplane, and turbine-powered rotorcraft shall select, identify in the aircraft maintenance records, and use one of the following programs for the inspection of the aircraft—

(1) A current inspection program recommended by the manufacturer.

(2) A continuous maintenance program that is part of a continuous maintenance program for that make and model of aircraft currently approved by the Authority for use by an AOC holder; or

(3) Any other inspection program established by the registered owner or operator of that aircraft and approved by the Authority.

(f) Each owner/operator shall include in the selected program the name and address of the person responsible for the scheduling of the inspections required by the program and provide a copy of the program to the person performing inspection on the aircraft.

(g) No aircraft shall be approved for return to service unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the aeroplane, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with an inspection program selected.

(h) Each person wishing to establish or change an approved inspection program shall submit the program for approval by the Authority and shall include in writing—

(1) Instructions and procedures for the conduct of inspection for the particular make and model aircraft, including necessary tests and checks. The instructions shall set forth in detail the parts and areas of the aeronautical products, including survival and emergency equipment required to be inspected; and

(2) A schedule for the inspections that shall be performed expressed in terms of time in service, calendar time, number of system operations or any combination of these.

(i) When an operator changes from one inspection program to another, the operator shall apply the time in service, calendar times, or cycles of operation accumulated under the previous program, in determining time the inspection is due under the new program.

8.3.1.5 CHANGES TO AIRCRAFT MAINTENANCE PROGRAMS

(a) Whenever the Authority finds that revisions to an approved inspection program are necessary for the continued adequacy of the program, the owner or operator shall, after notification by the Authority, make any changes in the program found to be necessary.

(b) The owner or operator may petition the Authority to reconsider the notice, within 30 days after receiving that notice.

(c) Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Authority.

8.3.1.6 INSPECTIONS: ALL OTHER AIRCRAFT

(a) No person may operate any other aircraft unless within the preceding 12 calendar months it has—

(1) Had an inspection in accordance with Performance Rules and approved for return to service by an authorized person; and

(2) Been issued an Airworthiness Certificate by a representative of the Authority.

(b) No person may operate an aircraft for flight instruction, or for compensation or hire, unless within the preceding 100 hours of time in service the aircraft has been inspected in accordance with the Performance Rules and approved for return to service by an authorized person.

8.3.1.7 CONTENT, FORM, AND DISPOSITION OF MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND MODIFICATION RECORDS

(a) The owner/operator of an aircraft shall keep a maintenance record of:

(1) The entire aircraft to include—

(i) Total time in service (hours, calendar time and cycles, as appropriate) of the aircraft and all life limited parts;

(ii) Current inspection status of the aircraft, including the time since required or approved inspections were last performed;

(iii) Current empty mass and the location of the centre of gravity when empty;

(iv) Addition or removal of equipment;

(v) Type and extent of maintenance and alteration, including the time in service and date;

(vi) When work was performed; and

(vii) A chronological list of compliance with Airworthiness Directives, including methods of compliance.

(2) Life limited products—
(ii) Total time in service;
(iii) Date of the last overhaul;
(iv) Time in service since the last overhaul; and
(v) Date of the last inspection.

(3) Instruments and equipment, the serviceability and operating life of which are determined by their time in service—
(i) Records of the time in service as are necessary to determine their serviceability or to compute their operating life; and
(ii) Date of last inspection.

8.3.1.8 MAINTENANCE RECORDS RETENTION

(a) Except for records maintained by an AOC holder, each registered owner or operator shall retain the following records until the work is repeated or superseded by other work of equivalent scope and detail, or for one year after the work is performed—

(1) Records of the maintenance, preventive maintenance, minor modifications, and records of the 100hour, annual, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft to include—
(i) A description (or reference to data acceptable to the Authority) of the work performed,
(ii) The date of completion of the work performed; and
(iii) The signature and certificate number of the person approving the aircraft for return to service.

(2) In respect of the entire aircraft, the total time in service;

(3) Records containing the following information—
(i) The total time-in-service of the airframe, each engine, each propeller, and each rotor.
(ii) The current status of all life-limited aeronautical products.
(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.
(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.
(v) The current status of applicable Airworthiness Directives including, for each, the method of compliance, the Airworthiness Directive number, and revision date. If the Airworthiness Directive involves recurring action, the time and date when the next action is required.
(vi) Copies of the forms prescribed by this chapter for each major modification to the airframe and currently installed engines, rotors, propellers, and appliances.

(4) In respect of the instruments and equipment, the serviceability and operating life of which are determined by their time in service:
(i) Such records of the time in service as are necessary to determine their serviceability or to compute their operating life; and
(ii) The date of the last inspection.

(b) The records specified in paragraph (a) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold or leased

(c) A list of defects shall be retained until the defects are repaired and the aircraft is approved for return to service.

(d) The owner or operator shall make all maintenance records required by this subsection available for inspection by the Authority.

(e) These records shall be kept for a period of 90 days after the end of the operating life of the unit to which they refer.

8.3.1.9 TRANSFER OF MAINTENANCE RECORDS

Any owner or operator who sells or leases a Guyana registered aircraft shall transfer to the purchaser/lessor, at the time of sale or lease, the records identified in 8.3.1.8 of that aircraft, in plain language form or in coded form at the election of the purchaser/lessor if the coded form provides for the preservation and retrieval of information in a manner acceptable to the Authority.

8.3.1.10 RECORDS OF EMERGENCY AND SURVIVAL EQUIPMENT CARRIED

(a) Operators shall at all times have available for immediate communication to rescue coordination centers, lists containing information on the emergency and survival equipment carried on board any of their helicopters engaged in international air navigation.

(b) The information shall include, as applicable, the number, colour and type of life rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

8.4 FLIGHT CREW REQUIREMENTS

8.4.1.1 COMPOSITION OF THE FLIGHT CREW

(a) The number and composition of the flight crew shall not be less than that specified in the operations manual. The flight crews shall include flight crew members in addition to the minimum numbers specified in the flight manual or other documents associated with the certificate of airworthiness, when necessitated by considerations related to the type of aeroplane used, the type of operation involved and the duration of flight between points where flight crews are changed.

(b) A SIC is required for IFR commercial air transport operations unless the Authority has issued a deviation.

(c) When a separate flight engineer's station is incorporated in the design of an aeroplane, the flight crew shall include at least one flight engineer especially assigned to that station, unless the duties associated with that station can be satisfactorily performed by another flight crew member, holding a flight engineer licence, without interference with regular duties.

(d) The flight crew shall include at least one member who holds a flight navigator licence in all operations where, as determined by the State of the Operator, navigation necessary for the safe conduct of the flight cannot be adequately accomplished by the pilots from the pilot station.

8.4.1.2 FLIGHT CREW QUALIFICATIONS

(a) The PIC shall ensure that the licenses of each flight crew member have been issued or rendered valid by the State of Registry, contain the proper ratings, and that all that the flight crew members have maintained recency of experience.

(b) No person may operate a civil aircraft in commercial air transport or aerial work unless that person is qualified for the specific operation and in the specific type of aircraft used.

8.4.1.3 AUTHORISATION IN LIEU OF A TYPE RATING

(a) The Authority may authorize a pilot to operate an aircraft requiring a type rating without a type rating for up to 60 days, provided—

(1) The Authority has determined that an equivalent level of safety can be achieved through the operating limitations on the authorization;

(2) The applicant shows that compliance with this subsection is impracticable for the flight or series of flights;

(3) The operations—

(i) Involve only a ferry flight, training flight, test flight, or practical test for a pilot license or rating;

(ii) Are within Guyana, unless, by previous agreement with the Authority, the aircraft is flown to an adjacent contracting State for maintenance;

(iii) Are not for compensation or hire unless the compensation or hire involves payment for the use of the aircraft for training or taking a practical test; and

(iv) Involve only the carriage of flight crew members considered essential for the flight.

(4) If the purpose of the authorization provided by this paragraph cannot be accomplished within the time limit of the authorization, the Authority may authorize an additional period of up to 60 days.

8.4.1.4 LICENCES REQUIRED

(a) No person may act as PIC or in any other capacity as a required flight crew member of a civil aircraft of:

(1) Guyana registry, unless he or she carries in their personal possession the appropriate and current licence for that flight crew position for that type of aircraft and a valid medical certificate.

(2) Foreign registry unless he or she carries in their personal possession a valid and current licence for that type of aircraft issued to them by the State in which the aircraft is registered.

8.4.1.5 AIRMAN: LIMITATIONS ON USE OF SERVICES FOR COMMERCIAL AIR TRANSPORT

(a) No person may serve as an airman, nor may any AOC holder use an airman in commercial air transport unless that person is otherwise qualified for the operations for which they are to be used.

Note: The qualifications for airman engaged in commercial air transport are provided in Subpart 8.10.

8.4.1.6 RATING REQUIRED FOR IFR OPERATIONS

(a) No person may act as PIC of a civil aircraft under IFR or in weather conditions less than the minimums prescribed for VFR flight unless—

(1) In the case of an aeroplane, the pilot holds an instrument rating or an ATP licence with an appropriate aeroplane category, class, and type (if required) rating for the aeroplane being flown;

(2) In the case of helicopter, the pilot holds a helicopter instrument rating or an ATP licence for helicopters not limited to VFR operations.

8.4.1.7 SPECIAL AUTHORISATION REQUIRED FOR CATEGORY II/III OPERATIONS

(a) Except as shown in paragraph (b), no person may act as a pilot crew member of a civil aircraft in a Category II/III operation unless—

(1) In the case of a PIC, he or she holds a current Category II or III pilot authorization for that type aircraft.

(2) In the case of an SIC, he or she is authorized by the State of Registry to act as SIC in that aircraft in Category II/III operations.

(b) An authorization is not required for individual pilots of an AOC holder which has operations specifications approving Category II or III operations.

8.4.1.7.1 SPECIFIC APPROVALS

(a) The pilot-in-command shall not conduct operations for which a specific approval is required unless such approval has been issued by the State of Registry.

8.4.1.8 PILOT LOGBOOKS

(a) Each pilot shall show the aeronautical training and experience used to meet the requirements for a licence or rating, or recency of experience, by a reliable record.

(b) Each PIC shall carry his or her logbook on all general aviation international flights.

(c) A student pilot shall carry his or her logbook, including the proper flight instructor endorsements, on all solo cross-country flights.

8.4.1.9 PIC CURRENCY: TAKEOFF AND LANDINGS

(a) No person may act as PIC of an aircraft carrying passengers, nor of an aircraft certified for more than one required pilot flight crew member unless, within the preceding 90 days that pilot has:

(1) Made 3 takeoffs and landings as the sole manipulator of the flight controls in an aircraft of the same category and class and if a type rating is required, of the same type.

(2) For a tailwheel aeroplane, made the 3 takeoffs and landings in a tailwheel aeroplane with each landing to a full stop.

(3) For night operations, made the 3 takeoffs and landings required by paragraph (a)(1) at night.

(b) A pilot who has not met the recency of experience for takeoffs and landings shall satisfactorily complete a requalification curriculum acceptable to the Authority.

(c) Requirements of paragraphs (a) and (b) may be satisfied in a flight simulator approved by the Authority.

8.4.1.10 PILOT CURRENCY: IFR OPERATIONS

(a) No person may act as PIC or SIC under IFR nor in IMC, unless he or she has within the past 12 calendar months passed an instrument proficiency check in the category, class, or type of aircraft, as applicable, conducted by an authorized representative of the Authority.

8.4.1.11 PILOT CURRENCY: GENERAL AVIATION OPERATIONS

(a) No person may act as PIC of an aircraft type certified for more than one pilot unless, since the beginning of the past 12 calendar months, he or she has passed a proficiency check in an aircraft requiring more than one pilot with an authorized representative of the Authority.

(b) No person may act as PIC of an aircraft type certified for more than one pilot unless, since the beginning of the past 24 calendar months, he or she has passed a proficiency check in the type aircraft to be operated.

(c) No person may act as PIC of an aircraft type certified for a single pilot unless, since the beginning of the 24 calendar months, he or she has passed a proficiency check with an authorized representative of the Authority.

(d) The person conducting the proficiency checks shall ensure that each check duplicates the maneuvers of the type rating practical test.

(e) No person may act as SIC of an aircraft type certified for more than one pilot unless, since the beginning of the 12 calendar months, he or she has—

(1) Become familiar with the aircraft systems, performance, normal and emergency procedures; and

(2) Logged 3 takeoff and landings as the sole manipulator of the controls.

Note: Subsection does not apply to pilots engaged in commercial air transport operations. Those requirements are outlined in 8.10.1.21.

8.4.1.12 PILOT PRIVILEGES AND LIMITATIONS

(a) A pilot may conduct operations only within the general privileges and limitations of each licence as specified.

8.5 CREW MEMBER DUTIES AND RESPONSIBILITIES

8.5.1.1 AUTHORITY AND RESPONSIBILITY OF THE PIC

(a) The PIC shall be responsible for the operations and safety of the aircraft and for the safety of all persons on board, during flight.

(b) The PIC of an aircraft shall have final authority as to the operation of the aircraft while he or she is in command.

(c) The PIC of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the PIC may depart from these rules in emergency circumstances that render such departure absolutely necessary in the interests of safety.

(d) The pilot-in-command shall be responsible for the safety of all crew members, passengers and cargo on board when the doors are closed.

(e) The pilot-in-command shall also be responsible for the operation and safety of the aircraft from the moment the aircraft is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down.

(f) The pilot-in-command shall ensure that the appropriate checklists contained in the aircraft operating manual for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft, are complied with in detail during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures.

(g) The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the aircraft, resulting in serious injury or death of any person or substantial damage to the aircraft or property.

(h) The pilot-in-command shall be responsible for reporting all known or suspected defects in the aircraft to the operator, at the termination of the flight.

(i) The pilot-in-command shall be responsible for the journey logbook or the general declaration containing the listed information.

(j) In an emergency during flight, the pilot-in-command shall ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances.

8.5.1.2 COMPLIANCE WITH LOCAL REGULATIONS

(a) The PIC shall comply with the relevant laws, regulations, and procedures of the States in which the aircraft is operated.

(b) If an emergency situation which endangers the safety of the aircraft or persons necessitates the taking of action which involves a violation of local regulations or procedures, the PIC shall—

(1) Notify the appropriate local authority without delay.
(2) Submit a report of the circumstances, if required by the State in which the incident occurs; and
(3) Submit a copy of this report to the State of Registry.

(c) Each PIC shall submit reports specified in paragraph (b) to the Authority within 10 days in the form prescribed.

(d) Each Air Operator shall ensure that all employees when abroad know that they must comply with the laws, regulations, and procedures of those States in which operations are conducted.

8.5.1.3 NEGLIGENT OR RECKLESS OPERATIONS OF THE AIRCRAFT

(a) No person may operate an aircraft in a negligent or reckless manner so as to endanger life or property of others.

8.5.1.4 FITNESS OF FLIGHT CREW MEMBERS

(a) No person may act as PIC or in any other capacity as a required flight crew member when they are aware of any decrease in their medical fitness which might render them unable to safely exercise the privileges of his or her licence.

(b) The PIC shall be responsible for ensuring that a flight is not—

(1) Commenced if any flight crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue, the effects of alcohol or drugs; or

(2) Continued beyond the nearest suitable aerodrome if a flight crew members' capacity to perform functions is significantly reduced by impairment of faculties from causes such as fatigue, sickness, or lack of oxygen.

8.5.1.5 USE OF NARCOTICS, DRUGS, OR INTOXICATING LIQUOR

(a) No person may act or attempt to act as a crew member of a civil aircraft—

(1) Within 8 hours after the consumption of any alcoholic beverage;

(2) While under the influence of alcohol; or

(3) While using any drug that affects the person's faculties in any way contrary to safety.

(b) A crew member shall, up to 8 hours before or immediately after acting or attempting to act as a crew member, on the request of a law enforcement officer or the Authority, submit to a test to indicate the presence of alcohol or narcotic drugs in the blood.

Implementing Standard: See IS:8.5.1.5 for specific requirements pertaining to testing for alcohol or narcotics.

8.5.1.6 CREW MEMBER USE OF SEAT BELTS AND SHOULDER HARNESSES

(a) Each crew member shall be seated and have his or her seat belts fastened during takeoff and landing and all other times when seated at his or her station.

(b) Each crew member occupying a station equipped with a shoulder harness shall fasten that harness during takeoff and landing, except that the shoulder harness may be unfastened if the crew member cannot perform the required duties with the shoulder harness fastened.

(c) Each occupant of a seat equipped with a combined safety belt and shoulder harness shall have the combined safety belt and shoulder harness properly secured about that occupant during takeoff and landing and be able to properly perform assigned duties.

(d) At each unoccupied seat, the safety belt and shoulder harness, if installed, shall be secured so as not to interfere with crew members in the performance of their duties or with the rapid egress of occupants in an emergency.

8.5.1.7 FLIGHT CREW MEMBERS AT DUTY STATIONS

(a) Each required flight crew member shall remain at the assigned duty station during take-off and landing and critical phases of flight.

(b) Each flight crew member shall remain at his or her station during all phases of flight unless—

(1) Absence is necessary for the performance of his or her duties in connection with the operation;

(2) Absence is necessary for physiological needs, provided one qualified pilot remains at the controls at all times; or

(3) The crew member is taking a rest period and a qualified relief crew member replaces him or her at the duty station.

Implementing Standard: IS;8.5.1.7 for specific requirement pertaining to qualified relief crew members.

(c) *En route.* All flight crew members required to be on flight deck duty shall remain at their stations except when their absence is necessary for the performance of duties in connection with the operation of the aeroplane or for physiological needs.

8.5.1.8 REQUIRED CREW MEMBER EQUIPMENT

(a) Each crew member involved in night operations shall have a flashlight at his or her station.

(b) Each pilot crew member shall have at his or her station an aircraft checklist containing at least the pre-takeoff, after takeoff, before landing and emergency procedures.

(c) Each pilot crew member shall have at his or her station current and suitable charts to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted.

(d) Each flight crew member assessed as fit to exercise the privileges of a license subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when performing as a required crew member in commercial air transport.

8.5.1.9 COMPLIANCE WITH CHECKLISTS

(a) The PIC shall ensure that the flight crew follows the approved checklist procedures when operating the aircraft.

(b) A checklist developed in accordance with 9.3.1.4 shall be used by flight crews prior to, during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures contained in the aircraft operating manual, the helicopter flight manual or other documents associated with the certificate of airworthiness and otherwise in the operations manual.

(c) The design and utilization of checklists shall observe Human Factors principles.

8.5.1.10 SEARCH AND RESCUE INFORMATION

For all international flights, the PIC shall have on board the aeroplane essential information concerning the search and rescue services in the areas over which they intend to operate the aircraft.

8.5.1.11 PRODUCTION OF AIRCRAFT AND FLIGHT DOCUMENTATION

The PIC shall, within a reasonable time of being requested to do so by a person authorized by the Authority, produce to that person the documentation required to be carried on the aircraft.

8.5.1.12 LOCKING OF FLIGHT DECK COMPARTMENT DOOR: COMMERCIAL AIR TRANSPORT

The PIC shall ensure that the flight deck compartment door (if installed) is locked at all times during passenger-carrying commercial air transport operations, except as necessary to accomplish approved operations or to provide for emergency evacuation.

8.5.1.13 ADMISSION TO THE FLIGHT DECK: COMMERCIAL AIR TRANSPORT

(a) No person may admit any person to the flight deck of an aircraft engaged in commercial air transport operations unless the person being admitted is—

(1) An operating crew member;

(2) A representative of the authority responsible for certification, licensing, or inspection, if this is required for the performance of his or her official duties; or

(3) Permitted by and carried out in accordance with instructions contained in the Operations Manual.

(b) The PIC shall ensure that—

(1) In the interest of safety, admission on the flight deck does not cause distraction and/or interference with the flight's operations; and

(2) All persons carried on the flight deck are made familiar with the relevant safety procedures.

8.5.1.14 ADMISSION OF INSPECTOR TO THE FLIGHT DECK

(a) Whenever, in performing the duties of conducting an inspection, an inspector from the Authority presents the Flight Operations Inspector Credential to the PIC, the PIC shall give the inspector free and uninterrupted access to the flight deck of the aircraft.

8.5.1.15 DUTIES DURING CRITICAL PHASES OF FLIGHT: COMMERCIAL AIR TRANSPORT

(a) No flight crew member may perform any duties during a critical phase of flight except those required for the safe operation of the aircraft.

(b) No PIC may permit a flight crew member to engage in any activity during a critical phase of flight which could distract or interfere with the performance of their assigned duties.

8.5.1.16 MANIPULATION OF THE CONTROLS: COMMERCIAL AIR TRANSPORT

(a) No PIC may allow an unqualified person to manipulate the controls of an aircraft during commercial air transport operations.

(b) No person may manipulate the controls of an aircraft during commercial air transport operations unless he or she is qualified to perform the applicable crew member functions and is authorized by the AOC holder.

8.5.1.17 SIMULATED ABNORMAL SITUATIONS IN FLIGHT: COMMERCIAL AIR TRANSPORT

(a) No person may cause or engage in simulated abnormal or emergency situations or the simulation of IMC by artificial means during commercial air transport operations.

8.5.1.18 COMPLETION OF THE TECHNICAL LOGBOOK: COMMERCIAL AIR TRANSPORT

(a) The PIC shall ensure that all portions of the technical logbook are completed at the appropriate points before, during and after flight operations.

8.5.1.19 REPORTING MECHANICAL IRREGULARITIES

(a) The PIC shall ensure that all mechanical irregularities occurring during flight time are—

(1) For general aviation operations, entered in the aircraft logbook and disposed of in accordance with the MEL or other approved or prescribed procedure.

(2) For commercial air transport operations, entered in the technical log of the aeroplane at the end of that flight time.

8.5.1.20 REPORTING OF FACILITY AND NAVIGATION AID INADEQUACIES

(a) Each crew member shall report, without delay, any inadequacy or irregularity of a facility or navigational aid observed in the course of operations to the person responsible for that facility or navigational aid.

8.5.1.21 METEOROLOGICAL OBSERVATION

(a) The pilot-in-command shall report the runway braking action special air-report (AIREP) when the runway braking action encountered is not as good as reported.

8.5.1.22 REPORTING OF HAZARDOUS CONDITIONS

(a) The PIC shall report to the appropriate ATC facility, without delay and with enough detail to be pertinent to the safety of other aircraft, any hazardous flight conditions encountered enroute, including those associated with meteorological conditions.

(b) Hazardous flight conditions encountered, other than those associated with meteorological conditions, shall be reported to the appropriate aeronautical station as soon as possible. The reports so rendered shall give such details as may be pertinent to the safety of other aircraft.

8.5.1.23 REPORTING OF INCIDENTS

(a) *Air traffic report*. The PIC shall submit, without delay, an air traffic incident report whenever an aircraft in flight has been endangered by—

(1) A near collision with another aircraft or object.
(2) Faulty air traffic procedures or lack of compliance with applicable procedures by ATC or by the flight crew; or
(3) A failure of ATC facilities.

(b) *Birds*. In the event a bird constitutes an in-flight hazard, or an actual bird strike the PIC shall, without delay—
(1) Inform the appropriate ground station whenever a potential bird hazard is observed; and
(2) Submit a written bird strike report after landing.

(c) *Dangerous Goods*. The PIC shall inform the appropriate ATC facility, if the situation permits, when an in-flight emergency occurs involving dangerous goods on board.

(d) *Unlawful Interference*. The PIC shall submit a report to the local authorities and to the Authority, without delay, following an act of unlawful interference with the crew members on board an aircraft.

8.5.1.24 ACCIDENT NOTIFICATION

(a) The PIC shall notify the nearest appropriate authority, by the quickest available means, of any accident involving his or her aircraft that results in serious injury or death of any person, or substantial damage to the aircraft or property.

(b) The PIC shall submit a report to the Authority of any accident which occurred while he or she was responsible for the flight.

8.5.1.25 OPERATION AND PRESERVATION OF FLIGHT RECORDERS

(a) The PIC shall ensure that whenever an aircraft has flight recorders installed, those recorders are operated continuously from the initiation of the pre-start checklist until the end of the securing aircraft checklist.

(b) The PIC shall not permit a flight recorder to be disabled, switched off or erased during flight, unless necessary to preserve the data for an accident or incident investigation.

(c) In the event of an accident or incident, the PIC shall act to preserve the recorded data for subsequent investigation.

8.5.1.26 CREW MEMBER OXYGEN: MINIMUM SUPPLY AND USE

(a) The PIC shall ensure that breathing oxygen and masks are available to crew members in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crew members.

(b) In no case shall the minimum supply of oxygen on board the aircraft be less than that prescribed by the Authority.

(c) The PIC shall ensure that all flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, use breathing oxygen continuously at cabin altitudes exceeding 10,000 ft for a period in excess of 30 minutes and whenever the cabin altitude exceeds 13,000 ft.

(d) One pilot at the controls of a pressurized aircraft in flight shall wear and use an oxygen mask—
(1) For general aviation operations, at flight levels above 350, if there is no other pilot at their duty station; and
(2) For commercial air transport operations, at flight levels above 250, if there is no other pilot at their duty station.

8.5.1.27 PORTABLE ELECTRONIC DEVICES

(a) No PIC or SCA may permit any person to use, nor may any person use a portable electronic device on board an aircraft that may adversely affect the performance of aircraft systems and equipment unless—
(1) For IFR operations other than commercial air transport, the PIC allows such a device prior to its use; or
(2) For commercial air transport operations, the AOC holder makes a determination of acceptable devices and publishes that information in the Operations Manual for the crew members use; and
(3) The PIC informs passengers of the permitted use.

8.5.1.28 Aeroplane operating procedures for rates of climb and descent

(a) Unless otherwise specified in an air traffic control instruction, to avoid unnecessary airborne collision avoidance system (ACAS II) resolution advisories in aircraft at or approaching adjacent altitudes or flight levels, operators should specify

procedures by which an aeroplane climbing or descending to an assigned altitude or flight level, especially with an autopilot engaged, may do so at a rate less than 8 m/sec or 1 500 ft/min (depending on the instrumentation available) throughout the last 300 m (1 000 ft) of climb or descent to the assigned level when the pilot is made aware of another aircraft at or approaching an adjacent altitude or flight level.

8.5.1.29 Aeroplane operating procedures for landing performance

(a) An approach to land shall not be continued below 300 m (1 000 ft) above aerodrome elevation unless the pilot-in-command is satisfied that, with the runway surface condition information available, the aeroplane performance information indicates that a safe landing can be made.

8.6 FLIGHT PLANNING AND SUPERVISION

8.6.1 Flight Plans

8.6.1.1 SUBMISSION OF A FLIGHT PLAN

(a) An operational flight plan shall be completed for every intended flight or series of flights, and approved by the pilot-in-command, and shall be lodged with the appropriate authority. The operator shall determine the most efficient means of lodging the operational flight plan.

(b) Prior to operating one of the following, a pilot shall file a VFR or IFR flight plan, as applicable, for—

(1) Any flight (or portion thereof) to be provided with air traffic control service;
(2) Any IFR flight within advisory airspace;
(3) Any flight within or into designated areas, or along designated routes, when so required by the appropriate ATC authority to facilitate the provision of flight information, alerting and search and rescue services;
(4) Any flight within or into designated areas, or along designated routes, when so required by the appropriate ATC authority to facilitate co-ordination with appropriate military units or with ATC facilities in adjacent states in order to avoid the possible need for interception for the purpose of identification; and
(5) Any flight across international borders.

(c) The PIC shall submit a flight plan before departure or during flight, to the appropriate ATC facility, unless arrangements have been made for submission of repetitive flight plans.

(d) Unless otherwise prescribed by the appropriate ATC authority, a pilot should submit a flight plan to the appropriate ATC facility—

(1) At least sixty minutes before departure; or
(2) If submitted during flight, at a time which will ensure its receipt by the appropriate ATC facility at least ten minutes before the aircraft is estimated to reach—
(i) The intended point of entry into a control area or advisory area; or (ii)
The point of crossing an airway or advisory route.

8.6.1.2 AIR TRAFFIC CONTROL FLIGHT PLAN: COMMERCIAL AIR TRANSPORT

No person may takeoff an aircraft in commercial air transport if an ATC flight plan has not been filed, except as authorized by the Authority.

8.6.1.3 CONTENTS OF A FLIGHT PLAN

(a) Each person filing an IFR or VFR flight plan shall include in it the following information—

(1) Aircraft identification;
(2) Flight rules and type of flight;
(3) Number and type(s) of aircraft and wake turbulence category;
(4) Equipment;
(5) Departure aerodrome and alternate (if required);
(6) Estimated off-block time;
(7) Cruising speed(s);
(8) Cruising level(s);
(9) Route to be followed;
(10) Destination aerodrome and alternate (if required);
(11) Fuel endurance;
(12) Total number of persons on board;
(13) Emergency and survival equipment; and
(14) Other information.

Note: Whatever the purpose for which it is submitted, a flight plan shall contain information, as applicable, on relevant items up to and including "alternate aerodrome(s)" regarding the whole route or the portion thereof for which the flight plan is submitted.

8.6.1.4 PLANNED RECLEARANCE

(a) If during flight planning a person determines that there is a possibility, depending on fuel endurance, that a flight may be able to change destinations and still comply with minimum fuel supply planning requirements, that person shall notify the appropriate ATC facility of this possibility when the flight plan is submitted.

Note: The intent of this provision is to facilitate a new clearance to a revised destination, normally beyond the filed destination aerodrome.

8.6.1.5 CHANGES TO A FLIGHT PLAN

(a) When a change occurs to a flight plan submitted for an IFR flight or a VFR flight operated as a controlled flight, the pilot shall report that change as soon as practicable to the appropriate ATC facility.

(b) For VFR flights other than those operated as controlled flight, the PIC shall report significant changes to a flight plan as soon as practicable to the appropriate ATC facility.

Note: Information submitted prior to departure regarding fuel endurance or total number of persons carried on board, if incorrect at time of departure, constitutes a significant change and shall be reported.

8.6.1.6 CLOSING A FLIGHT PLAN

(a) The PIC shall make a report of arrival either in person or by radio to the appropriate ATC facility at the earliest possible moment after landing at the destination aerodrome, unless ATC automatically closes a flight plan.

(b) When a flight plan has been submitted for a portion of a flight, but not the arrival at destination, the pilot shall close that flight plan enroute with the appropriate ATC facility.

(c) When no ATC facility exists at the arrival aerodrome, the pilot shall contact the nearest ATC facility to close the flight plan as soon as practicable after landing and by the quickest means available.

(d) Pilots shall include the following elements of information in their arrival reports—

(1) Aircraft identification;
(2) Departure aerodrome;
(3) Destination aerodrome (only in the case of a diversionary landing);
(4) Arrival aerodrome; and
(5) Time of arrival.

8.6.2 Flight Planning and Preparation

8.6.2.1 AIRCRAFT AIRWORTHINESS AND SAFETY PRECAUTIONS

(a) The PIC may not operate a civil aircraft in flight until satisfied that—

(1) The aircraft is airworthy, duly registered and that appropriate certificates are aboard the aircraft;
(2) The instruments and equipment installed in the aircraft are appropriate, taking into account the expected flight conditions; and
(3) Any necessary maintenance has been performed and a maintenance release, if applicable, has been issued in respect to the aeroplane.

(b) For commercial air transport operations, the PIC shall certify by signing the aircraft technical log that he or she is satisfied that the requirements of paragraph (a) have been met for a particular flight.

8.6.2.2 ADEQUACY OF OPERATING FACILITIES

(a) No person may commence a flight unless it has been determined by every reasonable means available that the ground and/or water areas and facilities available and directly required for such flight and for the safe operation of the aircraft, are adequate, including communication facilities and navigation aids.

Note: "Reasonable means" denotes use, at the point of departure, of information available to the PIC either through official information published by the aeronautical information services or readily obtainable in other sources.

8.6.2.3 WEATHER REPORTS AND FORECASTS

(a) Before commencing a flight, the PIC shall be familiar with all available meteorological information appropriate to the intended flight.

(b) The PIC shall include, during preparation for a flight away from the vicinity of the place of departure, and for every flight under the instrument flight rules—

(1) A study of available current weather reports and forecasts; and

(2) The planning of an alternative course of action to provide for the eventuality that the flight cannot be completed as planned, because of weather conditions.

8.6.2.4 WEATHER LIMITATIONS FOR VFR FLIGHTS

(a) No person will commence a flight to be conducted in accordance with VFR unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under VFR, will, at the appropriate time, allow VFR operations.

8.6.2.5 IFR DESTINATION AERODROMES

(a) For IFR flight planning purposes, no person may commence an IFR flight unless the available information indicates that the weather conditions at the aerodrome of intended landing and, if required, at least one suitable alternate at the estimated time of arrival, will be at or above the—

(1) Minimum ceiling and visibility values for the standard instrument approach procedure to be used; or

(2) Minimum operating altitude, if no instrument approach procedure is to be used, that would allow a VMC decent to the aerodrome.

Note: A partial exception is granted for commercial air transport IFR flight planning, to the effect that the weather at the destination does not have to be at or above the approach minima to release and commence a flight, as long as the designated alternate aerodrome meets the IFR weather selection criteria.

8.6.2.6 IFR DESTINATION ALTERNATE REQUIREMENT

(a) No person may commence an IFR flight in an aeroplane without at least one destination alternate aerodrome listed in the flight plan unless—

(1) There is a standard instrument approach procedure prescribed for the aerodrome of intended landing by the jurisdictional authorities; and

(2) Available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival—

(i) A cloud base of at least 300 m (1,000 ft) above the minimum associated with the instrument approach procedure; and

(ii) Visibility of at least 5.5 km or of 4 km more than the minimum associated with the procedure.

(3) The duration of the flight from the departure aerodrome, or from the point of in-flight re-planning to the destination aerodrome is such that, taking into account all meteorological conditions and operational information relevant to the flight, at the estimated time of use, a reasonable certainty exists that:

(i) the approach and landing may be made under visual meteorological conditions; and

(ii) separate runways are usable at the estimated time of use of the destination aerodrome with at least one runway having an operational instrument approach procedure; or

(4) The aerodrome is isolated. Operations into isolated aerodromes do not require the selection of a destination alternate aerodrome(s) and shall be planned:

(i) where the aerodrome of intended landing is an isolated aerodrome:

a) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes plus 15 per cent of the flight time planned to be spent at cruising level, including final reserve fuel, or two hours, whichever is less; or

b) for a turbine-engined aeroplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel;

(ii) for each flight into an isolated aerodrome a point of no return shall be determined; and

(iii) a flight to be conducted to an isolated aerodrome shall not be continued past the point of no return unless a current assessment of meteorological conditions, traffic and other operational conditions indicate that a safe landing can be made at the estimated time of use.

(b) The ceiling and visibility requirements of paragraph (a) may be reduced upon approval of the Authority for—

(1) Helicopters; or

(2) Commercial air transport where no suitable destination alternate exists.

(c) *When no alternate is required*. A flight to be conducted in accordance with IFR to a heliport when no alternate heliport is required shall not be commenced unless available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival, or from the actual time of departure to two hours after the estimated time of arrival, whichever is the shorter period:

i. a cloud base of at least 120 m (400 ft) above the minimum associated with the instrument approach procedure; and

ii. visibility of at least 1.5 km more than the minimum associated with the procedure.

8.6.2.7 IFR ALTERNATE AERODROME SELECTION CRITERIA

(a) If alternate minimums are published, no PIC may designate an alternate aerodrome in an IFR flight plan unless the current available forecast indicates that the meteorological conditions at that alternate at the ETA will be at or above those published alternate minimums.

(b) If alternate minimums are not published, and if there is no prohibition against using the aerodrome as an IFR planning alternate, each PIC shall ensure that the meteorological conditions at that alternate at the ETA will be at or above—

(1) For a precision approach procedure, a ceiling of at least 600 feet and visibility of not less than 2 statue miles; or

(2) For a non-precision approach procedure, a ceiling of at least 800 feet and visibility of not less than 2 statute miles.

8.6.2.8 OFF-SHORE ALTERNATES FOR HELICOPTER OPERATIONS

(a) The State of the Operator shall issue a specific approval for the operational use of offshore destination alternate heliports.

(b) Offshore alternates should not be used when it is possible to carry enough fuel to have an onshore alternate. Offshore alternates should not be used in a hostile environment.

(a) Each person selecting an off-shore alternate landing site shall consider the following:

(1) Until the point of no return, using an on-shore alternate. The offshore alternate may be used only after a point of no return.
(2) Attaining one engine inoperative performance capability prior to arrival at the alternate.
(3) Guaranteeing helideck availability.
(4) The weather information at the helideck shall be available from a source approved by the Authority.
(5) For IFR operations, an instrument approach procedure shall be prescribed and available.
(6) mechanical reliability of critical control systems and critical components shall be considered and taken into account when determining the suitability of the alternate;

(b) A helideck may be specified as an offshore destination alternate heliport when the closest onshore destination alternate is not within achievable range of the helicopter. Specification is subject to the following conditions:

i. a helideck shall only be used as an offshore destination alternate heliport after the PNR and when an onshore aerodrome is not geographically available. Prior to the PNR, an onshore destination alternate aerodrome shall be used;
ii. the operator shall have a risk assessment process detailed in the operations manual for the utilization of helidecks as offshore destination alternate heliports and conduct such an assessment prior to their selection and use;

iii. the operator has established specific procedures and appropriate training programmes in the operations manual for offshore destination alternate heliport operations;

iv. the operator shall have pre-surveyed, and assessed for suitability, any helideck intended to be used as an offshore destination alternate heliport and have the information published in an appropriate form in the operations manual (including the orientation of the helideck);

v. the helicopter shall have a one-engine-inoperative (OEI) landing capability at the offshore destination alternate heliport; and

vi. the MEL shall contain specific provisions for this type of operation.

(c) The operator's risk assessment process shall take into consideration at least the following:

1) the type and circumstances of the operation;
2) the area over which the operation is being conducted, including sea conditions, survivability and search and rescue facilities;
3) the availability and suitability of the helideck for use as an offshore destination alternate heliport, including the physical characteristics, dimensions, configuration and obstacle clearance, the effect of wind direction and strength, and turbulence;
4) the type of helicopter(s) being used;
5) mechanical reliability of the helicopter engines and critical control systems and components;
6) the training and operational procedures, including mitigation of the consequences of helicopter technical failures;
7) specific mitigation measures;
8) helicopter equipment;
9) spare payload capacity for the carriage of additional fuel;
10) weather minima, taking into account the accuracy and reliability of meteorological information; and
11) communications and aircraft tracking facilities.

(d) To use an offshore destination alternate helideck, it shall be ensured that, within 60 NM of the destination helideck and alternate helideck, fog is not present nor forecasted during the period commencing one hour before and ending one hour after the expected time of arrival at the offshore destination or offshore destination alternate helideck.

(e) The operator shall ensure that, before passing the PNR, the following actions have been completed:

i. confirmation that navigation to the offshore destination and offshore destination alternate heliport is assured;

ii. radio contact with the offshore destination and offshore destination alternate heliport (or master station) is established;

iii. the landing forecast at the offshore destination and offshore destination alternate heliport are obtained and confirmed to be at or above the required minima;

iv. the requirements for OEI landing are verified against the latest reported weather conditions to ensure that they can be met; and

v. to the extent possible, having considered information on current and forecast use of the offshore destination alternate heliport, and on conditions prevailing, the availability of the offshore destination alternate heliport will be guaranteed by the helideck provider until the landing at the offshore destination, or the offshore destination alternate heliport, is achieved.

Note: The landing technique specified in the flight manual following control system failure may preclude the selection of certain helidecks as alternate aerodromes. The mechanical reliability of critical control systems shall be taken into account when determining the suitability and necessity for an offshore alternate.

8.6.2.9 TAKEOFF ALTERNATE AERODROMES: COMMERCIAL AIR TRANSPORT OPERATIONS

(a) No person may release or takeoff an aircraft without a suitable takeoff alternate specified in the flight release if it would not be possible to return *for meteorological or performance reasons* to the aerodrome of departure.

(b) Each operator shall ensure that each takeoff alternate specified shall be located within—

(1) For two-engine aircraft, one hour flight time at single-engine cruise speed unless the aircraft and crews are authorised for ETOPS; or

(2) For three or four-engine aircraft, two hours flight time at single-engine cruise speed.

Note: All calculations are based on the one-engine-inoperative cruising speed according to the AFM in still air conditions based on the actual takeoff mass.

(3) for aeroplanes engaged in extended diversion time operations (EDTO) where an alternate aerodrome meeting the distance criteria of 1) or 2) is not available, the first available alternate aerodrome located within the distance of the operator's specified maximum diversion time considering the actual take-off mass.

(c) For an aerodrome to be selected as a take-off alternate the available information shall indicate that, at the estimated time of use, the conditions will be at or above the operator's established aerodrome operating minima for that operation.

(d) Two destination alternate aerodromes shall be selected and specified in the operational and ATS flight plans when, for the destination aerodrome:

1) meteorological conditions at the estimated time of use will be below the operator's established aerodrome operating minima for that operation; or

2) meteorological information is not available.

8.6.2.9.1 TAKEOFF ALTERNATE HELIPORT

a) A take-off alternate heliport shall be selected and specified in the operational flight plan if the weather conditions at the heliport of departure are at or below the applicable heliport operating minima.

b) For a heliport to be selected as a take-off alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the heliport operating minima for that operation.

8.6.2.9.2 Destination alternate heliport

a) For a flight to be conducted in accordance with IFR, at least one destination alternate shall be specified in the operational flight plan and the flight plan, unless:

1. the duration of the flight and the meteorological conditions prevailing are such that there is reasonable certainty that, at the estimated time of arrival at the heliport of intended landing, and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions as prescribed by the State of the Operator; or

2. The heliport of intended landing is isolated and no alternate is available. A point of no return (PNR) shall be determined.

b) For a heliport to be selected as a destination alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the heliport operating minima for that operation.

c) For a flight departing to a destination which is forecast to be below the heliport operating minima, two destination alternates should be selected. The first destination alternate should be at or above the heliport operating minima for destination and the second at or above the heliport operating minima for alternate.

8.6.2.10 Maximum Distance from an Adequate Aerodrome for Aeroplanes Without an Extended Diversion Time Operations Approval – [AOC]

(a) Unless the State of the Operator has issued a specific approval for EDTO, an AOC holder shall not operate an aeroplane with two or more engines over a route that contains a point further from an adequate aerodrome than, in the case of:

(1) Turbine-powered aeroplanes, the distance flown in 60 minutes at the one-engine-inoperative cruise speed determined in accordance with paragraph 8.6.2.10(b) of this subsection; or

(2) Reciprocating-engine aeroplanes:

(i) The distance flown in 120 minutes at the one-engine-inoperative cruise speed determined in accordance with paragraph 8.6.2.10(b) of this subsection; or

(ii) 555 km (300 NM), whichever is less.

(b) An AOC holder shall determine a speed for the calculation of the maximum distance to an adequate aerodrome for each aeroplane with two or more engines operating, not exceeding V_{mo} based upon the true airspeed that the aeroplane can maintain with one engine inoperative under the following conditions:

(1) International Standard Atmosphere.

(2) Level flight:

(i) For turbine-powered aeroplanes, at:

(A) FL 170; or

(B) The maximum FL to which the aeroplane, with one engine inoperative, can climb and maintain, using the gross rate of climb specified in the Aircraft Flight Manual, whichever is less;

(ii) For reciprocating-engine aeroplanes, at:

(A) FL 80; or

(B) The maximum FL to which the aeroplane, with one engine inoperative, can climb and maintain, using the gross rate of climb specified in the Aircraft Flight Manual, whichever is less;

(3) Maximum continuous thrust or power on the remaining operating engine;

(4) An aeroplane mass not less than that resulting from:

(iii) Take-off at sea level at maximum certificated take-off mass until the time elapsed since take-off is equal to the applicable threshold prescribed in paragraph 8.6.2.10(a) of this subsection;

(iv) All engines climb to the optimum long-range cruise altitude until the time elapsed since take-off is equal to the applicable threshold prescribed in paragraph 8.6.2.10(a) of this subsection; and

(v) All engines cruise at the long-range cruise speed at this altitude until the time elapsed since take-off is equal to the applicable threshold prescribed in paragraph 8.6.2.10(a) of this subsection.

(c) An AOC holder shall ensure that the following data, specific to each type or variant, is included in the OM:

(1) The one-engine-inoperative cruise speed determined in accordance with paragraph 8.6.2.10(b) of this subsection; and

(2) The maximum distance from an adequate aerodrome determined in accordance with paragraphs 8.6.2.10(a) and (b) of this subsection.

Note: The speeds and altitudes (FLs) specified above are only intended to be used for establishing the maximum distance from an adequate aerodrome.

8.6.2.11 Requirements for Extended Diversion Time Operations – Aeroplanes [AOC]

(a) An AOC holder shall not conduct operations beyond the threshold distance determined in accordance with 8.6.2.10 of this part unless approved to do so by the Authority. The specific approval shall identify the applicable threshold time established for each particular aeroplane and engine combination.

(b) In requesting EDTO approval, each AOC holder shall show to the satisfaction of the Authority that:

(1) FOR AEROPLANES.

(vi) For all aeroplanes:

(C) The most limiting EDTO significant system time limitation, if any, indicated in the Aircraft Flight Manual (directly or by reference) and relevant to that particular operation is not exceeded; and

(D) The additional fuel required by 8.6.2.15 of this part shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by the Authority.

(vii) For aeroplanes with two turbine engines, the aeroplane is EDTO certificated and the Authority has verified the:

(E) Reliability of the propulsion system;

(F) Airworthiness certification for EDTO of the aeroplane type;

(G) EDTO maintenance programme; and

(H) Maintenance Control Manual or EDTO Manual.

(2) It has conducted a safety risk assessment that demonstrates how an equivalent level of safety will be maintained, taking into account the following:

(viii) Capabilities of the operator;

(ix) Overall reliability of the aeroplane;

(x) Reliability of each time-limited system;

(xi) Relevant information from the aeroplane manufacturer; and

(xii) Specific mitigation measures.

(c) Before conducting an EDTO flight, an AOC holder shall ensure that a suitable EDTO en route alternate is available, within either the approved diversion time or a diversion time based on MEL-generated serviceability status of the aeroplane, whichever is shorter.

(d) No AOC holder shall commence a flight unless, during the possible period of arrival, the required en route alternate aerodrome will be available and the available information indicates that conditions at the aerodrome will be at or above the aerodrome operating minima approved for the operation.

(e) No AOC holder shall conduct operations beyond 60 minutes from a point on a route to an en route alternate aerodrome unless it ensures that:

(3) For all aeroplanes:

(xiii) En route alternate aerodromes are identified; and

(xiv) The most up-to-date information is provided to the flight crew on identified en route alternate aerodromes, including operational status and meteorological conditions;

(4) For aeroplanes with two turbine engines, the most up-to-date information provided to the flight crew indicates that conditions at identified en route alternate aerodromes will be at or above the operator's established aerodrome operating minima for the operation at the estimated time of use; and

(5) These requirements are incorporated into the operator's:

(xv) Operational control and flight dispatch procedures;

(xvi) Operating procedures; and

(xvii) Training programmes.

(f) No AOC holder shall proceed beyond the threshold time approved by the Authority unless:

(6) The identified en route alternate aerodromes have been re-evaluated for availability; and

(7) The most up-to-date information indicates that, during the estimated time of use, conditions at those aerodromes will be at or above the operator's established aerodrome operating minima for that operation; or

(8) Conditions are identified that would preclude a safe approach and landing at that aerodrome during the estimated time of use and an alternative course of action has been determined.

(g) For aeroplanes engaged in EDTO, the additional fuel required by 8.6.2.14 (f) 2) shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by the State of the Operator.

Note 1: Guidance on the establishment of an appropriate threshold time and on specific approval of EDTOs is contained in ICAO Doc 10085, Extended Diversion Time Operations (EDTO) Manual.

Note 2: FAA AC 120-42B (as amended), Extended Operations (ETOPS and Polar Operations), *provides additional guidance.*

8.6.2.12 En Route Alternate Aerodromes – Extended Diversion Time Operations [AOC]

(h) The PIC shall ensure that the required en route alternate aerodromes for EDTO are selected and specified in ATC flight plans in accordance with the EDTO diversion time approved by the Authority.

(i) No person shall select an aerodrome as an EDTO en route alternate aerodrome unless the appropriate weather reports or forecasts, or any combination thereof, indicate that during a period commencing 1 hour before and ending 1 hour after the expected time of arrival at the aerodrome, the weather conditions will be at or above the planning minima prescribed in the table below, and in accordance with the operator's EDTO approval.

(j) The ceiling and visibility requirements for operations conducted in accordance with paragraphs 8.6.2.12(a) and (b) of this subsection may be reduced upon approval of the Authority for:

(9) Commercial air transport where the Authority has approved alternate minima as an equivalent level of safety based on the results of a specific safety risk assessment demonstrated by the operator, that contains the following:

(xviii) Capabilities of the operator;

(xix) Overall capability of the aeroplane and its systems;

(xx) Available aerodrome technologies, capabilities, and infrastructure;

(xxi) Quality and reliability of meteorological information;

(xxii) Identified hazards and safety risks associated with each alternate aerodrome variation; and

(xxiii) Specific mitigation measures.

Note 1: ICAO Doc 9859, Safety Management Manual (SMM), *and ICAO Doc 9976,* Flight Planning and Fuel Management (FPFM) Manual, *provide guidance on performing a safety risk assessment and on determining variations, including examples of variations.*

Note 2: The forecast weather criteria used in the selection of alternate aerodromes for IFR flight will also be used for the selection of EDTO alternates.

8.6.2.13 FUEL, OIL, AND OXYGEN PLANNING AND CONTINGENCY FACTORS

(a) No person may commence a flight unless he or she takes into account the fuel, oil, and oxygen needed to ensure the safe completion of the flight, including any reserves to be carried for contingencies.

(b) Each person computing the required minimum fuel supply shall ensure that additional fuel, oil, and oxygen are carried to provide for the increased consumption that would result from any of the following contingencies—

(1) Expected winds or other meteorological conditions;
(2) Possible variations in ATC routings;
(3) Anticipated traffic delays;
(4) A complete instrument approach procedure and possible missed approach at destination;
(5) Loss of pressurization en route;
(6) Loss of one power-unit en route; and
(7) Any other conditions that may delay landing of the aircraft or increase fuel and oil consumption.

(c) Each person computing the required minimum fuel supply shall ensure that, for flights of more than 2,000 nm, the minimum fuel supply calculation includes an additional amount of fuel equal to that necessary to fly 10% of the total time for the flight from takeoff to destination.

(d) No PIC may commence a flight to an aerodrome where no suitable alternate aerodrome is available because the destination aerodrome is isolated, without enough reserve fuel for two additional hours flight at normal cruise consumption, at 1,500 feet above the aerodrome.

(e) The Authority may grant specific approval for commercial air transport operations to isolated aerodromes without regard to consumption requirement of paragraph (d).

(f) To ensure that an adequate margin of safety is observed in determining whether or not an approach and landing can be safely carried out at each alternate aerodrome, the operator shall specify appropriate incremental values for height of cloud base and visibility, acceptable to the State of the Operator, to be added to the operator's established aerodrome operating minima.

Note: If the Authority requires that fuel, in addition to any other requirement herein, is necessary on a particular route or flight operation in the interest of safety, this additional fuel will be included in the minimum fuel supply for that route.

8.6.2.14 FUEL REQUIREMENTS

1. The amount of usable fuel to be carried shall, as a minimum, be based on:

a) the following data:

(1) current aeroplane-specific data derived from a fuel consumption monitoring system, if available; or

(2) if current aeroplane-specific data are not available, data provided by the aeroplane manufacturer; and

b) the operating conditions for the planned flight including:

(1) anticipated aeroplane mass;

(2) Notices to Airmen;

(3) current meteorological reports or a combination of current reports and forecasts;

(4) air traffic services procedures, restrictions and anticipated delays; and

(5) the effects of deferred maintenance items and/or configuration deviations.

2. The pre-flight calculation of usable fuel required shall include:

a) *taxi fuel*, which shall be the amount of fuel expected to be consumed before take-off, taking into account local conditions at the departure aerodrome and auxiliary power unit (APU) fuel consumption;

b) *trip fuel*, which shall be the amount of fuel required to enable the aeroplane to fly from take-off, or the point of inflight re-planning, until landing at the destination aerodrome taking into account the operating conditions of 4.3.6.2 b);

c) *contingency fuel*, which shall be the amount of fuel required to compensate for unforeseen factors. It shall be five percent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel but, in any case, shall not be lower than the amount required to fly for five minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome in standard conditions;

d) *destination alternate fuel*, which shall be:

1) where a destination alternate aerodrome is required, the amount of fuel required to enable the aeroplane to:

i) perform a missed approach at the destination aerodrome;

ii) climb to the expected cruising altitude;

iii) fly the expected routing;

iv) descend to the point where the expected approach is initiated; and

v) conduct the approach and landing at the destination alternate aerodrome; or

2) where two destination alternate aerodromes are required, the amount of fuel, as calculated in 4.3.6.3 d) 1), required to enable the aeroplane to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel; or

3) where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 450 m (1 500 ft) above destination aerodrome elevation in standard conditions; or

4) where the aerodrome of intended landing is an isolated aerodrome:

i) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes plus 15 per cent of the flight time planned to be spent at cruising level, including final reserve fuel, or two hours, whichever is less; or

ii) for a turbine-engined aeroplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel;

e) *final reserve fuel*, which shall be the amount of fuel calculated using the estimated mass on arrival at the destination alternate aerodrome, or the destination aerodrome when no destination alternate aerodrome is required:

1) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes, under speed and altitude conditions specified by the State of the Operator; or

2) for a turbine-engined aeroplane, the amount of fuel required to fly for 30 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions;

f) *additional fuel*, which shall be the supplementary amount of fuel required if the minimum fuel calculated in accordance with 4.3.6.3 b), c), d) and e) is not sufficient to:

1) allow the aeroplane to descend as necessary and proceed to an alternate aerodrome in the event of engine failure or loss of pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route;

i) fly for 15 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions; and
ii) make an approach and landing;

2) allow an aeroplane engaged in EDTO to comply with the EDTO critical fuel scenario as established by the State of the Operator;

3) meet additional requirements not covered above;

g) *discretionary fuel*, which shall be the extra amount of fuel to be carried at the discretion of the pilot-in-command.
3. The use of fuel after flight commencement for purposes other than originally intended during pre-flight planning shall require a re-analysis and, if applicable, adjustment of the planned operation.

8.6.2.15 IN-FLIGHT FUEL MANAGEMENT

(a) The pilot-in-command shall continually ensure that the amount of usable fuel remaining on board is not less than the fuel required to proceed to an aerodrome where a safe landing can be made with the planned final reserve fuel remaining upon landing.

(b) The pilot-in-command shall request delay information from ATC when unanticipated circumstances may result in landing at the destination aerodrome with less than the final reserve fuel plus any fuel required to proceed to an alternate aerodrome or the fuel required to operate to an isolated aerodrome.

(c) The pilot-in-command shall advise ATC of a minimum fuel state by declaring MINIMUM FUEL when, having committed to land at a specific aerodrome, the pilot calculates that any change to the existing clearance to that aerodrome may result in landing with less than the planned final reserve fuel.

(d) The pilot-in-command shall declare a situation of fuel emergency by broadcasting MAYDAY MAYDAY MAYDAY FUEL, when the calculated usable fuel predicted to be available upon landing at the nearest aerodrome where a safe landing can be made is less than the planned final reserve fuel.

Note — The declaration of MINIMUM FUEL informs ATC that all planned aerodrome options have been reduced to a specific aerodrome of intended landing and any change to the existing clearance may result in landing with less than the planned final reserve fuel. This is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.

8.6.2.16 MINIMUM FUEL SUPPLY FOR VFR FLIGHTS

(a) No person may commence a flight in an aeroplane under VFR unless, considering the wind and forecast weather conditions, there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

(1) For flights during the day, for at least 30 minutes thereafter; or

(2) For flights at night, for at least 45 minutes thereafter; and

(3) For international flights, for at least an additional 15% of the total flight time calculated for cruise flight.

(b) No person may commence a flight in a helicopter under VFR unless (considering the wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

(1) For 20 minutes thereafter; or

(2) For international flights, for at least an additional 10% of the total flight time calculated.

8.6.2.17 MINIMUM FUEL SUPPLY FOR IFR FLIGHTS

(a) No person may commence a flight under IFR unless there is enough fuel supply, considering weather reports and forecasts, to—

(1) Fly to the first point of intended landing;

(2) Fly from that aerodrome to the planned alternate aerodrome, if required; and

(3) Fly thereafter at normal cruising speed:

(i) In a propeller-driven aeroplane, for 45 minutes.

(ii) When an alternate is not required, In a rotorcraft, turbojet or turbofan aeroplane, for 30 minutes in a holding pattern at 450 m (1500 ft) above the aerodrome, plus a reserve for contingencies specified by the operator and approved by the Authority.

(iii) When an alternate is required, to fly to and execute an approach, and a missed approach, at the heliport or landing location to which the flight is planned, and thereafter fly to and execute an approach at the alternate specified in the flight plan, then have a final reserve fuel to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the alternate under standard temperature conditions, and approach and land, have an additional amount of fuel to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the State of the Operator.

(b) For IFR flights to isolated aerodromes, the 2-hour minimum reserve specified in 8.6.2.13 applies, except paragraph (e) does not apply to commercial air transport operations unless specifically approved by the Authority.

8.6.2.18 FLIGHT PLANNING DOCUMENT DISTRIBUTION AND RETENTION: COMMERCIAL AIR TRANSPORT

(a) For commercial air transport operations, the PIC shall complete and sign the following flight preparation documents prior to departure:

(1) An operational flight plan, including NOTAMs and weather pertinent to the flight planning decisions regarding minimum fuel supply, en route performance, and destination and alternate aerodromes.

(2) A load manifest, showing the distribution of the load, centre of gravity, takeoff and landing weights and compliance with maximum operating weight limitations, and performance analysis.

(3) An applicable technical log page, if mechanical irregularities were entered after a previous flight, maintenance or inspection functions were performed or a maintenance release was issued at the departure aerodrome.

(b) No person may takeoff an aircraft in commercial air transport unless all flight release documents, signed by the PIC, are retained and available at the point of departure.

(c) The PIC shall carry a copy of the documents specified in paragraph (a) on the aircraft to the destination aerodrome.

(d) Completed flight preparation forms shall be kept by the operator for a period of three months.

Note: These documents are in addition to those specified in Subpart 8.2 for all aircraft operations.

Note: The Authority may approve a different retention location where all documents can be available for subsequent review.

8.6.2.19 AIRCRAFT LOADING, MASS AND BALANCE

(a) No person may operate an aircraft unless all loads carried are properly distributed and safely secured.

(b) No person may operate an aircraft unless the calculations for the mass of the aeroplane and centre of gravity location indicate that the flight can be conducted safely, taking into account the flight conditions expected.

Note: When load masters, load planners or other qualified personnel are provided by the AOC holder in a commercial air transport operation, the PIC may delegate these responsibilities, but shall ascertain that proper loading procedures are followed.

(c) For commercial air transport operations, no PIC may commence a flight unless the PIC is satisfied that the loading and mass and balance calculations contained in the load manifest are accurate and comply with the aircraft limitations.

8.6.2.20 MAXIMUM ALLOWABLE WEIGHTS TO BE CONSIDERED ON ALL LOAD MANIFESTS

(a) The PIC shall ensure that the maximum allowable weight for a flight does not exceed the maximum allowable takeoff weight—

(1) For the specific runway and conditions existing at the takeoff time; and

(2) Considering anticipated fuel and oil consumption that allows compliance with applicable en route performance, landing weight, and landing distance limitations for destination and alternate aerodromes.

8.6.2.21 FLIGHT RELEASE REQUIRED: COMMERCIAL AIR TRANSPORT

(a) No person may start a flight under a flight following system without specific authority from the person authorised by the AOC holder to exercise operational control over the flight.

(b) No person may commence a passenger-carrying flight in commercial air transport for which there is a published schedule, unless a qualified person authorised by the AOC holder to perform operational control functions has issued a flight release for that specific operation or series of operations.

8.6.2.22 OPERATIONAL FLIGHT PLAN: COMMERICIAL AIR TRANSPORT

(a) No person may commence a flight unless the operational flight plan has been signed by the PIC.

(b) A PIC may sign the operational flight plan only when the PIC and the person authorised by the operator to exercise operational control have determined that the flight can be safely completed.

Note: The operational flight plan shall include the routing and fuel calculations, with respect to the meteorological and other factors expected, to complete the flight to the destination and all required alternates.

(c) The PIC signing the operational flight plan shall have access to the applicable flight planning information for fuel supply, alternate aerodromes, weather reports and forecasts and NOTAMs for the routing and aerodrome.

(d) No person may continue a flight from an intermediate aerodrome without a new operational flight plan if the aircraft has been on the ground more than 6 hours.

8.7 AIRCRAFT OPERATING AND PERFORMANCE LIMITATIONS

8.7.1 All Aircraft

8.7.1.1 APPLICABILITY

This Section prescribes the operating and performance limitations for all civil aircraft.

8.7.1.2 GENERAL

(a) No person may operate an aircraft that—

(1) Exceeds its designed performance limitations for any operation, as established by the State of Registry; or

(2) Exceeds operating limitations contained in the aircraft's flight manual, or its equivalent.

8.7.1.3 AIRCRAFT PERFORMANCE CALCULATIONS

(a) Each operator shall ensure that the performance data contained in the AFM, RFM, or other authorised source is used to determine compliance with the appropriate requirements of Subpart 8.7.

(b) When applying performance data, each person performing calculations shall account for the aircraft configuration, environmental conditions, and the operation of any system or systems which may have an adverse effect on performance.

8.7.1.4 GENERAL WEIGHT AND OBSTRUCTION CLEARANCE LIMITATIONS

(a) No person may takeoff an aircraft without ensuring that the maximum allowable weight for a flight does not exceed the maximum allowable takeoff or landing weight, or any applicable en route performance or landing distance limitations considering the—

(1) Condition of the takeoff and landing areas to be used;

(2) Gradient of runway to be used (landplanes only);

(3) Pressure altitude;

(4) Ambient temperature;

(5) Current and forecast winds; and

(6) Any know conditions (e.g., atmospheric and aircraft configuration) which may adversely affect performance.

(b) No person may takeoff an aircraft at a weight that, assuming normal engine operation, cannot safely clear all obstacles during all phases of flight, including all points along the intended en route path or any planned diversions.

8.7.1.5 ALL AEROPLANES OPERATED BY A SINGLE PILOT UNDER THE INSTRUMENT FLIGHT RULES (IFR) OR AT NIGHT

For approval in accordance with 8.7.1.6, all aeroplanes operated by a single pilot under the IFR or at night shall be equipped with:

(a) a serviceable autopilot that has at least altitude hold and heading select modes;

(b) a headset with a boom microphone or equivalent; and

(c) means of displaying charts that enables them to be readable in all ambient light conditions.

8.7.1.6 REQUIREMENTS FOR SINGLE PILOT OPERATIONS UNDER THE INSTRUMENTS FLIGHT RULES (IFR) OR AT NIGHT

a) An aeroplane shall not be operated under the IFR or at night by a single pilot unless approved by the State of the Operator.

b) An aeroplane shall not be operated under the IFR or at night by a single pilot unless:

i. The flight manual does not require a flight crew of more than one;
ii. The aeroplane is propeller-driven;
iii. The maximum approved passenger seating configuration is not more than nine;
iv. The maximum certificated take-off mass does not exceed 5 700 kg;
v. The aeroplane is equipped as described in 8.7.1.5; and
vi. The pilot-in-command has satisfied requirements of experience, training, checking and recency described in 9.4.5.

c) The pilot-in-command should:

i. for operations under the IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as pilot-in-command;
ii. for operations under the IFR, have accumulated at least 25 hours flight time under the IFR on the class of aeroplane, which may form part of the 50 hours flight time in sub-paragraph a);
iii. for operations at night, have accumulated at least 15 hours flight time at night, which may form part of the 50 hours flight time in sub-paragraph a);
iv. for operations under the IFR, have acquired recent experience as a pilot engaged in a single pilot operation under the IFR of:

1) at least five IFR flights, including three instrument approaches carried out during the preceding 90 days on the class of aeroplane in the single pilot role; or

2) an IFR instrument approach check carried out on such an aeroplane during the preceding 90 days;

v. for operations at night, have made at least three take-offs and landings at night on the class of aeroplane in the single pilot role in the preceding 90 days; and
vi. have successfully completed training programmes that include, in addition to the requirements of 9.3, passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

d) The initial and recurrent flight training and proficiency checks indicated in 9.3.1.4 and 8.10.1.20 shall be performed by the pilot-in-command in the single pilot role on the class of aeroplane in an environment representative of the operation.

8.7.1.7 MASS LIMITATION

a) The mass of the aeroplane at the start of take-off shall not exceed the mass at which 5.2.8 is complied with, or the mass at which 5.2.9, 5.2.10 and 5.2.11 are complied with, allowing for expected reductions in mass as the flight proceeds, and for such fuel jettisoning as is envisaged in applying 5.2.9 and 5.2.10 and, in respect of alternate aerodromes, 5.2.7 c) and 5.2.11.

b) In no case shall the mass at the start of take-off exceed the maximum take-off mass specified in the flight manual for the pressure-altitude appropriate to the elevation of the aerodrome, and, if used as a parameter to determine the maximum take-off mass, any other local atmospheric condition.

c) In no case shall the estimated mass for the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, exceed the maximum landing mass specified in the flight manual for the pressure-altitude appropriate to the elevation of those aerodromes, and if used as a parameter to determine the maximum landing mass, any other local atmospheric condition.

d) In no case shall the mass at the start of take-off, or at the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, exceed the relevant maximum masses at which compliance has been demonstrated with the applicable noise certification Standards in Annex 16, Volume I, unless otherwise authorized in exceptional circumstances for a certain aerodrome or a runway where there is no noise disturbance problem, by the competent authority of the State in which the aerodrome is situated.

8.7.2 Aircraft Used in Commercial Air Transport

8.7.2.1 APPLICABILITY

This Section prescribes aircraft performance and operating limitations for aircraft used in commercial air transport operations, except those aircraft holding a special authority or waiver by the Authority which exempt them from specific operating and performance limitations.

8.7.2.2 GENERAL

(a) Each person operating an aircraft engaged in commercial air transport shall comply with the provisions of Section 8.7.2.

(b) The Authority may authorise deviations from the requirements of Section 8.7.2 if special circumstances make a literal observance of a requirement unnecessary for safety.

(c) Where full compliance with the requirements of Section 8.7.2 cannot be shown due to specific design characteristics (e.g., seaplanes, airships, or supersonic aircraft), the operator shall apply approved performance standards that ensure a level of safety not less restrictive than those of relevant requirements of this Section.

(d) No person may operate a single-engine aircraft used for revenue passenger carrying operations unless that aircraft is continually operated in daylight, VFR, excluding over the top.

(e) No person may operate a multiengine aircraft used for revenue passengers carrying operations that is unable to comply with any of the performance limitations of subsections 8.7.2.4 through 8.7.2.8 unless that aircraft is continually operated—

(1) In daylight;
(2) In VFR, excluding over the top operations; and
(3) At a weight that will allow it to climb, with the critical engine inoperative, at least 50 feet a minute when operating at the MEAs of the intended route or any planned diversion, or at 5,000 feet MSL, whichever is higher.

(f) Multiengine aircraft that are unable to comply with paragraph (e)(3) are, for the purpose of this Section, considered to be a single engine aircraft and shall comply with the requirements of paragraph (d).

8.7.2.3 AIRCRAFT PERFORMANCE CALCULATIONS

(a) No person may takeoff an aircraft used in commercial air transport without ensuring that the applicable operating and performance limitations required for this Section can be accurately computed based on the AFM, RFM, or other data source approved by the Authority.

(b) Each person calculating performance and operating limitations for aircraft used in commercial air transport shall ensure that performance data used to determine compliance with this Section can, during any phase of flight, accurately account for—

(i) Any reasonably expected adverse operating conditions that may affect aircraft performance; (ii) One engine failure for aircraft having two engines, if applicable; and
(iii) Two engine failure for aircraft having three or more engines, if applicable.

(c) When calculating the performance and limitation requirements of subsections 8.7.2.4 to 8.7.2.8, each person performing the calculation shall, for all engines operating and for inoperative engines, accurately account for—

(1) In all phases of flight—
- (i) The effect of fuel and oil consumption on aircraft weight;
- (ii) The effect of fuel consumption on fuel reserves resulting from changes in flight paths, winds, and aircraft configuration;
- (iii) The effect of fuel jettisoning on aircraft weight and fuel reserves, if applicable and approved;
- (iv) The effect of any ice protection system, if applicable and weather conditions require its use;
- (v) Ambient temperatures and winds along intended route and any planned diversion; (vi) Flight paths and minimum altitudes required to remain clear of obstacles.

(2) During takeoff and landing—
- (i) The condition of the takeoff runway or area to be used, including any contaminates (e.g., water, slush, snow, ice);
- (ii) The gradient of runway to be used;
- (iii) The runway length including clearways and stopways, if applicable;
- (iv) Pressure altitudes at takeoff and landing sites;
- (v) Current ambient temperatures and winds at takeoff;
- (vi) Forecast ambient temperatures and winds at each destination and planned alternate landing site;
- (vii) The ground handling characteristics (e.g., braking action) of the type of aircraft; and (viii) Landing aids and terrain that may affect the takeoff path, landing path, and landing roll.

Note: Where conditions are different from those on which the performance is based, compliance may be determined by interpolation or by computing the effects of changes in the specific variables, if the results of the interpolation or computations are substantially as accurate as the results of direct tests.

Note: To allow for wind effect, takeoff data based on still air may be corrected by taking into account not more than 50 percent of any reported headwind component and not less than 150 percent of any reported tailwind component, and landing data based on.

8.7.2.4 TAKEOFF LIMITATIONS

(a) *Aeroplanes*. No person may takeoff an aeroplane used in commercial air transport unless the following requirements are met when determining the maximum permitted take-off mass:

(1) The takeoff run shall not be greater than the length of the runway.

(2) For turbine engine powered aeroplanes—
- (i) The takeoff distance shall not exceed the length of the runway plus the length of any clearway, except that the length of any clearway included in the calculation shall not be greater than 1/2 the length of the runway; and
- (ii) The accelerate-stop distance shall not exceed the length of the runway, plus the length of any stopway, at any time during takeoff until reaching V_1.

(3) For reciprocating engine powered aeroplanes—

(i) The accelerate-stop distance shall not exceed the length of the runway at any time during takeoff until reaching V_1.

(4) If the critical engine fails at any time after the aeroplane reaches V_1, to continue the takeoff flight path and clear all obstacles either—

(i) By a height of at least 9.1 m (35 ft) vertically for turbine engine powered aeroplanes or 15.2 m (50 ft) for reciprocating engine powered aeroplanes; and

(ii) By at least 60 m (200 ft) horizontally within the aerodrome boundaries and by at least 90 meters (300 feet) horizontally after passing the boundaries, without banking more than 15 degrees at any point on the takeoff flight path.

(b) *Helicopters.* No person may takeoff a helicopter used in commercial air transport that, in the event of a critical engine failure, cannot—

(1) For Class 1 helicopters—

(i) At or before the takeoff decision point, discontinue the takeoff and stop within the rejected takeoff area; or

(ii) After the takeoff decision point, continue the takeoff and then climb, clearing all obstacles along the flight path, until a suitable landing site is found.

(2) For Class 2 helicopters—

(i) Before reaching a defined point after take-off, safely execute a forced landing within the rejected takeoff area, or

(ii) At any point after reaching a defined point after take-off, continue the takeoff and then climb, clearing all obstacles along the flight path, until a suitable landing site is found.

(3) For Class 3 helicopters-

(i) At any point of the flight path, failure of an engine will cause the helicopter to force-land; therefore, the conditions stated in Annex 6 Part 3, 3.1.2 shall apply.

8.7.2.5 EN ROUTE LIMITATIONS: ALL ENGINES OPERATING

No person may take off a reciprocating engine powered aeroplane used in commercial air transport at a weight that does not allow a rate of climb of at least 6.9 V_{so}, (that is, the number of feet per minute obtained by multiplying the aircraft's minimum steady flight speed by 6.9) with all engines operating, at an altitude of at least 300 m (1,000 ft) above all terrain and obstructions within ten miles of each side of the intended track.

8.7.2.6 EN ROUTE LIMITATIONS: ONE ENGINE INOPERATIVE

(a) *Aeroplane.* No person may take off an aeroplane used in commercial air transport having two engines unless that aeroplane can, in the event of a power failure at the most critical point en route, continue the flight to a suitable aerodrome where a landing can be made while allowing—

(1) For reciprocating engine powered aeroplanes—

(i) At least a rate of climb of 0.079 - (0.106/number of engines installed) V_{so}^2 (when V_{so} is expressed in knots) at an altitude of 300 m (1,000 ft) above all terrain and obstructions within 9.3 km (5 sm), on each side of the intended track; and

(ii) A positive slope at an altitude of at least 450 m (1,500 ft) above the aerodrome where the aeroplane is assumed to land.

(2) For turbine engine powered transport category aeroplanes—

(i) A positive slope at an altitude of at least 300 m (1,000 ft) above all terrain and obstructions within 9.3 km (5 sm), on each side of the intended track;

(ii) A net flight path from cruising altitude to the intended landing aerodrome that allows at least 600 m (2,000 ft) clearance above all terrain and obstructions within 9.3 km (5 sm), on each side of the intended track; and

(iii) A positive slope at an altitude of at least 450 m (1,500 ft) above the aerodrome where the aeroplane is assumed to land;

Note: The climb rate specified in paragraph (a)(1)(i) may be amended to 0.026 $V_{so}2$ for large transport category aircraft issued a type certificate prior to 1953.

Note: The 9.3 km (5 sm) clearance margin stated in paragraph (a) shall be increased to 18.5 km (10 sm) if navigational accuracy does not meet the 95% containment level.

(b) *Helicopter operations in performance class 1 and 2.* No person shall takeoff a helicopter used in commercial air transport having two engines unless that helicopter can, in the event of the critical engine failing and any point in the en route phase, continue the flight to the destination or alternate landing site without flying below the minimum flight altitude at any point and clearing all obstacles in the approach path by a safe margin.

(c) *Helicopter Operations in performance Class 3.* The helicopter shall be able, with all engines operating, to continue along its intended route or planned diversions without flying at any point below the appropriate minimum flight altitude. At any point of the flight path, failure of an engine will cause the helicopter to force-land; therefore, the conditions stated in 3.1.2 shall apply.

8.7.2.7 EN ROUTE LIMITATIONS: TWO ENGINES INOPERATIVE

(a) *Aeroplane.* No person may takeoff an aeroplane used in commercial air transport having three or more engines at such a weight where there is no suitable landing aerodrome within 90 minutes at any point along the intended route (with all engines operating at cruising power), unless that aircraft can, in the event of simultaneous power failure of two critical engines at the most critical point along that route, continue to a suitable landing aerodrome while allowing—

(1) For turbine engine powered aeroplanes—

(i) A net flight path (considering the ambient temperatures anticipated along the track) clearing vertically by at least 2,000 feet all terrain and obstructions within five statute miles (4.34 nautical miles) on each side of the intended track;

(ii) A positive slope at 1,500 feet above the aerodrome of intended landing; and

(iii) Enough fuel to continue to the aerodrome of intended landing, to arrive at an altitude of at least 1,500 feet directly over the aerodrome, and thereafter to fly for 15 minutes at cruise power.

Note: The consumption of fuel and oil after the engine failure is the same as the consumption that is allowed for in the net flight path data in the AFM.

(2) For reciprocating engine powered aeroplanes—

(i) A rate of climb at 0.013 V_{so}^2 feet per minute (that is, the number of feet per minute is obtained by multiplying the number of knots squared by 0.013) at an altitude of 1,000 feet above the highest ground or obstruction within 10 miles on each side of the intended track, or at an altitude of 5,000 feet, which ever is higher; and

(ii) Enough fuel to continue to the aerodrome of intended landing and to arrive at an altitude of at least 300 m (1,000 ft) directly over that aerodrome.

Note: When the two engines of the reciprocating aeroplane are predicted to fail at an altitude above the prescribed minimum altitude, compliance with the prescribed rate of climb need not be shown during the descent from the cruising altitude to the prescribed minimum altitude, if those requirements can be met once the prescribed minimum altitude is reached, and assuming descent to be along a net flight path and the rate of descent to be 0.013 $V_{so}2$ greater than the rate in the approved performance data.

Note: If fuel jettisoning is authorised (or planned), the aeroplane's weight at the point where the two engines fail is considered to be not less than that which would include enough fuel to proceed to an aerodrome and to arrive at an altitude of at least 300 m (1,000 ft) directly over that aerodrome.

(b) *Helicopters.* No person shall takeoff a Class 1 or Class 2 helicopter used in commercial air transport having three or more engines unless that helicopter can, in the event of two critical engines failing simultaneously at any point in the en route phase, continue the flight to a suitable landing site.

8.7.2.8 LANDING LIMITATIONS

(a) *Aeroplane.* No person may take off an aeroplane used in commercial operations unless its weight on arrival at either the intended destination aerodrome or any planned alternate aerodrome would allow a full stop landing from a point 50 feet above the intersection of the obstruction clearance plane and the runway, and within—

(1) For turbine engine powered aeroplanes, 60 percent of the effective length of each runway.

(2) For reciprocating engine powered aeroplanes, 70 percent of the effective length of each runway.

(b) For the purpose of determining the allowable landing weight at the destination aerodrome, each person determining the landing limit shall ensure that—

(1) The aeroplane is landed on the most favourable runway and in the most favourable direction, in still air; or

(2) The aeroplane is landed on the most suitable runway considering the probable wind velocity and direction, runway conditions, the ground handling characteristics of the aeroplane, and considering other conditions such as landing aids and terrain.

Note: If the runway at the landing destination is reported or forecast to be wet or slippery, the landing distance available shall be at least 115 percent of the required landing distance unless, based on a showing of actual operating landing techniques on wet or slippery runways, a shorter landing distance (but not less than that required by paragraph (a)) has been approved for a specific type and model aeroplane and this information is included in the AFM.

(c) A turbine powered transport category aeroplane that would be prohibited from taking off because it could not meet the requirements of paragraph (a)(1), may take off if an alternate aerodrome is specified that meets all the requirements of paragraph (a).

(d) *Helicopters.* No person may take off a helicopter used in commercial air transport unless, with all engines operating on arrival at the intended destination landing site or any planned alternate landing, it can clear all obstacles on the approach path and can land and stop within the landing distance available.

(e) *Helicopters.* No person may take off a helicopter used in commercial air transport unless, in the event of any engine becoming inoperative in the approach and landing phase on arrival at the intended destination landing site or any planned alternate landing, can—

(1) For Class 1 helicopters—

(i) Before the landing decision point, clear all obstacles on the approach path and be able to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin; or

(ii) After the landing decision point, land and stop within the landing distance available.

(2) For Class 2 helicopters—

(i) Before reaching a defined point before landing, safely execute a forced landing within the landing distance available.

(ii) In the event of the failure of the critical engine before the DPBL, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, be able either to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in 3.2.7.1.2. After the DPBL, failure of an engine may cause the helicopter to force-land.

(3) For Class 3 Helicopters-

(i) At any point of the flight path, failure of an engine will cause the helicopter to force-land; therefore, the conditions stated in 3.1.2 shall apply.

8.7.2.8.1 OBSTACLE DATA

The operator shall use available obstacle data to develop procedures to comply with the take-off, initial climb, approach, and landing phases detailed in the code of performance established by the State of the Operator.

8.7.2.9 Single-Engine and Multi-Engine Aeroplane Operations

(k) No person may operate a single-engine aeroplane in revenue passenger-carrying operations unless that aeroplane is continually operated in daylight, VFR, and over such routes and diversions therefrom that permit a safe forced landing to be executed in the event of an engine failure.

(10) Notwithstanding paragraph 8.7.2.9(a) of this subsection, the Authority may approve single-engine operations in propeller-driven, turbine-powered aeroplanes under IFR, at night, or under IMC for aeroplanes with a maximum certificated take-off mass of 5 700 kg (12 566 lb) or less and a maximum approved passenger seating configuration of nine or less, provided it meets the equipment requirements.

(11) Notwithstanding paragraph 8.7.2.9(a)(1) of this subsection, the Authority may approve single-engine operations in propeller-driven, turbine-powered aeroplanes under IFR, at night, or under IMC for aeroplanes with a maximum certificated take-off mass of 5 700 kg (12 566 lb) or less with a passenger seating configuration of more than nine passengers if the aeroplane is type certificated for operations by a single pilot, provided it meets the equipment requirements and the Authority has authorised an exemption from paragraph 8.7.2.9(a)(1) of this subsection in the operator's operations specifications. If such operations are to be conducted outside Guyana, the State shall have an arrangement with the States where operations will be conducted.

(l) No person shall operate a single-engine turbine-powered aeroplane at night and/or in IMC unless the aeroplane's certificate of airworthiness is appropriate and acceptable to the Authority and the overall safety of the operation is consistent with commercial air transportation operations as provided by:

(12) The reliability of the turbine engine;

(13) The operator's maintenance procedures, operating practices, and flight dispatch procedures;

(14) Crew training programmes; and

(15) Equipment and additional requirements provided in accordance with paragraph 8.7.2.9(d) of this subsection.

(m) No person shall operate a single-engine turbine-powered aeroplane at night and/or in IMC unless the aeroplane has an engine trend monitoring system, and those aeroplanes for which the individual certificate of airworthiness is first issued on or after 01 January 2005 shall have an automatic trend monitoring system.

(n) IS 8.7.2.9 prescribes additional airworthiness and operational requirements applicable to the operation of single-engine, turbine-powered aeroplanes at night and/or in IMC with respect to:

(16) Turbine engine reliability;

(17) Systems and equipment;

(18) MEL;

(19) Aircraft Flight Manual information;

(20) Event reporting;

(21) Operator planning;

(22) Flight crew experience, training, and checking;

(23) Route limitations over water; and

(24) Operator certification or validation.

(o) No person may operate a multi-engine aeroplane in revenue passenger-carrying operations that is unable to comply with any of the performance limitations of this part unless that aeroplane is continually operated:

(25) In daylight;

(26) In VFR, excluding over-the-top operations; and

(27) At a mass that will allow it to climb, with the critical engine inoperative, at least 15 m (50 ft) a minute when operating at the MEAs of the intended route or any planned diversion, or at 1 500 m (5 000 ft) MSL, whichever is higher.

(p) Multi-engine aeroplanes that are unable to comply with paragraph 8.7.2.9(e)(3) of this subsection are, for the purpose of this section, considered to be a single-engine aeroplane and shall comply with the requirements of paragraph 8.7.2.9(a) of this subsection.

8.7.2.10 ADDITIONAL REQUIREMENTS FOR OPERATIONS OF SINGLE-ENGINE TURBINE-POWERED AEROPLANES AT NIGHT AND/OR IN INSTRUMENT METEOROLOGICAL CONDITIONS (IMC)

1. In approving operations by single-engine turbine-powered aeroplanes at night and/or in IMC, the State of the Operator shall ensure that the airworthiness certification of the aeroplane is appropriate and that the overall level of safety intended by the provisions of Annexes 6 and 8 is provided by:

a) the reliability of the turbine engine;

b) the operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programmes;

c) equipment and other requirements provided in accordance with Appendix 3.

2. All single-engine turbine-powered aeroplanes operated at night and/or in IMC shall have an engine trend monitoring system, and those aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 2005 shall have an automatic trend monitoring system.

8.7.2.11 REQUIREMENTS FOR OPERATIONS OF HELICOPTERS IN PERFORMANCE CLASS 3 IN IMC, EXCEPT SPECIAL VFR FLIGHTS

a) Operations in performance Class 3 in IMC shall be conducted only over a surface environment acceptable to the competent authority of the State over which the operations are performed.

b) In approving operations by helicopters operating in performance Class 3 in IMC, the State of the Operator shall ensure that the helicopter is certificated for flight under IFR and that the overall level of safety intended by the provisions of Annexes 6 and 8 is provided by:

(i) the reliability of the engines;
(ii) the operator's maintenance procedures, operating practices and crew training programmes; and
(iii) equipment and other requirements provided in accordance with Appendix 2.

c) Operators of helicopters operating in performance Class 3 in IMC shall have a programme for engine trend monitoring and shall utilize the engine and helicopter manufacturers' recommended instruments, systems and operational/ maintenance procedures to monitor the engines.

d) In order to minimize the occurrence of mechanical failures, helicopters operating in IMC in performance Class 3 should utilize vibration health monitoring for the tail-rotor drive system.

IS 8.7.2.9 Single-Engine and Multi-Engine Aeroplane Operations

(q) An AOC holder shall not operate single-engine turbine-powered aeroplanes at night and/or in IMC unless the following airworthiness and operational requirements have been satisfied by the operator and approved by the Authority:

(28) Turbine engine reliability shall be shown to have a power loss rate of less than 1 per 100 000 engine hours.

Note: Power loss in this context is defined as any loss of power, the cause of which may be traced to faulty engine or engine component design or installation, including design or installation of the fuel ancillary or engine control systems.

(r) To minimise the probability of in-flight engine failure, the engine shall be equipped with:

(29) An ignition system that activates automatically, or is capable of being operated manually, for take-off and landing, and during flight, in visible moisture;

(30) A magnetic particle detection or equivalent system that monitors the engine, accessories gearbox, and reduction gearbox, and which includes a flight deck caution indication; and

(31) An emergency engine power control device that permits continuing operation of the engine through a sufficient power range to safely complete the flight in the event of any reasonably probable failure of the fuel control unit.

(s) SYSTEMS AND EQUIPMENT. Single-engine turbine-powered aeroplanes approved to operate at night and/or in IMC shall be equipped with the following systems and equipment intended to ensure continued safe flight and to assist in achieving a safe forced landing after an engine failure, under all allowable operating conditions:

(32) Two separate electrical generating systems, each one capable of supplying all probable combinations of continuous in-flight electrical loads for instruments, equipment, and systems required at night and/or in IMC;

(33) A radio altimeter;

(34) An emergency electrical supply system of sufficient capacity and endurance, following loss of all generated power, to as a minimum:

(xxiv) Maintain the operation of all essential flight instruments, communication, and navigation systems during a descent from the maximum certificated altitude in a glide configuration to the completion of a landing;

(xxv) Lower the flaps and landing gear, if applicable;

(xxvi) Provide power to one pitot heater, which shall serve an air speed indicator clearly visible to the pilot;

(xxvii) Provide for operation of the landing light specified in paragraph (c)(10) of this IS;

(xxviii) Provide for one engine restart, if applicable; and

(xxix) Provide for the operation of the radio altimeter;

(35) Two attitude indicators, powered from independent sources;

(36) A means to provide for at least one attempt at engine re-start;

(37) Airborne weather radar;

(38) A certified RNAV system capable of being programmed with the positions of aerodromes and safe forced landing areas, and providing instantly available track and distance information to those locations;

(39) For passenger operations, passenger seats and mounts that meet dynamically tested performance standards and are fitted with a shoulder harness or a safety belt with a diagonal shoulder strap for each passenger seat;

(40) In pressurised aeroplanes, sufficient supplemental oxygen for all occupants for descent following engine failure at the maximum glide performance from the maximum certificated altitude to an altitude at which supplemental oxygen is no longer required;

(41) A landing light that is independent of the landing gear and is capable of adequately illuminating the touchdown area in a night forced landing; and

(42) An engine fire warning system.

(t) MINIMUM EQUIPMENT LIST. An AOC holder shall develop an MEL approved by the Authority that is appropriate to the type of single-engine turbine-powered aeroplane operated, specifying the operating equipment required for night and/or IMC operations and for day/VMC operations.

(u) AIRCRAFT FLIGHT MANUAL INFORMATION. The Aircraft Flight Manual shall include limitations, procedures, approval status, and other information relevant to operations by single-engine turbine-powered aeroplanes at night and/or in IMC.

(v) EVENT REPORTING. An AOC holder operating turbine-powered aeroplanes at night and/or in IMC shall report all significant failures, malfunctions, or defects to the Authority who in turn will notify the State of Design.

(w) OPERATOR PLANNING. Each AOC holder operating single-engine turbine-powered aeroplanes at night and/or in IMC shall take account of all relevant information in the assessment of intended routes or areas of operation, including the following:

(43) The nature of the terrain to be overflown, including the potential for carrying out a safe forced landing in the event of an engine failure or major malfunction;

(44) Weather information, including seasonal and other adverse meteorological influences that may affect the flight; and

(45) Other criteria and limitations as specified by the Authority.

(x) Each AOC holder shall identify aerodromes or safe forced landing areas available for use in the event of engine failure and the position of these shall be programmed into the RNAV system.

Note 1: A "safe" forced landing in this context means a landing in an area in which it can reasonably be expected will not lead to serious injury or loss of life, even though the aeroplane may incur extensive damage.

(y) FLIGHT CREW EXPERIENCE, TRAINING AND CHECKING.

(46) No person may serve as, and no AOC holder shall use, a flight crew member in single-engine turbine-powered aeroplanes engaged in commercial air transport unless that person has completed the appropriate flight crew member training as specified in this part and approved by the Authority.

(47) The AOC holder's approved flight crew training and checking shall be appropriate to night and/or IMC operations by single-engine turbine-powered aeroplanes, covering normal, abnormal, and emergency procedures and, in particular, engine failure, including descent to a forced landing in night and/or in IMC conditions.

(z) ROUTE LIMITATIONS OVER WATER.

(48) An AOC holder shall not conduct over-water operations using single-engine turbine-powered aeroplanes operating at night and/or in IMC except in areas of operation or over specific routes identified in the AOC holder's operations specifications.

(49) No AOC holder may conduct over water operations using single-engine turbine-powered aeroplanes operating at night and/or in IMC except in accordance with procedures approved by the Authority in the AOC holder's OM for over-water operations covering flight beyond gliding distance from an area suitable for a safe forced landing/ditching having regard to the characteristics of the aeroplane, seasonal weather influences, including likely sea state and temperature, and the availability of search and rescue services.

(aa) OPERATOR CERTIFICATION OR VALIDATION.

(50) An AOC holder applying for operations specifications granting authorisation to conduct single-engine turbine-powered aeroplane operations at night and/or in IMC shall demonstrate to the Authority, consistent with regulations and requirements with respect to air operator certification and administration, the ability to conduct operations by single-engine turbine-powered aeroplanes at night and/or in IMC through a certification and approval process specified by the Authority.

8.8 FLIGHT RULES

8.8.1 All Operations

8.8.1.1 OPERATION OF AIRCRAFT ON THE GROUND

(a) No person may taxi an aircraft on the movement area of an aerodrome unless the person at the controls—

(1) Has been authorised by the owner, the lessee, or a designated agent;

(2) Is fully competent to taxi the aircraft;

(3) Is qualified to use the radio if radio communications are required; and

(4) Has received instruction from a competent person in respect of aerodrome layout, and where appropriate, information on routes, signs, marking, lights, ATC signals and instructions, phraseology and procedures, and is able to conform to the operational standards required for safe aircraft movement at the aerodrome.

(b) No person shall cause a helicopter rotor to be turned under power unless there is a qualified pilot at the controls.

(c) The operator shall provide appropriately specific training and procedures to be followed for all personnel, other than qualified pilots, who are likely to carry out the turning of a rotor under power for purposes other than flight.

8.8.1.2 TAKEOFF CONDITIONS

(a) Before commencing takeoff, a PIC shall ensure that—

(1) According to the available information, the weather at the aerodrome and the condition of the runway intended to be used will allow for a safe takeoff and departure; and

(2) The RVR or visibility in the takeoff direction of the aircraft is equal to or better than the applicable minimum.

8.8.1.3 IN-FLIGHT PROCEDURES

8.8.1.3.1 Aerodrome operating minima

(a) A flight shall not be continued towards the aerodrome of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that aerodrome or at least one destination alternate aerodrome, in compliance with the operating minima established in accordance with 4.2.8.1

(b) An instrument approach shall not be continued below 300 m (1 000 ft) above the aerodrome elevation or into the final approach segment unless the reported visibility or controlling RVR is at or above the aerodrome operating minima.

(c) If, after entering the final approach segment or after descending below 300 m (1 000 ft) above the aerodrome elevation, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H. In any case, an aircraft shall not continue its approach-to-land at any aerodrome beyond a point at which the limits of the operating minima specified for that aerodrome would be infringed.

8.8.1.3 FLIGHT INTO KNOWN OR EXPECTED ICING

(a) No person may takeoff an aircraft or continue to operate an aircraft en route when the icing conditions are expected or encountered, without ensuring that the aircraft is certified for icing operations and has sufficient operational de-icing or anti-icing equipment.

(b) No person may takeoff an aircraft when frost, ice or snow is adhering to the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft which might adversely affect the performance or controllability of the aircraft.

(c) For commercial air transport operations, no person may takeoff an aircraft when conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless the procedures approved for the AOC holder by the Authority are followed to ensure ground de-icing and anti-icing is accomplished.

8.8.1.3.1 AIRCRAFT TRACKING

1. The operator shall establish an aircraft tracking capability to track aeroplanes throughout its area of operations.

2. The operator shall track the position of an aeroplane through automated reporting at least every 15 minutes for the portion(s) of the in-flight operation(s) that is planned in an oceanic area(s) under the following conditions:

   a) the aeroplane has a maximum certificated take-off mass of over 45 500 kg and a seating capacity greater than 19; and

   b) where an ATS unit obtains aeroplane position information at greater than 15-minute intervals.

3. The operator should track the position of an aeroplane through automated reporting at least every 15 minutes for the portion(s) of the in-flight operation(s) under the following conditions:

   a) the aeroplane has a maximum certificated take-off mass of over 27 000 kg and a seating capacity greater than 19; and

   b) where an ATS unit obtains aeroplane position information at greater than 15-minute intervals.

4. Notwithstanding the provisions in 3.5.2 and 3.5.3, the State of the Operator may, based on the results of an approved risk assessment process implemented by the operator, allow for variations to automated reporting intervals. The process shall demonstrate how risks to the operation, resulting from such variations, can be managed and shall include at least the following:

   a) capability of the operator's operational control systems and processes, including those for contacting ATS units;

   b) overall capability of the aeroplane and its systems;

   c) available means to determine the position of, and communicate with, the aeroplane;

   d) frequency and duration of gaps in automated reporting;

   e) human factors consequences resulting from changes to flight crew procedures; and

   f) specific mitigation measures and contingency procedures.

5. The operator shall establish procedures, approved by the State of the Operator, for the retention of aircraft tracking data to assist SAR in determining the last known position of the aircraft.

8.8.1.4 ALTIMETER SETTINGS

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level by reference to an altimeter set—

(1) Below 3,000 ft MSL to—

Note: This requirement does not apply when operating in airspace and on routes aircraft are required to use of 29.92" below 3,000 MSL.

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;
(ii) The current reported altimeter setting of a nearby station, if there is not a station along the route; or
(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure aerodrome or an appropriate altimeter setting available before departure; or

(2) At or above ***3,000*** feet MSL to 29.92" 1013 Hpa.

Implementing Standard: See IS:8.8.1.4 for a table to determine the lowest usable flight level.

IS:8.8.1.4 ALTIMETER SETTINGS

The lowest usable flight level is determined by the atmospheric pressure in the area of operation as follows:

a) For flights within the Timehri TMA (30NM radius centred TIM/DME) as determined by Timehri approach control based on current altimeter settings.
b) For flights within the CTA (75NM radius centred TIM/DME) as determined by Georgetown ACC, based on current altimeter settings.
c) For flights along ATS routes as published on enroute charts.

8.8.1.5 MINIMUM SAFE ALTITUDES: GENERAL

(a) Except when necessary for takeoff or landing or by permission in writing from the Authority, no person may operate an aircraft below the following altitudes:

(1) Over any area. At an altitude allowing, if a power unit fails, continuation of flight or an emergency landing without undue hazard to persons or property on the surface.

(2) Over any congested area of a city, town, or settlement, or over any open-air assembly of persons, an altitude of 300m (1,000 feet) above the highest obstacle within a horizontal radius of 600m (2,000 feet) of the aircraft.

(3) Areas other than as specified in sub-paragraph (2) above. An altitude of 150m (500 feet) above the surface, except over open water or sparsely populated areas where the aircraft may not be operated closer than 150m (500 feet) to any person, vessel, vehicle, or structure.

(4) Helicopters may be operated at less than the minimums prescribed in sub-paragraphs (2) & (3) above, provided they operate in a manner that is not hazardous to persons and property on the surface. In addition the PIC of a helicopter shall comply with any routes or altitudes for the area that are prescribed for helicopters by the Authority.

8.8.1.6 MINIMUM SAFE VFR ALTITUDES: COMMERCIAL AIR TRANSPORT OPERATIONS

(a) No person may operate an aeroplane in commercial air transport during the day, under VFR, at an altitude less than 1,000 feet above the surface or within 1,000 feet of any mountain, hill, or other obstruction to flight.

(b) No person may operate an aeroplane in commercial air transport at night, under VFR, at an altitude less than 1,000 feet above the highest obstacle within a horizontal distance of five miles from the centre of the intended

course, or, in designated mountainous areas, less than 2,000 feet above the highest obstacle within a horizontal distance of five miles from the centre of the intended course.

8.8.1.7.1 INSTRUMENT FLIGHT PROCEDURES

a) One or more instrument approach procedures to serve each final approach and take-off area or heliport utilized for instrument flight operations shall be approved and promulgated by the State in which the heliport is located, or by the State which is responsible for the heliport when located outside the territory of any State.

b) All helicopters operated in accordance with IFR shall comply with the instrument approach procedures approved by the State in which the heliport is located, or by the State which is responsible for the heliport when located outside the territory of any State.

8.8.1.7 Instrument Approach Operating Minima

(bb) No person may operate to or from an aerodrome using operating minima lower than those which may be established for that aerodrome by the State of the Aerodrome, unless that State specifically approves that operation in accordance with the provisions prescribed in IS 8.8.1.7.

(51) For commercial operators, the State of the Operator, and for general aviation, the State of Registry, shall authorise operational credit(s) for operations with advanced aircraft, when used for LVO. Where the operational credit relates to LVO, the State of the Operator shall issue a specific approval. Such authorisations shall not affect the classification of the IAP.

(52) Operational credit includes:

(xxx) For the purposes of an approach ban or dispatch considerations, a minimum below the aerodrome operating minima;

(xxxi) Reducing or satisfying the visibility requirements; or

(xxxii) Requiring fewer ground facilities as compensated for by airborne capabilities.

(53) When issuing a specific approval for the operational credit, the State of the Operator (for commercial operators) or the State of Registry (for general aviation), shall ensure that:

(xxxiii) The aeroplane meets the appropriate airworthiness certification requirements;

(xxxiv) The information necessary to support effective crew tasks for the operation is appropriately available to both pilots where the number of flight crew members specified in the OM, or in other documents associated with the certificate of airworthiness, is more than one;

(xxxv) The operator or owner has carried out a safety risk assessment of the operations supported by the equipment;

(xxxvi) The operator or owner has established and documented normal and abnormal procedures and MEL;

(xxxvii) The operator or owner has established a training programme for the flight crew members and relevant personnel involved in the flight preparation;

(xxxviii) The operator or owner has established a system for data collection, evaluation, and trend monitoring for LVO for which there is an operational credit; and

(xxxix) The operator or owner has instituted appropriate procedures with respect to continuing airworthiness (maintenance and repair) practices and programmes.

(54) For operations with operational credit with minima above those related to LVO, the State of Registry shall establish criteria for the safe operation of the aeroplane.

Note 1: Guidance on operational credit and how to express operational credit in the specific approvals template is contained in ICAO Doc 9365, Manual of All-Weather Operations.

Note 2: Information regarding automatic landing systems, a HUD or equivalent displays, EVS, SVS, or CVS is contained in ICAO Doc 9365, Manual of All-Weather Operations.

Note 3: Automatic landing system – helicopter is an automatic approach using airborne systems that provide automatic control of the flight path to a point aligned with the landing surface, from which the pilot can transition to a safe landing by means of natural vision without the use of automatic control.

Note 4: Guidance on safety risk assessments is contained in ICAO Doc 9859, Safety Management Manual (SMM).

Note 5. Guidance on operational approvals is contained in ICAO Doc 9365, Manual of All-Weather Operations.

Note 6: Guidance on operational credit for operations with minima above those related to LVO is contained in ICAO Doc 9365, Manual of All-Weather Operations.

(cc) No person may conduct instrument approach operations at an aerodrome below 800 m (2 600 ft) visibility unless RVR information is provided.

(dd) Instrument approach operations shall be classified based on the designed lowest operating minima below which an approach operation shall only be continued with the required visual reference as follows:

(55) Type A: an MDH or a DH at or above 75 m (250 ft); and

(56) Type B: a DH below 75 m (250 ft). Type B instrument approach operations are categorised as:

(xl) CAT I: a DH not lower than 60 m (200 ft) with either a visibility not less than 800 m or an RVR not less than 550 m;

(xli) CAT II: a DH lower than 60 m (200 ft) but not lower than 30 m (100 ft) and an RVR not less than 300 m; and

(xlii) CAT III: a DH lower than 30 m (100 ft) or no DH and an RVR less than 300 m or no RVR limitations.

(ee) The operating minima for 2D instrument approach operations using IAPs shall be determined by establishing an MDA or an MDH, minimum visibility, and, if necessary, cloud conditions.

(ff) The operating minima for 3D instrument approach operations using IAPs shall be determined by establishing a decision altitude or DH and the minimum visibility or RVR.

(gg) The Authority shall issue a specific approval for instrument approach operations in low visibility which shall only be conducted when RVR information isprovided.

(hh) For take-off in low visibility, the State of Registry shall issue a specific approval for the minimum take-off RVR.

Note 1: Where DH and RVR fall into different categories of operation, the instrument approach operation would be conducted in accordance with the requirements of the most demanding category (e.g., an operation with a DH in the range of CAT III but with an RVR in the range of CAT III would be considered a CAT III operation or an operation with a DH in the range of CAT II but with an RVR in the range of CAT I would be considered a CAT II operation). This does not apply if the RVR and/or DH has been approved as operational credits.

Note 2: The required visual reference means that section of the visual aids or approach area that 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 operation, the required visual reference is the runway environment.

Note 3: Guidance on approach classification as it relates to instrument approach operations, procedures, runways, LVO, and navigation systems is contained in ICAO Doc 9365, Manual of All-Weather Operations.

Note 4: For guidance on applying a continuous descent final approach (flight technique on NPA procedures (2D instrument approach operations Type A), refer to ICAO Doc 8168, Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS), *Volume I, Section 4, Chapter 1. Continuous descent final approach with manual calculation of the required rate of descent (see ICAO Doc 8168, Volume I, Part I, Section 4: 1.7 and 1.8) are considered 2D instrument approach operations. Continuous descent final approach with advisory VNAV guidance calculated by on-board equipment (see ICAO Doc 8168, Part II, Section 5) are considered 3D instrument approach operations.*

IS 8.8.1.7 Instrument Approach Operating Minima

(ii) Each operator establishing aerodrome operating minima shall have its method for determining such minima approved by the Authority.

(jj) Each operator's method for determining aerodrome operating minima shall accurately account for:

(57) The type, performance, and handling characteristics of the aircraft;

(58) Any conditions or limitations stated in the flight manual;

(59) The composition, competence, and experience of the flight crew;

(60) The dimensions and characteristics of the runways selected for use;

(61) The adequacy and performance of the available visual and non-visual ground aids;

(62) Aircraft equipment used for navigation, acquisition of visual references, and/or aircraft control during the approach, landing, and missed approach;

(63) Obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the intended IAPs;

(64) The means used to determine and report meteorological conditions;

(65) The obstacles in the climbout areas and the necessary clearance margins;

(66) The conditions prescribed in the operations specifications;

(67) Any minima that may be promulgated by the State of the Aerodrome; and

(68) The declared distances, for helicopters.

ICAO Annex 6, Part I: 4.2.8.1; 4.2.8.2
ICAO Annex 6, Part II: 2.2.2.2.1; 3.4.2.7
ICAO Annex 6, Part III, Section II: 2.2.7.1; 2.2.7.2; 2.2.7.4R; 2.2.8.2
ICAO Annex 6, Part III, Section III: 2.6.3.1

8.8.1.8 Category II and III Operations – General Operating Rules

(kk) No person may operate a civil aircraft in a CAT II or CAT III operation unless:

(69) The PIC and CP of the aircraft hold the appropriate authorisations and ratings;

(70) Each flight crew member has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; and

(71) The instrument panel in front of the pilot who is controlling the aircraft has appropriate instrumentation for the type of flight control guidance system that is being used.

(ll) Unless otherwise authorised by the Authority, no person may operate a civil aircraft in a CAT II or CAT III operation unless each ground component required for that operation and the related airborne equipment is installed and operating.

(mm) When the approach procedure being used provides for and requires the use of a DH, the authorised DH is the highest of the following:

(72) The DH prescribed by the approach procedure;

(73) The DH prescribed for the PIC; or

(74) The DH for which the aircraft is equipped.

(nn) Unless otherwise authorised by the Authority, no pilot operating an aircraft in a CAT II or CAT III approach that provides and requires the use of a DH may continue the approach below the authorised DH unless the following conditions are met:

(1) The aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal manoeuvres, and where that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing; and

(2) At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(xliii) The approach light system, except that the pilot may not descend below 30 m (100 ft) above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side-row bars are also distinctly visible and identifiable;

(xliv) The threshold;

(xlv) The threshold markings;

(xlvi) The threshold lights;

(xlvii) The touchdown zone or touchdown zone markings; or

(xlviii) The touchdown zone lights.

(oo) Unless otherwise authorised by the Authority, each pilot operating an aircraft shall immediately execute an appropriate missed approach whenever, before touchdown, the requirements of paragraph 8.8.1.8(d) of this subsection are not met.

(pp) No person operating an aircraft using a CAT III approach without DH may land that aircraft except in accordance with the provisions of the Letter of Authorisation issued by the Authority.

(qq) The Authority shall issue a specific approval for the minimum take-off RVR for take-off in low visibility.

(rr) No person may conduct CAT II or CAT III instrument approaches and landing operations below 800 m (2 600 ft) visibility unless RVR information is provided.

(ss) The State of the Operator shall issue a specific approval for instrument approach operations in low visibility which shall only be conducted when RVR information is provided.

(tt) Paragraphs 8.8.1.8(a) through (g) of this subsection do not apply to operations conducted by AOC holders issued a certificate by the Authority. No person may operate a civil aircraft in a CAT II or CAT III operation conducted by an AOC holder unless the operation is conducted in accordance with that AOC holder's approved training programme and operations specifications.

Note 1: CAT II approval is required prior to obtaining CAT III approval.

Note 2: ICAO Doc 9365, Manual of All-Weather Operations, *provides additional guidance.*

Note 3: In general, visibility for take-off is defined in terms of RVR. An equivalent horizontal visibility may also be used.

8.8.1.9 Category II and Category III Manual

(uu) Except as provided in paragraph 8.8.1.9(c) of this subsection, no person may operate a civil aircraft in a CAT II or CAT III operation unless:

(1) There is available in the aircraft a current and approved CAT II or CAT III manual, as appropriate, for that aircraft;

(2) The operation is conducted in accordance with the procedures, instructions, and limitations in the appropriate manual; and

(3) The instruments and equipment listed in the manual that are required for a particular CAT II or CAT III operation have been inspected and maintained in accordance with the maintenance programme contained in the manual.

(vv) Each operator shall keep a current copy of each approved manual at its main base of operations and shall make each manual available for inspection upon request by the Authority.

(ww) Paragraphs 8.8.1.9(a) and (b) of this subsection do not apply to operations conducted by an AOC holder issued a certificate under by the Authority, which will have approved CAT II or CAT III operations included as a part of its OM.

(xx) Specific CAT II and CAT III manual requirements are prescribed in IS 8.8.1.9.

Note 1: CAT II approval is required prior to obtaining CAT III approval.

Note 2: ICAO Doc 9365, Manual of All-Weather Operations, *provides additional guidance.*

IS:8.8.1.9 Category II and Category III Manual

(yy) APPLICATION FOR APPROVAL. An applicant for approval of a CAT II or CAT III manual or an amendment to an approved CAT II or CAT III manual shall submit the proposed manual or amendment to the Authority. If the application requests an evaluation programme, it shall include the following:

(1) The location of the aircraft and the place where the demonstrations are to be conducted; and

(2) The date the demonstrations are to commence (at least 10 days after filing the application).

(zz) CONTENTS. Each CAT II or CAT III manual shall contain:

(1) The registration mark, make, and model of the aircraft to which it applies;

(2) A maintenance programme; and

(3) The procedures and instructions related to the recognition of DH, the use of RVR information, approach monitoring, the decision region (the region between the middle marker and the DH), the maximum permissible deviations of the basic ILS indicator within the decision region, a missed approach, the use of airborne low approach equipment, minimum altitude for the use of the autopilot, instrument and equipment failure warning systems, instrument failure, and other procedures, instructions, and limitations that may be found necessary by the Authority.

Note 1: CAT II approval is required prior to obtaining CAT III approval.

Note 2: ICAO Doc 9365, Manual of All-Weather Operations, *provides additional guidance.*

8.8.1.10 AUTHORISATION FOR DEVIATION FROM CERTAIN CATEGORY II OPERATIONS

The Authority may authorise deviations from the requirements of 8.8.1.8 and 8.8.1.9 for the operation of small aircraft in Category II operations if the Authority finds that the proposed operation can be safely conducted.

Note: Such authorisation does not permit operation of the aircraft carrying persons or property for compensation or hire.

8.8.1.11 DIVERSION DECISION

(a) Except as provided in paragraph (b), the PIC shall land the aircraft at the nearest suitable aerodrome at which a safe landing can be made whenever an engine of an aircraft fails or is shut down to prevent possible damage.

(b) If not more than one engine of an aeroplane having three or more engines fails, or its rotation is stopped, the PIC may proceed to an aerodrome if he or she decides that proceeding to that aerodrome is as safe as landing at the nearest suitable aerodrome after considering the—

(1) Nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued;
(2) Altitude, weight, and usable fuel at the time of engine stoppage;
(3) Weather conditions en route and at possible landing points;
(4) Air traffic congestion;
(5) Kind of terrain; and
(6) Familiarity with the aerodrome to be used.

8.8.1.12 OPERATING NEAR OTHER AIRCRAFT

(a) No person may operate an aircraft so close to another aircraft as to create a collision hazard.

(b) No person may operate an aircraft in formation flight except by arrangement with the PIC of each aircraft in the formation.

(c) No person may operate an aircraft, carrying passengers for hire, in formation flight.

8.8.1.13 RIGHT-OF-WAY RULES: EXCEPT WATER OPERATIONS

(a) *General.*

(1) Each pilot shall maintain vigilance so as to see and avoid other aircraft; and

(2) When a rule of this subsection gives another aircraft the right-of-way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it unless well clear.

(b) *In distress.* An aircraft in distress has the right-of-way over all other air traffic.

(c) *Converging.*

(1) When aircraft of the same category are converging at approximately the same altitude (except headon, or nearly so), the aircraft to the other's right has the right-of-way.

(2) If the converging aircraft are of different categories—

(i) A balloon has the right-of-way over any other category of aircraft;

(ii) A glider has the right-of-way over an airship, aeroplane, or rotorcraft; and (iii) An airship has the right-of-way over an aeroplane or rotorcraft.

(d) *Towing or refuelling.* An aircraft towing or refuelling other aircraft has the right-of- way over all other engine-driven aircraft, except aircraft in distress.

(e) *Approaching head-on.* When aircraft are approaching each other head-on, or nearly so, each pilot of each aircraft shall alter course to the right.

(f) *Overtaking.* Each aircraft that is being overtaken has the right-of-way and each pilot of an overtaking aircraft shall alter course to the right to pass well clear.

(g) *Landing.* Aircraft, while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface.

Note: The PIC may not take advantage of this rule to force an aircraft off the runway surface which has already landed and is attempting to make way for an aircraft on final approach

(h) *More than one landing aircraft.* When two or more aircraft are approaching an aerodrome for the purpose of landing, the aircraft at the lower altitude has the right-of-way.

Note: The PIC will not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft.

8.8.1.14 RIGHT-OF-WAY RULES: WATER OPERATIONS

(a) *General.* Each person operating an aircraft on the water shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation, and shall give way to any vessel or other aircraft that is given the right-of-way by any rule of this subsection.

(b) *Crossing.* When aircraft, or an aircraft and a vessel, are on crossing courses, the aircraft or vessel to the other's right has the right-of-way.

(c) *Approaching head-on.* When aircraft, or an aircraft and a vessel, are approaching head-on, or nearly so, each shall alter its course to the right to keep well clear.

(d) *Overtaking*. Each aircraft or vessel that is being overtaken has the right-of-way, and the one overtaking shall alter course to keep well clear.

(e) *Special circumstances*. When aircraft, or an aircraft and a vessel, approach so as to involve risk of collision, each aircraft or vessel shall proceed with careful regard to existing circumstances, including the limitations of the respective craft.

8.8.1.15 USE OF AIRCRAFT LIGHTS

(a) If an aircraft has red rotating beacon lights installed, the pilot shall switch those lights on prior to starting engines and display those lights at all times the engines are running.

(b) No person may operate an aircraft between the period from sunset to sunrise unless—

(1) It has lighted navigation lights; and

(2) If anticollision lights are installed, those lights are lighted.

Note: A pilot is permitted to switch off or reduce the intensity of any flashing lights if they do or are likely to adversely affect the satisfactory performance of duties or to subject an outside observer to harmful dazzle.

(c) No person may park or move an aircraft at night in, or in a dangerous proximity to, a movement area of an aerodrome, unless the aircraft—

(1) Is clearly illuminated;

(2) Has lighted navigation lights, or

(3) Is in an area that is marked by obstruction lights.

(d) No person may anchor an aircraft unless that aircraft—

(1) Has lighted anchor lights; or

(2) Is in an area where anchor lights are not required on vessels.

8.8.1.16 SIMULATED INSTRUMENT FLIGHT

(a) No person may operate an aircraft in simulated instrument flight unless—

(1) That aircraft has fully functioning dual controls;

(2) The other control seat is occupied by a safety pilot who holds at least a private pilot licence with category and class ratings appropriate to the aircraft being flown, and

(3) The safety pilot has adequate vision forward and to each side of the aircraft, or a competent observer in the aircraft adequately supplements the vision of the safety pilot.

(b) No person may engage in simulated instrument flight conditions during commercial air transport operations.

8.8.1.17 INFLIGHT SIMULATION OF ABNORMAL SITUATIONS

No person may simulate an abnormal or emergency situation during commercial air transport operations.

8.8.1.18 DROPPING, SPRAYING, TOWING

(a) Except under conditions prescribed by the Authority, no pilot may take the following actions—

(1) Dropping, dusting or spraying from an aircraft; (2) Towing of aircraft or other objects; or (3) Allowing parachute descents.

8.8.1.19 AEROBATIC FLIGHT

(a) No person may operate an aircraft in aerobatic flight—

(1) Over any city, town or settlement;

(2) Over an open air assembly of persons;

(3) Within the lateral boundaries of the surface areas of Class B, C, D or E airspace designated for an aerodrome;

(4) Below an altitude of 1,500 feet above the surface; or

(5) When the flight visibility is less than 3 statute miles.

(b) No person may operate an aircraft in manoeuvres exceeding a bank of 60 degrees or pitch of 30 degrees from level flight attitude unless all occupants of the aircraft are wearing parachutes packed by a qualified parachute rigger in the past 12 calendar months.

8.8.1.20 FLIGHT TEST AREAS

No person may flight-test an aircraft except over open water, or sparsely populated areas having light traffic.

8.8.1.21 PROHIBITED AREAS AND RESTRICTED AREAS

No person may operate an aircraft in a prohibited area, or in a restricted areas, the particulars of which have been duly published, except in accordance with the conditions of the restrictions or by permission of the State over whose territory the areas are established.

8.8.1.22 Operations in Minimum Navigation Performance Specifications or Reduced Vertical Separation Minima Airspace

(aaa) No person may operate an aircraft in airspace where a Regional Air Navigation Agreement, MNPS, or RVSM airspace has been prescribed, except in accordance with:

(4) The conditions of the procedures and restrictions required for this airspace; and

(5) A written authorisation issued by the Authority.

(bbb) No person may operate a civil aircraft of Guyana registry in the North Atlantic airspace designated as NAT HLA airspace or in airspace designated as RVSM without a written authorisation issued by the Authority.

Note 1: ICAO bulletin NAT Doc 007, V.2018-2, North Atlantic Airspace and Operations Manual, *has re-designated the North Atlantic MNPS airspace to the NAT HLA. ICAO Regional Air Navigation Agreements may be consulted for other specific airspace areas.*

Note 2: ICAO Doc 9574, Manual on a 300 m (1 000 ft) Vertical Separation Minimum between FL 290 and FL 410 Inclusive, *provides additional guidance.*

Note 3: The civil aviation operations regulations and the requirements for Instruments and equipment contain requirements regarding navigation equipment for operations in MNPS and RVSM airspace.

8.8.1.23 OPERATIONS ON OR IN THE VICINITY OF AN UNCONTROLLED AERODROME

(a) When approaching to land at an aerodrome without an operating control tower, each pilot of—

(1) An aeroplane shall make all turns of that aeroplane to the left; or to the right, if appropriately indicated by the authorities having jurisdiction over that aerodrome;

(2) A helicopter shall avoid the flow of aeroplanes.

(b) When departing an aerodrome without an operating control tower, each pilot of an aircraft shall comply with any traffic patterns established by the authorities having jurisdiction over that aerodrome.

(c) Each pilot of an aircraft shall land and takeoff into the wind unless safety, the runway configurations, or traffic considerations determine that a different direction is preferable.

Implementing Standard: See IS.8.8.2.11 for the appropriate displays of light signals or visual markings.

8.8.1.24 AERODROME TRAFFIC PATTERN ALTITUDES: TURBOJET, TURBOFAN, OR LARGE AIRCRAFT

(a) When arriving at an aerodrome, the PIC of a turbojet, turbofan, or large aircraft shall enter the traffic pattern at least 1,500 feet AGL until further descent is required for landing.

(b) When departing, the PIC of a turbojet, turbofan, or large aircraft shall climb to 1,500 AGL as rapidly as practicable.

8.8.1.25 COMPLIANCE WITH VISUAL AND ELECTRONIC GLIDE SLOPES

(a) The PIC of an aeroplane approaching to land on a runway served by a visual approach slope indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.

(b) The PIC of a turbojet, turbofan, or large aeroplane approaching to land on a runway served by an ILS shall fly that aeroplane at or above the glide slope from the point of interception to the middle marker.

8.8.1.26 RESTRICTION OR SUSPENSION OF OPERATIONS: COMMERCIAL AIR TRANSPORT

If a PIC or an AOC holder knows of conditions, including aerodrome and runway conditions, that are a hazard to safe operations, that person shall restrict or suspend all commercial air transport operations to such aerodromes and runways as necessary until those conditions are corrected.

8.8.1.27 CONTINUATION OF FLIGHT WHEN DESTINATION AERODROME IS TEMPORARILY RESTRICTED: COMMERCIAL AIR TRANSPORT

(a) No PIC may allow a flight to continue toward any aerodrome of intended landing where commercial air transport operations have been restricted or suspended, unless—

(1) In the opinion of the PIC, the conditions that are a hazard to safe operations may reasonably be expected to be corrected by the estimated time of arrival; or

(2) There is no safer procedure.

8.8.1.28 INTERCEPTION

When intercepted by a military or government aircraft, each PIC shall comply with the international standards when interpreting and responding to visual signals as specified in the implementing standards.

Implementing Standard: See IS:8.8.2.11 for signals applicable to interception.

8.8.1.29 Over-water flights – Helicopters

All helicopters on flights over water in a hostile environment in accordance with 4.5.1 shall be certificated for ditching. Sea state shall be an integral part of ditching information.

8.8.2 Control of Air Traffic

8.8.2.1 ATC CLEARANCES

(a) Each PIC shall obtain an ATC clearance prior to operating a controlled flight, or a portion of a flight as a controlled flight.

(b) Each PIC shall request an ATC clearance through the submission of a flight plan to an ATC facility.

(c) Whenever an aircraft has requested a clearance involving priority, each PIC shall submit a report explaining the necessity for such priority, if requested by the appropriate ATC facility.

(d) No person operating an aircraft on a controlled aerodrome may taxi on the manoeuvring area or any runway without clearance from the aerodrome control tower.

8.8.2.2 ADHERENCE TO ATC CLEARANCES

(a) When an ATC clearance has been obtained, no PIC may deviate from the clearance, except in an emergency, unless he or she obtains an amended clearance.

Note: A flight plan may cover only part of a flight, as necessary, to describe that portion of the flight or those manoeuvres which are subject to air traffic control. A clearance may cover only part of a current flight plan, as indicated in a clearance limit or by reference to specific manoeuvres such as taxiing, landing or taking off.

Note: Paragraph 8.8.2.2(a) does not prohibit a pilot from cancelling an IFR clearance when operating in VMC conditions or cancelling a controlled flight clearance when operating in airspace that does not required controlled flight.

(b) When operating in airspace requiring controlled flight, no PIC may operate contrary to ATC instructions, except in an emergency.

(c) Each PIC who deviates from an ATC clearance or instructions in an emergency, shall notify ATC of that deviation as soon as possible.

8.8.2.3 COMMUNICATIONS

Each person operating an aircraft on a controlled flight shall maintain a continuous listening watch on the appropriate radio frequency of, and establish two-way communication as required with, the appropriate ATC facility.

Note: More specific procedures may be prescribed by the appropriate ATC authority in respect of aircraft forming part of aerodrome traffic at a controlled aerodrome.

Note: Automatic signalling devices may be used to satisfy the requirement to maintain a continuous listening watch, if authorised by the Authority.

8.8.2.4 ROUTE TO BE FLOWN

(a) Unless otherwise authorised or directed by the appropriate ATC facility, the PIC of a controlled flight shall, in so far as practicable—

(1) When on an established ATC route, operate along the defined centre line of that route; or

(2) When on any other route, operate directly between the navigation facilities and/or points defining that route.

(b) The PIC of a controlled flight operating along an ATC route defined by reference to VORs shall change over for primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the change-over point, where established.

Note: These requirements do not prohibit manoeuvring the aircraft to pass well clear of other air traffic or the manoeuvring of the aircraft in VFR conditions to clear the intended flight path both before and during climb or descent.

8.8.2.5 INADVERTENT CHANGES

(a) A PIC shall take the following action in the event that a controlled flight inadvertently deviates from its current flight plan:

(1) *Deviation from track.* If the aircraft is off track, the PIC shall adjust the heading of the aircraft to regain track as soon as practicable.

(2) *Variation in true airspeed.* Each PIC shall inform the appropriate ATC facility if the average true airspeed at cruising level between reporting points varies from that given in the flight plan or is expected to vary by plus or minus 5 per cent of the true airspeed.

(3) *Change in time estimate.* Each PIC shall notify the appropriate ATC facility and give a revised estimated time given as soon as possible if the time estimate for a reporting point, flight information region boundary, or destination aerodrome, whichever comes first, is found to be in excess of three minutes from that notified to ATC, or such other period of time as is prescribed by the appropriate ATC authority or on the basis of air navigation regional agreements.

8.8.2.6 ATC CLEARANCE: INTENDED CHANGES

(a) Requests for flight plan changes shall include the following information:

(1) *Change of cruising level.* Aircraft identification, requested new cruising level and cruising speed at this level, and revised time estimates, when applicable, at subsequent flight information region boundaries.

(2) *Change of route—*

(i) *Destination unchanged.* Aircraft identification, flight rules; description of new route of flight including related flight plan data beginning with the position from which requested change of route is to commence; revised time estimates, and any other pertinent information.

(ii) *Destination change.* Aircraft identification; flight rules; description of revised route of flight to revised destination aerodrome including related flight plan data, beginning with the position from which requested change of route is to commence; revised time estimates; alternate aerodrome(s); any other pertinent information.

8.8.2.7 POSITION REPORTS

(a) Each pilot of a controlled flight shall report to the appropriate ATC facility, as soon as possible, the time and level of passing each designated compulsory reporting point, together with any other required information, unless exempted from this requirement by the appropriate ATC authority.

(b) Each pilot of a controlled flight shall make position reports in relation to additional points or intervals when requested by the appropriate ATC facility

8.8.2.8 OPERATIONS ON OR IN THE VICINITY OF A CONTROLLED AERODROME

(a) No person may operate an aircraft to, from, through, or on an aerodrome having an operational control tower unless two-way communications are maintained between that aircraft and the control tower.

(b) On arrival, each PIC shall establish communications required by paragraph (a) prior to 4 nautical miles from the aerodrome when operating from the surface up to and including 2,500 feet.

(c) On departure, each PIC shall establish communications with the control tower prior to taxi.

(d) *Takeoff, landing, taxi clearance.* No person may, at any aerodrome with an operating control tower, operate an aircraft on a runway or taxiway or takeoff or land an aircraft, unless an appropriate clearance has been received by ATC.

Note: A clearance to "taxi to" the takeoff runway is not a clearance to cross or taxi on to that runway. It does authorise the PIC to cross other runways during the taxi to the assigned runway. A clearance to "taxi to" any other point on the aerodrome is a clearance to cross all runways that intersect the taxi route to the assigned point.

(e) *Communications failure.* If the radio fails or two-way communication is lost, a PIC may continue a VFR flight operation and land if—

(1) The weather conditions are at or above basic VFR minimums; and

(2) Clearance to land is received by light signals.

Note: During IFR operations, the two-way communications failure procedures will apply.

8.8.2.9 UNLAWFUL INTERFERENCE

(a) A PIC shall, when and if possible, notify the appropriate ATC facility when an aircraft is being subjected to unlawful interference, including—

(1) Any significant circumstances associated with the unlawful interference, and (2) Any deviation from the current flight plan necessitated by the circumstances.

8.8.2.10 TIME CHECKS

(a) Each PIC shall use Co-ordinated Universal Time (UTC), expressed in hours and minutes of the 24-hour day beginning at midnight, in flight operations.

(b) Each PIC shall obtain a time check prior to operating a controlled flight and at such other times during the flight as may be necessary.

8.8.2.11 UNIVERSAL SIGNALS

(a) Upon observing or receiving any of the designated universal aviation signals, each person operating an aircraft shall take such action as may be required by the interpretation of the signal.

(b) Universal signals shall have only the meanings designated.

(c) Each person using universal signals in the movement of aircraft shall only use them for the purpose indicated.

(d) No person may use signals likely to cause confusion with universal aviation signals.

Implementing Standard: See IS:8.8.2.11 for a list of universal aviation signals.

8.8.2.12 LOCATION OF AN AEROPLANE IN DISTRESS

(a) As of 1 January 2025, 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 2024, shall autonomously transmit information from which a position can be determined by the operator at least once every minute, when in distress, in accordance with Appendix 9.

(b) 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, should autonomously transmit information from which a position can be determined at least once every minute, when in distress, in accordance with Appendix 9.

(c) The operator shall make position information of a flight in distress available to the appropriate organizations, as established by the State of the Operator.

IS:8.8.2.11 UNIVERSAL AVIATION SIGNALS

(a) *Distress signals.* The following signals, used either together or separately, mean that grave and imminent danger threatens, and immediate assistance is requested:

Note: None of the provisions in this section shall prevent the use, by an aircraft in distress, of any means at its disposal to attract attention, make known its position and obtain help.

Note: For full details of telecommunication transmission procedures for the distress and urgency signals, see ICAO Annex 10, Volume II, Chapter 5.

Note: For details of the search and rescue visual signals, see ICAO Annex 12.

(1) A signal made by radiotelegraphy or by any other signalling method consisting of the group SOS (•••——— in the Morse Code);

(2) A signal sent by radiotelephony consisting of the spoken word MAYDAY; (3) Rockets or shells throwing red lights, fired one at a time at short intervals;

(4) A parachute flare showing a red light.

Note: Article 41 of the ITU Radio Regulations (Nos. 3268, 3270 and 3271 refer) provides information on the alarm signals for actuating radiotelegraph and radiotelephone auto-alarm systems: 3268 The radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. It may be transmitted by hand but its transmission by means of an automatic instrument is recommended. 3270 The radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2 200 Hz and the other a frequency of 1 300 Hz, the duration of each tone being 250 milliseconds. 3271 The radiotelephone alarm signal, when generated by automatic means, shall be sent continuously for a period of at least thirty seconds but not exceeding one minute; when generated by other means, the signal shall be sent as continuously as practicable over a period of approximately one minute.

(b) The following signals, used either together or separately, mean that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance:

(1) The repeated switching on and off of the landing lights; or

(2) The repeated switching on and off of the navigation lights in such manner as to be distinct from flashing navigation lights.

(c) The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or of some person on board or within sight:

(1) A signal made by radiotelegraphy or by any other signalling method consisting of the group XXX.

(2) A signal sent by radiotelephony consisting of the spoken words PAN, PAN. (d) The following signals shall be used in the event of interception.

(1) Signals initiated by intercepting aircraft and responses by intercepted aircraft.

Series	***INTERCEPTING Aircraft Signals***	***Meaning***	***INTERCEPTED Aircraft Responds***	***Meaning***
1	DAY or NIGHT : Rocking aircraft and flashing navigational lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left, (or to the right in the case of a helicopter) on the desired heading. *Note 1. : Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1.* *Note 2. : If the intercepting aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and*	You have been intercepted. Follow me.	DAY or NIGHT - Rocking aircraft. flashing navigational lights at irregular intervals and following.	Understood, will comply.

	to rock the aircraft each time it passes the intercepted aircraft.			
2	DAY or NIGHT : An abrupt break-away manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	DAY or NIGHT - Rocking the aircraft.	Understood, will comply.
3	DAY or NIGHT : Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to hover hear to the landing area.	Land at this aerodrome.	DAY or NIGHT - Lowering landing gear (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.	Understood, will comply.

(2) Signals initiated by intercepted aircraft and responses by intercepting aircraft.

Series	*INTERCEPTED.4ircraft Signals*	*Meaning*	*INTERCEPTING Aircraft Responds*	*Meaning*
4	DAY or NIGHT : Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1,000 ft) but not exceeding 600 m (2,000 ft) (in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft) above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT : If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses he Series 1 signals prescribed for intercepting aircraft. If it is decided to release the incepted aircraft. the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, follow me. Understood, you may proceed.
5	DAY or NIGHT : Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT : Use Series 2 signals prescribed for intercepting aircraft.	
6	DAY or NIGHT : Irregular flashing of all available lights.	In distress.	DAY or NIGHT : Use Series 2 signals prescribed for intercepting aircraft.	Understood

(e) *Visual signals used to warn an unauthorised aircraft.* By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, on bursting, red and green lights or stars will indicate to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited, or danger area, and that the aircraft is to take such remedial action as may be necessary.

(f) *Signals for aerodrome traffic.* Aerodrome controllers shall use and pilots shall obey the following light and pyrotechnic signals:

Light		From Aerodrome Control to:	
		Aircraft in flight	Aircraft on the ground
Directed towards aircraft concerned (See Figure 1.1)	Steady green Steady red Series of green flashes Series of red flashes Series of white flashes Red pyrotechnic	• Cleared to land • Give way to other aircraft and continue circling • Return for landing* • Aerodrome unsafe, do not land • Land at this aerodrome and proceed to apron* • Notwithstanding any previous instructions, do not land for the time being	Cleared for take-off Cleared to taxi Taxi clear of landing area in use Return to starting point on the aerodrome

* *Clearances to land and to taxi will be given in due course.*

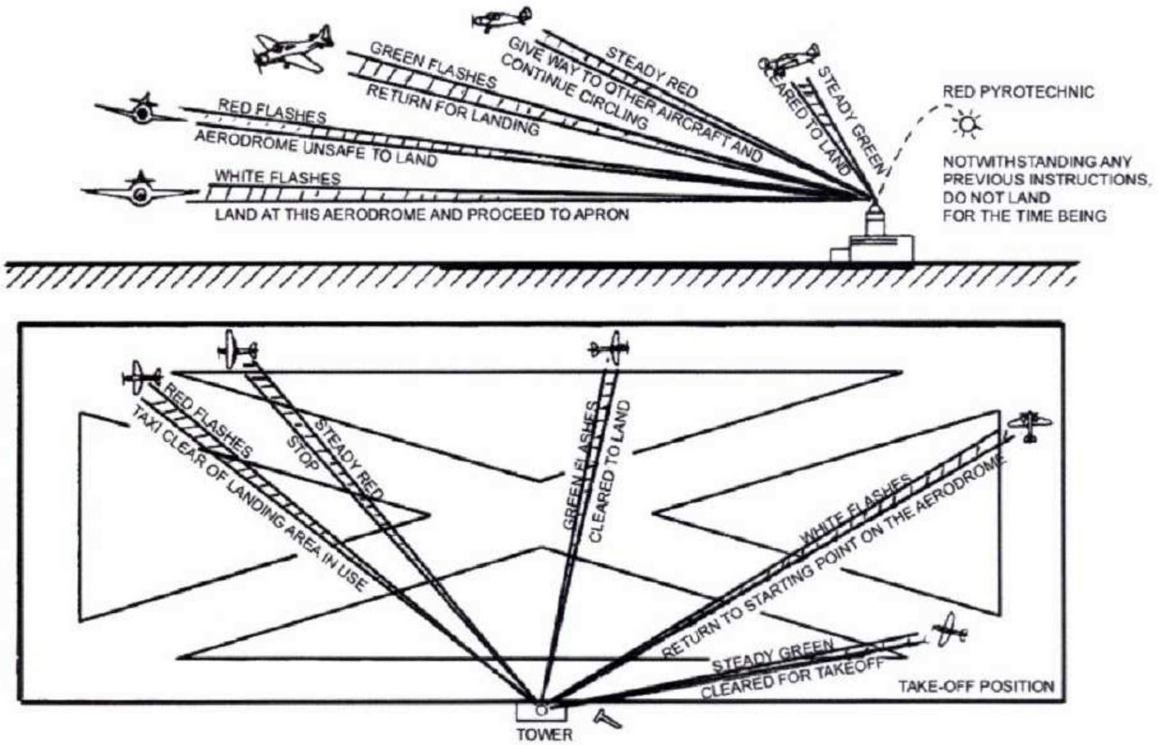


Figure 8.1

(g) Pilots shall acknowledge aerodrome controller signals as follows:

(1) When in flight:

(i) During the hours of daylight by rocking the aircraft's wings;

Note. - This signal should not be expected on the base and final legs of the approach.

(ii) During the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

(2) When on the ground:

(i) During the hours of daylight by moving the aircraft's ailerons or rudder;

(ii) During the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights

(h) Aerodrome authorities shall use the following visual ground signals shall be use during the following situations:

(1) *Prohibition of landing.* A horizontal red square panel with yellow diagonals (Figure 8.2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged.



Figure 8.2

(2) *Need for special precautions while approaching or landing.* A horizontal red square panel with one yellow diagonal (Figure 8.3) when displayed in a signal area indicates that owing to the bad state of the manoeuvring area, or for any other reason, special precautions must be observed in approaching to land or in landing.



Figure 8.3

(3) *Use of runways and taxiways.*

(i) A horizontal white dumb-bell (Figure 8.4) when displayed in a signal area indicates that aircraft are required to land, take off and taxi on runways and taxiways only.



Figure 8.4

(ii) The same horizontal white dumb-bell as in Figure 8.4, but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure 8.5) when displayed in a signal area indicates that aircraft are required to land and take off on runways only, but other manoeuvres need not be confined to runways and taxiways

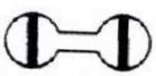


Figure 8.5

(4) *Closed runways or taxiways.* Crosses of a single contrasting colour, yellow or white (Figure 8.6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft.



Figure 8.6

(5) Directions for landing or take-off.

(i) A horizontal white or orange landing T (Figure 8.7) indicates the direction to be used by aircraft for landing and rake-off, which shall be in a direction parallel to the shaft of the T towards the cross arm.

Note: When used at night, the landing T is either illuminated or outlined in white coloured lights.

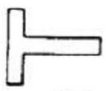


Figure 8.7

(ii) A set of two digits (Figure 8.8) displayed vertically at or near the aerodrome control tower indicates to aircraft on the manoeuvring area the direction for take-off, expressed in units of 10 degrees to the nearest 10 degrees of the magnetic compass.



Figure 8.8

(6) *Right-hand traffic.* When displayed in a signal area, or horizontally at the end of the runway or strip in use, a right-hand arrow of conspicuous colour (Figure 8.9) indicates that turns are to be made to the right before landing and after take-off.

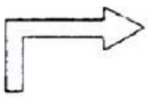


Figure 8.9

(7) *Air traffic services reporting office.* The letter C displayed vertically in black against a yellow background (Figure 8.10) indicates the location of the air traffic services reporting office.



Figure 8.10

(8) *Glider flights in operation.* A double white cross displayed horizontally (Figure 8.11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed.

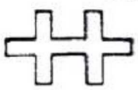


Figure 8.11

(i) The following marshalling signals shall be used from a signalman to an aircraft.

Note: These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position:

(1) For fixed-wing aircraft, the signalman shall be positioned forward of the left-wing tip within view of the pilot and, for helicopters, where the signalman can best be seen by the pilot.

Note: The meaning of the relevant signals remains the same if bats, illuminated wands or torchlights are held.

Note: The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e. No. I engine being the port outer engine).

Note: Signals marked with an asterisk are designed for use to hovering helicopters.

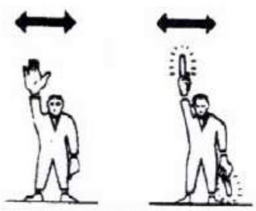
(2) Prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike.

Note: The design of many aircraft is such that the path of the wing tips, engines and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground.

REQUIREMENTS FOR OPERATIONS

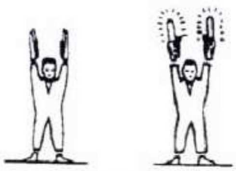
1. To proceed under further guidance by signalman

Signalman directs pilot if traffic conditions on aerodrome require this action.



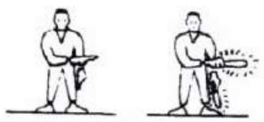
2. This bay

Arms above head in vertical position with palms facing inward.



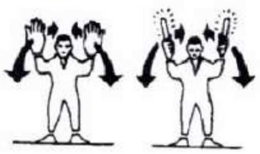
3. Proceed to next signalman

Right or left arm down, other arm moved across the body and extended to indicate direction of next signalman.



4. Move ahead

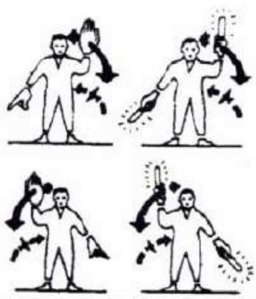
Arms a little aside, palms facing backward and repeatedly moved upward-backward from shoulder height.



5. Turn

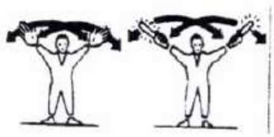
a)Turn to your left: right arm downward, left arm repeatedly moved upward-backward. Speed of arm movement indicating rate of turn.

b)Turn to your right: left arm downward, right arm repeatedly moved upward-backward. Speed of arm movement indicating rate of turn.



6. Stop

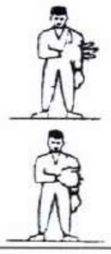
Arms repeatedly crossed above head (the rapidity of the arm movement should be related to the urgency of the stop, i.e. the faster the movement the quicker the stop).



7. Brakes

a)Engage brakes. raise arm and hand, with fingers extended, horizontally in front of body, then clench fist.

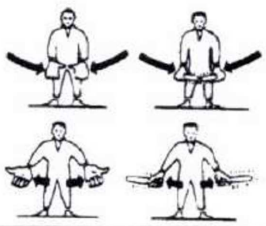
b)Release brakes. raise arm, with fist clenched, horizontally in front of body, then extend fingers.



8. Chocks

a)Chocks inserted: arms down, palms facing inwards, move arms from extended position inwards.

b)Chocks removed: arms down, palms facing outwards, move arms outwards.



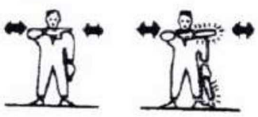
9. Start engine(s)

Left hand overhead with appropriate number of fingers extended, to indicate the number of the engine to be started, and circular motion of right hand at head level.



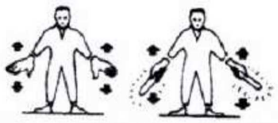
10. Cut engines

Either are and hand level with shoulder, hand across throat, palm downward. The hand is moved sideways with the arm remaining bent.



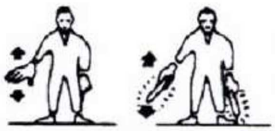
11. Slow down

Arms down with palms toward ground, then moved up and down several times.



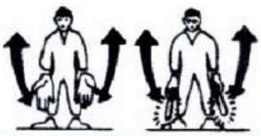
12. Slow down engine(s) on indicated side

Arms down with palms toward ground, then either *right or left* hand waved up and down indicating the *left or right* side engine(s) respectively should be slowed down.



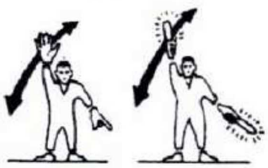
13. Move back

Arms by sides, palms facing forward, swept forward and upward repeatedly to shoulder height.

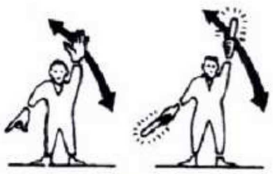


14.Turns while backing

a)For tail to starboard: point left arm down, and right arm brought from overhead, vertical position to horizontal forward position, repeating right arm movement.

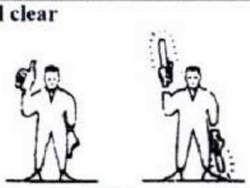


b)For tail to *port:* point right arm down, and left arm brought from overhead, vertical position to horizontal forward position, repeating left arm movement.



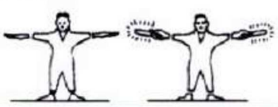
15. All clear

Right arm raised at elbow with thumb erect.



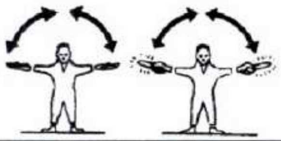
16. Hover

Arms extended horizontally sideways.



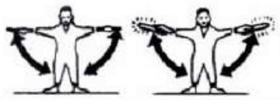
***17. Move upwards**

Arms extended horizontally to the side beckoning upwards, with palms turned up. Speed of movement indicates rate of ascent.



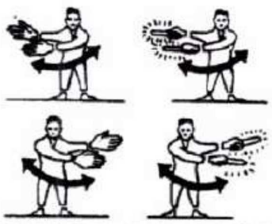
***18. Move downwards**

Arms extended horizontally to the side beckoning downwards, with palms turned down. Speed of movement indicates rate of descent.



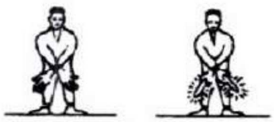
*** 19. Move horizontally**

Appropriate arm extended horizontally sideways in direction of movement and other arm moved in front of body in same direction, in a repeating movement.



***20. Land**

Arms crossed and extended downwards in front of the body



(j) Signals from the pilot of an aircraft to a signalman.

(1) The PIC or SIC shall use the following signals when communicating with a signalman:

Note: These signals are designed for use by a pilot in the cockpit with hands plainly visible to the signalman, and illuminated as necessary to facilitate observation by the signalman.

Note: The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (i.e. No. I engine being the port outer engine).

(2) *Brakes engaged:* raise arm and hand, with fingers extended, horizontally in front of face, then clench fist.
(3) *Brakes released.* raise arm, with fist clenched, horizontally in front of face, then extend fingers.

Note: The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.

(4) *Insert chocks:* arms extended, palms outwards, move hands inwards to cross in front of face.
(5) *Remove chocks:* hands crossed in front of face, palms outwards, move arms outwards.
(6) *Ready to start engine(s).* Raise the appropriate number of fingers on one hand indicating the number of the engine to be started.

INTERCEPTION OF CIVIL AIRCRAFT 1

Principles to be observed by States

1.1 To achieve the uniformity in regulations which is necessary for the safety of navigation of civil aircraft due regard shall be had by Contracting States to the following principles when developing regulations and administrative directives: a) Interception of civil aircraft will be undertaken only as a last resort;

b) If undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome; c) Practice interception of civil aircraft will not be undertaken;

d) Navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and

e) In the cast where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note- In the unanimous adoption by the 25th Session (Extraordinary) of the ICA0 Assembly on 10 May 1984 of Article 3 is to the Convention on International Civil Aviation, the Contracting States have recognised that "every State must refrain from resorting to the use of weapons against civil aircraft in flight. "

1.2 Contracting States shall publish a standard method that has been established for the manoeuvring of aircraft intercepting a civil aircraft. Such method shall be designed to avoid any hazard for the intercepted aircraft.

1.3 Contracting States shall ensure that provision is made for the use of secondary surveillance radar, A here available, to identify civil aircraft in areas where they may be subject to interception.

2 Action by intercepted aircraft

2.1 An aircraft which is intercepted by another aircraft shall immediately:

a) Follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in Appendix 1;

b) Notify, if possible, the appropriate air traffic services unit;

c) Attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit. by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;

d) If equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

2.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

2.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

(k) Radio communication during interception

(1) If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential at information by using the phrases and pronunciations in the table below and transmitting each phrase twice:

Phrases for use by INTERCEPTING aircraft			*Phrases for use by INTERCEPTED aircraft*		
Phrase	***Pronunciation[1]***	***Meaning***	***Phrase***	***Pronunciation[1]***	***Meaning***
CALL SIGN	KOL SA-IN	What is your call sign?	CALL SIGN (call sign)[2]	KOL SA-IN (call sign)	My call sign is (call sign)
FOLLOW	FOL-LO	Follow me	WILCO	VILL-KO	Understood Will comply
DESCEND	DEE-SEND	Descend for landing	CAN NOT	KANN NOTT	Unable to comply
YOU LAND	YOU LAAND	Land at this aerodrome	REPEAT	REE-PEET	Repeat your instruction
PROCEED	PRO-SEED	You may proceed	AM LOST	AM LOSST	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK[3]	HI-JACK	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE-SEND	I require descent

1. In the second column, syllables to be emphasised are underlined.

2. The call sign required to be given is that used in radiotelephone, communications with air traffic services units and corresponding to the aircraft identification in the flight plan.

3. Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".

(l) Cruising Levels

(1) The PIC shall observe the following cruising levels except when, on the basis of regional air navigation agreements, a modified table of cruising levels based on a nominal vertical separation minimum of less than 600 m (2,000 ft) but not less than 300 m (l,000 ft) is prescribed for use, under specified conditions, by aircraft operating above FL 290 within designated portions of the airspace.

TRACK**												
From 000 Degrees to 179 Degrees***						From 180 Degrees to 359 Degrees***					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
	Altitude			Altitude			Altitude			Altitude	
FL	Meters	Feet	FL	Meters	Feet	FL	Meters	Feet	FL	Meters	Feet
-90						0					
10	300	1000				20	600	2000			
30	900	3000	35	1050	3500	40	1200	4000	45	1350	4500
50	1500	5000	55	1700	5500	60	1850	6000	65	2000	6500
70	2150	7000	75	2300	7500	50	2450	8000	85	2600	8500
90	2750	9000	95	2900	9500	100	3050	10000	105	3200	10500
110	3350	11000	115	3500	11500	120	3650	12000	125	3800	12500
130	3950	13000	135	4100	13500	140	4250	14000	145	4400	14500
150	4550	15000	155	4700	15500	160	4900	16000	165	5050	16500
170	5200	17000	175	5300	17500	180	5500	18000	185	5650	18500
190	5800	19000	195	950	19500	200	6100	20000	205	6250	20500
210	6400	21000	215	6550	21500	220	6700	22000	225	6850	22500
230	7000	23000	235	7150	23500	240	7300	24000	245	7450	24500
250	7600	25000	255	7750	25500	260	7900	26000	265	8100	26500
270	8250	27000	275	8100	27500	280	8550	28000	285	8700	28500
290	8850	29000	300	9150	30000	310	9450	31000	320	9750	32000
330	10050	33000	340	10350	34000	350	10650	35000	360	10950	36000
370	11300	37000	380	11600	38000	390	11900	39000	400	12200	40000
410	12500	41000	420	12500	42000	430	13100	43000	440	13400	44000
450	13700	45000	460	14000	46000	470	14350	47000	480	14650	48000
490	14950	49000	500	15250	50000	510	15550	51000	520	15850	52000
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

**Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

***Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

8.8.3 VFR Flight Rules

8.8.3.1 VISUAL METEOROLOGICAL CONDITIONS

(a) A flight to be conducted in accordance with VFR shall not be commenced unless current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions along the route or that part of the route to be flown under VFR will, at the appropriate time, be such as to enable compliance with these rules.

(b) No person may operate an aircraft under VFR when the flight visibility is less than, or at a distance from the clouds that is less than that prescribed, or the corresponding altitude and class of airspace in the following table—

Airspace and VMC Minimums				
Airspace Class	**B**	**C D E**	**F G**	
			Above 900m (3,000 ft) MSL or above 300m	At and below 900m (3,000 ft) MSL or 300m (I,000 ft) above terrain, whichever is the higher
Distance from cloud	Clear of cloud	1,500 m horizontally 300m (1,000 ft) vertically		Clear of cloud and in sight of the surface
Flight visibility	8km at and above 3,050 in (10,000 ft) MSL km below 3,050m (10,000 ft) MSL			5km
When the height of the transition altitude is lower than 3,050 in (10,000 ft) AMSL, FL 100 should be used in lieu of 10,000 ft.				

8.8.3.2 VFR WEATHER MINIMUMS FOR TAKEOFF AND LANDING

(a) No person may enter the traffic pattern, land or takeoff an aircraft under VFR from an aerodrome located in Class B, Class C, Class D or Class airspace unless the—

(1) Reported ceiling is at least 1,500 ft; and

(2) Reported ground visibility is at least, 5km if reported.

(b) If the ground visibility is not reported, the pilot shall maintain 3 statute miles flight visibility.

(c) Class G Airspace. No person may enter the traffic pattern, land or takeoff an aeroplane under VFR from an aerodrome located in Class G airspace below 1,200 AGL unless—

(1) *For aeroplanes.* The visibility is at least 1 statute mile and the aircraft can be operated clear of clouds within one-half mile of the runway; or

(2) *For helicopters.* The helicopter can be operated clear of clouds at a speed that allows the pilot adequate opportunity to see any air traffic or obstruction in time to avoid a collision.

Note: The only exception to the required weather minimums of this subsection is during a Special VFR operation.

8.8.3.3 SPECIAL VFR OPERATIONS

(a) No person may conduct a Special VFR flight operation to enter the traffic pattern, land or takeoff an aeroplane under Special VFR from an aerodrome located in Class B, Class C, Class D or Class airspace unless—

(1) Authorised by an ATC clearance;

(2) The aircraft remains clear of clouds; and

(3) The flight visibility is at least 1 statute mile.1500 metres

(b) No person may conduct a Special VFR flight operation in an aeroplane between sunset and sunrise unless the—

(1) The PIC is current and qualified for IFR operations; and (2) The aircraft is qualified to be operated for IFR flight.

8.8.3.4 VFR CRUISING ALTITUDES

(a) Each person operating an aircraft in level cruising flight under VFR at altitudes above 900 m (3,000 ft) from the ground or water, shall maintain:

(1) For magnetic courses from zero degrees to 179 degrees, any odd thousand MSL altitude or flight level plus 500 feet (such as FL35, FL 55 or FL 215).

(2) For magnetic courses from 180 degrees to 359 degrees, any even thousand MSL altitude or flight level plus 500 feet (such as FL45, FL65 or FL 225).

Paragraph (a) does not apply when otherwise authorised by ATC, when operating in a holding pattern, or during manoeuvring in turns.

8.8.3.5 ATC CLEARANCES FOR VFR FLIGHTS

(a) Each pilot of a VFR flight shall obtain and comply with ATC clearances and maintain a listening watch before and during operations—

(1) Within Classes B, C and D airspace;

(2) As part of aerodrome traffic at controlled aerodromes; and (3) Under Special VFR.

8.8.3.6 VFR FLIGHTS REQUIRING ATC AUTHORISATION

(a) Unless authorised by the appropriate ATC authority, no pilot may operate in VFR flight—

(1) Above FL 200; or

(2) At transonic and supersonic speeds.

Note: ATC authorisation for VFR flights may not be granted in areas where a vertical separation minimum of only 300m (1,000 ft) applied above FL 290.

8.8.3.7 WEATHER DETERIORATION BELOW VMC

(a) Each pilot of a VFR flight operated as a controlled flight shall, when he or she finds it is not practical or possible to maintain flight in VMC in accordance with the ATC flight plan—

(1) Request an amended clearance enabling the aircraft to continue in VMC to its destination or to an alternative aerodrome, or to leave the airspace within which an ATC clearance is required;

(2) If no clearance can be obtained, continue to operate in VMC and notify the appropriate ATC facility of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome;

(3) Operating within a control zone, request authorisation to operate as a special VFR flight; or (4) Request clearance to operate in IFR, if currently rated for IFR operations.

8.8.3.8 CHANGING FROM VFR TO IFR

(a) Each pilot operating in VFR who wishes to change to IFR shall—

(1) If a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan; or

(2) Submit a flight plan to the appropriate ATC facility and obtain a clearance prior to proceeding IFR when in controlled airspace.

8.8.3.9 TWO-WAY RADIO COMMUNICATION FAILURE IN VFR

(a) If radio failure occurs in VFR while under ATC control, or if VFR conditions are encountered after the failure, each pilot shall—

(1) Continue the flight under VFR;

(2) Land at the nearest suitable aerodrome; and

(3) Report arrival to ATC by the most expeditious means possible.

8.8.4 IFR Flight Rules

8.8.4.1 IFR IN CONTROLLED AIRSPACE

(a) No person may operate an aircraft in controlled airspace under IFR unless that person has—

(1) Filed an IFR flight plan; and

(2) Received an appropriate ATC clearance.

8.8.4.2 IFR FLIGHTS OUTSIDE CONTROLLED AIRSPACE

(a) Each PIC of an IFR flight operating outside controlled airspace but within or into areas, or along routes, designated by the appropriate ATC authority, shall maintain a listening watch on the appropriate radio frequency and establish two-way communication, as necessary, with the ATC facility providing flight information service.

(b) Each PIC of an IFR flight operating outside controlled airspace for which the appropriate ATC authority requires a flight plan, a listening watch on the appropriate radio frequency and establishment of two-way communication, as necessary, with the ATC facility providing flight information service, shall report position as specified for controlled flights.

8.8.4.3 IFR TAKEOFF MINIMUMS FOR COMMERCIAL AIR TRANSPORT

(a) Unless otherwise authorised by the Authority, no pilot operating an aircraft in commercial air transport operations may accept a clearance to take off from a civil aerodrome under IFR unless weather conditions are at or above—

(1) For aircraft, other than helicopters, having two engines or less—1 statute mile visibility.

(2) For aircraft having more than two engines—1/2 statute mile visibility.

(3) For helicopters—1/2 statute mile visibility.

8.8.4.4 MINIMUM ALTITUDES FOR IFR OPERATIONS

(a) *Operation of aircraft at minimum altitudes.* Except when necessary for takeoff or landing, no person may operate an aircraft under IFR below—

(1) The applicable minimum altitudes prescribed by the authorities having jurisdiction over the airspace being overflown; or

(2) If no applicable minimum altitude is prescribed by the authorities—

(i) Over high terrain or in mountainous areas, at a level which is at least 600 in (2,000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft; and

(ii) Elsewhere than as specified in paragraph (a), at a level which is at least 300 in (1,000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.

(3) If an MEA and a MOCA are prescribed for a particular route or route segment, a person may operate an aircraft below the MEA down to, but not below, the MOCA, when within 22 nautical miles of the VOR concerned.

(b) *Climb for obstacle clearance.*

(1) If unable to communicate with ATC, each pilot shall climb to a higher minimum IFR altitude immediately after passing the point beyond which that minimum altitude applies

(2) If ground obstructions intervene, each pilot shall climb to a point beyond which that higher minimum altitude applies, at or above the applicable MCA.

8.8.4.5 MINIMUM ALTITUDES FOR USE OF AN AUTOPILOT

(a) For en route operations, no person may use an autopilot at an altitude above the terrain that is less than 500 feet.

Note: If the maximum altitude loss specified in the AFM for a malfunction under cruise conditions when multiplied by two is more than 500 feet, then it becomes the controlling minimum altitude for use of the autopilot.

(b) For instrument approach operations, no person may use an autopilot at an altitude above the terrain that is less than 50 feet below the MDA or DH.

Note: If the maximum altitude loss specified in the AFM for a malfunction under approach conditions when multiplied by two is more than 50 feet, then it becomes the controlling minimum altitude for use of the autopilot.

(c) For Category III approaches, the Authority may approve the use of a flight control guidance system with automatic capability to touchdown.

8.8.4.6 IFR CRUISING ALTITUDE OR FLIGHT LEVEL IN CONTROLLED AIRSPACE

(a) Each person operating an aircraft under IFR in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned that aircraft by ATC.

(b) If the ATC clearance assigns "VFR conditions on-top," each person shall maintain a VFR cruising altitude in VMC.

Note: The requirements for VFR cruising altitudes are in 8.8.3.4.

8.8.4.7 IFR CRUISING ALTITUDE OR FLIGHT LEVEL IN UNCONTROLLED AIRSPACE

(a) Each person operating an aircraft in level cruising flight under IMC at altitudes above 900 m (3,000 ft) from the ground or water, shall maintain—

(1) For magnetic courses from zero degrees to 179 degrees, any odd thousand MSL altitude or flight level, such as 5,000, 7,000, or FL 210; and FL50, FL70

(2) For magnetic courses from 180 degrees to 359 degrees, any even thousand MSL altitude or flight level, such as 4,000, 6,000 or FL 220. and FL40, FL60

(b) A person may deviate from the cruising altitudes specified in paragraph (a) only when—

(1) Authorised by ATC;

(2) Operating in a holding pattern; or (3) Manoeuvring in turns.

8.8.4.8 IFR RADIO COMMUNICATIONS

(a) Each PIC of an aircraft operated under IFR in controlled airspace shall have a continuous watch maintained on the appropriate frequency and shall report by radio as soon as possible—

(1) The time and altitude of passing each designated reporting point, or the reporting points specified by ATC, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by ATC need be reported;

(2) Any unforecast weather conditions encountered; and

(3) Any other information relating to the safety of flight, such as hazardous weather or abnormal radio station indications.

8.8.4.9 OPERATION UNDER IFR IN CONTROLLED AIRSPACE: MALFUNCTION REPORTS

(a) The PIC of each aircraft operated in controlled airspace under IFR shall report as soon as practical to ATC any malfunctions of navigational, approach, or communication equipment occurring in flight.

(b) In each report specified in paragraph (a), the PIC shall include the—

(1) Aircraft identification;

(2) Equipment affected;

(3) Degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; and (4) Nature and extent of assistance desired from ATC.

8.8.4.10 CONTINUATION OF IFR FLIGHT TOWARD A DESTINATION

No pilot may continue an IFR flight toward an aerodrome or heliport of intended landing, unless the latest available meteorological information indicates that the conditions at that aerodrome, or at least one destination alternate aerodrome will, at the expected time of arrival, be at or above the specified instrument approach minima.

8.8.4.11 INSTRUMENT APPROACH PROCEDURES AND IFR LANDING MINIMUMS

No person may make an instrument approach at an airport except in accordance with IFR weather minimums and instrument approach procedures set forth in the AOC holder's operations specifications.

8.8.4.12 COMMENCING AN INSTRUMENT APPROACH: COMMERCIAL AIR TRANSPORT

(a) In commercial air transport operations, no pilot may continue an approach past the final approach fix, or where a final approach fix is not used, begin the final approach segment of an instrument approach procedure, at any aerodrome unless—

(1) A source approved by the Authority issues a weather report for that aerodrome; and

(2) The latest weather report for that aerodrome reports the visibility to be equal to or more than the visibility minimums prescribed for that procedure.

(b) If a pilot begins the final approach segment of an instrument approach procedure and subsequently receives a weather report indicating below-minimum conditions, the pilot may continue the approach to DH or MDA.

Note: For the purpose of this subsection, the final approach segment begins at the final approach fix or facility prescribed in the instrument approach procedure. When a final approach fix is not prescribed for a procedure that includes a procedure turn, the final approach segment begins at the point where the procedure turn is completed and the aircraft is established inbound toward the aerodrome on the final approach course within the distance prescribed in the procedure.

8.8.4.13 INSTRUMENT APPROACHES TO CIVIL AERODROMES

(a) Each person operating an civil aircraft shall use a standard instrument approach procedure prescribed by the authorities having jurisdiction over the aerodrome, unless otherwise authorised by the Authority.

(b) Authorised DH or MDA. For the purpose of this section, when the approach procedure being used provides for and requires the use of a DH or MDA, the authorised DH or MDA is the highest of the following:

(1) The DH or MDA prescribed by the approach procedure.

(2) The DH or MDA prescribed for the PIC.

(3) The DH or MDA for which the aircraft is equipped.

8.8.4.14 OPERATION BELOW DH OR MDA

(a) Where a DH or MDA is applicable, no pilot may operate a civil aircraft at any aerodrome or heliport below the authorised MDA, or continue an approach below the authorised DH unless—

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal manoeuvres;

(2) For commercial air transport operations, a descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;

(3) The flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and

(4) At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot—

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable. (ii) The threshold;

(iii) The threshold markings;

(iv) Threshold lights;
(v) The runway end identifier lights;
(vi) The visual approach slope indicator;
(vii) The touchdown zone or touchdown zone markings;
(viii) The touchdown zone lights; (ix) The runway or runway markings; or (x) The runway lights.

Note: These visual references do not apply to Category II and III operations. The required visual references under Category II and III operations are provided in the AOC holder's operations specifications or a special authorisation prescribed by the Authority.

8.8.4.15 LANDING DURING INSTRUMENT METEOROLOGICAL CONDITIONS

No pilot operating a civil aircraft may land that aircraft when the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

8.8.4.16 EXECUTION OF A MISSED APPROACH PROCEDURE

(a) Each pilot operating a civil aircraft shall immediately execute an appropriate missed approach procedure when either of the following conditions exist:

(1) Whenever the required visual reference criteria is not met in the following situations:
(i) When the aircraft is being operated below MDA; or
(ii) Upon arrival at the missed approach point, including a DH where a DH is specified and its use is required, and at any time after that until touchdown.

(2) Whenever an identifiable part of the aerodrome is not distinctly visible to the pilot during a circling manoeuvre at or above MDA, unless the inability to see an identifiable part of the aerodrome results only from a normal bank of the aircraft during the circling approach.

8.8.4.17 CHANGE FROM IFR FLIGHT TO VFR FLIGHT

(a) An pilot electing to change from IFR flight to VFR flight shall notify the appropriate ATC facility specifically that the IFR flight is cancelled and then communicate the changes to be made to his or her current flight plan.

(b) When a pilot operating under IFR encounters VMC, he or she may not cancel the IFR flight unless it is anticipated, and intended, that the flight will be continued for a reasonable period of time in uninterrupted VMC.

8.8.4.18 TWO-WAY RADIO COMMUNICATIONS FAILURE IN IFR

(a) If two-way radio communication failure occurs in IFR conditions, or if continued flight in VFR is judged not feasible, each pilot shall continue the flight according to the following:

(1) Route—
(i) By the route assigned in the last ATC clearance received;
(ii) If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;
(iii) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or
(iv) In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.

(2) Altitude. At the highest of the following altitudes or flight levels for the route segment being flown— (i) The altitude or flight level assigned in the last ATC clearance received;
(ii) The minimum altitude (converted, if appropriate, to minimum flight level for IFR operations); or (iii) The altitude or flight level ATC advised may be expected in a further clearance.

(3) Leave clearance limit.

(i) When the clearance limit is at a fix from which an approach begins, commence descent or descent and approach—

(A) As close as possible to the expect-further-clearance time if one has been received, or

(B) If one has not been received, as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) estimated time en route.

(ii) If the clearance limit is not a fix from which an approach begins—

(A) Leave the clearance limit at the expect-further-clearance time if one has been received, or if none has been received, upon arrival over the clearance limit,

(B) Proceed to a fix from which an approach begins, and

(C) Commence descent or descent and approach as close as possible to the ETA as calculated from the filed or amended with ATC estimated time en route.

8.9 PASSENGERS AND PASSENGER HANDLING

8.9.1 All Passenger Carrying Operations

8.9.1.1 UNACCEPTABLE CONDUCT

(a) No person on board may interfere with a crew member in the perform of his or her duties.

(b) Each passenger shall fasten his or her seat belt and keep it fastened while the seat belt sign is lighted.

(c) No person on board an aircraft shall recklessly or negligently act or omit to act in such a manner as to endanger the aircraft or persons and property therein.

(d) No person may secrete him or herself nor secrete cargo on board an aircraft.

(e) No person may smoke while the no-smoking sign is lighted.

(f) No person may smoke in any aeroplane lavatory.

(g) No person may tamper with, disable or destroy any smoke detector installed in any aeroplane lavatory.

8.9.1.2 REFUELLING WITH PASSENGERS ON BOARD

(a) No PIC may allow an aircraft to be refuelled when passengers are embarking, on board or disembarking unless—

(1) The aircraft is manned by qualified personnel ready to initiate and direct an evacuation; and

(2) Two-way communication is maintained between the qualified personnel in the aircraft and the ground crew supervising the refuelling.

(b) *Helicopters.* Unless specifically authorised by the Authority, no person will allow a helicopter to be refuelled, rotors turning or stopped, when—

(1) Passengers are embarking, or disembarking; or

(2) when oxygen is being replenished.

(c) When the helicopter is refuelled with passengers on board, rotors stopped or turning, it shall be properly attended by sufficient qualified personnel, ready to initiate and direct an evacuation of the helicopter by the most practical, safe and expeditious means available. In order to achieve this:

1) the flight crew shall ensure that the passengers are briefed on what actions to take if an incident occurs during refuelling;

2) a constant two-way communication shall be maintained by the helicopter's intercommunication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the helicopter; and

3) during an emergency shutdown procedure, the flight crew shall ensure that any personnel or passengers outside the helicopter are clear of the rotor area.

(d) A helicopter shall not be refuelled with AVGAS (aviation gasoline) or wide-cut type fuel or a mixture of these types of fuel, when passengers are on board.

8.9.1.2.1 DEFUELLING WITH PASSENGERS ON BOARD – HELICOPTER

a) A helicopter shall not be defueled at any time when:

1. passengers remain on board; or
2. passengers are embarking or disembarking; or
3. oxygen is being replenished.

8.9.1.3 PASSENGER SEATS, SAFETY BELTS, AND SHOULDER HARNESSES

(a) The PIC shall ensure that each person on onboard occupies an approved seat or berth with their own individual safety belt and shoulder harness (if installed) properly secured about them during takeoff and landing.

(b) Each passenger shall have his or her seatbelt securely fastened at any other time the PIC determines it is necessary for safety.

(c) A safety belt provided for the occupant of a seat may not be used during takeoff and landing by more than one person who has reached his or her second birthday.

Note: When cabin crew members are required in a commercial air transport operation, the PIC may delegate this responsibility, but shall ascertain that the proper briefing has been conducted prior to takeoff.

8.9.1.4 PASSENGER BRIEFING

(a) The PIC shall ensure that crew members and passengers are made familiar, by means of an oral briefing or by other means, with the location and use of the following items, if appropriate—

(1) Seat belts;
(2) Emergency exits;
(3) Life jackets;
(4) Oxygen dispensing equipment; and
(5) Other emergency equipment provided for individual use, including passenger emergency briefing cards.

(b) The PIC shall ensure that all persons on board are aware of the locations and general manner of use of the principal emergency equipment carried for collective use.

Note: For commercial air transport operations, the briefing shall contain all subjects approved by the Authority for the specific operations conducted as included in the pertinent Operations Manual.

Note: When cabin crew members are required in a commercial air transport operation, the PIC may delegate this responsibility, but shall ascertain that the proper briefing has been conducted prior to takeoff.

8.9.1.5 INFLIGHT EMERGENCY INSTRUCTION

In an emergency during flight, the PIC shall ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances.

Note: When cabin crew members are required in a commercial air transport operation, the PIC may delegate this responsibility, but shall ascertain that the proper briefing has been conducted.

8.9.1.6 PASSENGER OXYGEN: MINIMUM SUPPLY AND USE

(a) The PIC shall ensure that breathing oxygen and masks are available to passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might harmfully effect passengers.

(b) The PIC shall ensure that the minimum supply of oxygen prescribed by the Authority is on board the aircraft.

Note: The requirements for oxygen storage and dispensing apparatus are prescribed in Part 7.

(c) The PIC shall require all passengers to use oxygen continuously at cabin pressure altitudes above 15,000 feet.

8.9.1.7 ALCOHOL OR DRUGS

No person may permit the boarding or serving of any person who appears to be intoxicated or who demonstrates, by manner or physical indications, that that person is under the influence of drugs (except a medical patient under proper care).

8.9.2 Commercial Air Transport Passenger Carrying Operations

8.9.2.1 PASSENGER COMPLIANCE WITH INSTRUCTIONS

Each passenger on a commercial air transport flight shall comply with instructions given by a crew member in compliance with this section.

8.9.2.2 DENIAL OF TRANSPORTATION

(a) An AOC holder may deny transportation because a passenger—

(1) Refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority; or

(2) Has a handicap that can be physically accommodated only by an exit row seat.

8.9.2.3 CARRIAGE OF PERSONS WITHOUT COMPLIANCE WITH THESE PASSENGER-CARRYING REQUIREMENTS (a) The passenger-carrying requirements of paragraph (b) do not apply when carrying—

(1) A crew member not required for the flight;

(2) A representative of the Authority on official duty;

(3) A person necessary to the safety or security of cargo or animals; or

(4) Any person authorised by the AOC holder's Operation Manual procedures, as approved by the Authority.

(b) No person may be carried without compliance to the passenger carrying requirements unless—

(1) There is an approved seat with an approved seat belt for that person;

(2) That seat is located so that the occupant is not in any position to interfere with the flight crew members performing their duties;

(3) There is unobstructed access from their seat to the flight deck or a regular or emergency exit;

(4) There is a means for notifying that person when smoking is prohibited and when seat belts shall be fastened; and

(5) That person has been orally briefed by a crew member on the use of emergency equipment and exits.

8.9.2.4 CABIN CREW MEMBERS AT DUTY STATIONS

(a) During taxi, cabin crew members shall remain at their duty stations with safety belts and shoulder harness fastened except to perform duties related to the safety of the aircraft and its occupants.

(b) During takeoff and landing, cabin crew members shall be located as near as practicable to required floor level exits and shall be uniformly distributed throughout the aircraft to provide the most effective egress of passengers in event of an emergency evacuation.

(c) When passengers are on board a parked aircraft, cabin crew members (or another person qualified in emergency evacuation procedures for the aircraft) will be placed in the following manner:

(1) If only one qualified person is required, that person shall be located in accordance with the AOC holder's Operations Manual procedures.

(2) If more than one qualified person is required, those persons shall be spaced throughout the cabin to provide the most effective assistance for the evacuation in case of an emergency.

(d) All aeroplanes/Helicopters carrying passengers shall be equipped with a forward or rearward facing (within 15 degrees of the longitudinal axis of the aeroplane) seat, fitted with a safety harness for the use of each cabin crew member required to satisfy the intent of 12.1 in respect of emergency evacuation.

8.9.2.5 EVACUATION CAPABILITY

The PIC, SCA and other person assigned by the AOC holder shall ensure that, when passengers are on board the aircraft prior to movement on the surface, at least one floor-level exit provides for egress of passengers through normal or emergency means.

8.9.2.6 ARMING OF AUTOMATIC EMERGENCY EXITS

No person may cause an aeroplane carrying passengers to be moved on the surface, takeoff or land unless each automatically deployable emergency evacuation assisting means installed on the aircraft is ready for evacuation.

8.9.2.7 ACCESSIBILITY OF EMERGENCY EXITS AND EQUIPMENT

No person may allow carry-on baggage or other items to block access to the emergency exits when the aircraft is moving on the surface, during takeoff or landing, or while passengers remain on board.

8.9.2.8 STOPS WHERE PASSENGERS REMAIN ON BOARD

(a) At stops where passengers remain on board the aircraft, the PIC, the SCA, or both shall ensure that—

(1) All engines are shut down;

(2) At least one floor level exit remains open to provide for the deplaning of passengers; and

(3) There is at least one person immediately available who is qualified in the emergency evacuation of the aircraft and who has been identified to the passengers on board as responsible for the passenger safety.

(b) If refuelling with passengers on board, the PIC or a designated company representative shall ensure that the AOC holder's Operations Manual procedures are followed.

8.9.2.9 CARRIAGE OF PERSONS WITH REDUCED MOBILITY

(a) No person may allow a person of reduced mobility to occupy seats where their presence could—

(1) Impede the crew in their duties;

(2) Obstruct access to emergency equipment; or (3) Impede the emergency evacuation of the aircraft.

8.9.2.10 EXIT ROW SEATING

No PIC or SCA may allow a passenger to sit in an emergency exit row if the PIC or SCA determine that it is likely that the passenger would be unable to understand and perform the functions necessary to open an exit and to exit rapidly.

Implement Standard: See ***Error! Reference source not found.*** *for additional requirements pertaining to exit row seating.*

IS:8.9.2.10 EXIT ROW SEATING

(a) No cabin crew member may seat a person in a passenger exit seat if it is likely that the person would be unable to perform one or more of the applicable functions listed below—

(1) The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs—

(i) To reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;

(ii) To grasp and push, pull, turn, or otherwise manipulate those mechanisms;

(iii) To push, shove, pull, or otherwise open emergency exits;

(iv) To lift out, hold, deposit on nearby seats, or manoeuvre over the seatbacks to the next row objects the size and weight of over-wing window exit doors;

(v) To remove obstructions of size and weight similar over-wing exit doors;

(vi) To reach the emergency exit expeditiously;

(vii) To maintain balance while removing obstructions;
(viii) To exit expeditiously;
(ix) To stabilise an escape slide after deployment; or
(x) To assist others in getting off an escape slide;

(2) The person is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed above without the assistance of an adult companion, parent, or other relative;

(3) The person lacks the ability to read and understand instructions required by this section and related to emergency evacuation provided by the AOC holder in printed or graphic form or the ability to understand oral crew commands,

(4) The person lacks sufficient visual capacity to perform one or more of the above functions without the assistance of visual aids beyond contact lenses or eyeglasses;

(5) The person lacks sufficient aural capacity to hear and understand instructions shouted by flight crew members, without assistance beyond a hearing aid;

(6) The person lacks the ability adequately to impart information orally to other passengers; or

(7) The person has a condition or responsibilities, such as caring for small children, that might prevent the person from performing one or more of the functions listed above; or a condition that might cause the person harm if he or she performs one or more of the functions listed above.

(b) Determinations as to the suitability of each person permitted to occupy an exit seat shall be made by the cabin crew members or other persons designated in the AOC holder's operations manual.

(c) In the event a cabin crew member determines that a passenger assigned to an exit seat would be unable to perform the emergency exit functions, or if a passenger requests a non-exit seat, the cabin crew member shall expeditiously relocate the passenger to a non-exit seat.

(d) In the event of full booking in the non-exit seats, and if necessary to accommodate a passenger being relocated from an exit seat, the cabin crew member shall move a passenger who is willing and able to assume the evacuation functions, to an exit seat.

(e) Each AOC ticket agent shall, prior to boarding, assign seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible.

(f) Each AOC ticket agent shall make available for inspection by the public at all passenger loading gates and ticket counters at each aerodrome where it conducts passenger operations, written procedures established for making determinations in regard to exit row seating,

(g) Each cabin crew member shall include in their passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she— (1) Cannot meet the selection criteria;
(2) Has a nondiscernible condition that will prevent him or her from performing the evacuation functions; (3) May suffer bodily harm as the result of performing one or more of those functions; or
(4) Does not wish to perform emergency exit functions.

(h) Each cabin crew member shall include in their passenger briefings a reference to the passenger information cards and the functions to be performed in an emergency exit.

(i) Each passenger shall comply with instructions given by a crew member or other authorised employee of the AOC holder implementing exit seating restrictions

(j) No PIC may allow taxi or pushback unless at least one required crew member has verified that all exit rows and escape paths are unobstructed and that no exit seat is occupied by a person the crew member determines is likely to be unable to perform the applicable evacuation functions.

(k) The procedures required by this standard will not become effective until final approval is granted by the Authority. Approval will be based solely upon the safety aspects of the AOC holder's procedures. In order to comply with this standard AOC holders shall—

(1) Establish procedures that address the requirements of this standard; and

(2) bmit their procedures for preliminary review and approval to the Authority.

8.9.2.11 PROHIBITION AGAINST CARRIAGE OF WEAPONS

No person may, while on board an aircraft being operated in commercial air transport, carry on or about their person a deadly or dangerous weapon, either concealed or unconcealed.

Note: This section does not apply to officials or employees of the State who are authorised to carry weapons or crew members and other persons authorised by the AOC holder to carry arms.

8.9.2.12 OXYGEN FOR MEDICAL USE BY PASSENGERS

(a) An AOC holder may allow a passenger to carry and operate equipment for the storage, generation or dispensing of medical oxygen only as prescribed by the Authority.

(b) No person may smoke, and no crew member may allow any person to smoke within 10 feet of oxygen storage and dispensing equipment carried for the medical use of a passenger.

(c) No crew member may allow any person to connect or disconnect oxygen dispensing equipment to or from a oxygen cylinder while any other passenger is aboard the aircraft.

8.9.2.13 CARRY-ON BAGGAGE

(a) No person may allow the boarding of carry-on baggage unless it can be adequately and securely stowed in accordance with the AOC holder's Operations Manual procedures.

(b) No person may allow aircraft passenger entry doors to be closed in preparation for taxi or pushback unless at least one required crew member has verified that each article of baggage has been properly stowed in overhead racks with approved restraining devices or doors, or in approved locations aft of the bulkhead.

(c) No person may allow carry-on baggage to be stowed in a location that would cause that location to be loaded beyond its maximum placard weight limitation.

Note: The stowage locations shall be capable of restraining the articles in crash impacts severe enough to induce the ultimate inertia forces specified in the emergency landing conditions under which the aircraft was type-certified.

8.9.2.14 CARRIAGE OF CARGO IN PASSENGER COMPARTMENTS

No person may allow the carriage of cargo in the passenger compartment of an aeroplane except as prescribed by the Authority.

*Implementing Standard: See **IS: 8.9.2.14** for specific requirements pertaining to carriage of cargo in passenger compartments.*

IS:8.9.2.14 CARRIAGE OF CARGO IN PASSENGER COMPARTMENTS

(a) Cargo may be carried anywhere in the passenger compartment if it is carried in an approved cargo bin that meets the following requirements—

(1) The bin must withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;

(2) The maximum weight of cargo that the bin is approved to carry and any instructions necessary to insure proper weight distribution within the bin must be conspicuously marked on the bin;

(3) The bin may not impose any load on the floor or other structure of the aeroplane that exceeds the load limitations of that structure;

(4) The bin must be attached to the seat tracks or to the floor structure of the aeroplane, and its attachment must withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the

aeroplane, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;

(5) The bin may not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment;

(6) The bin must be fully enclosed and made of material that is at least flame resistant;

(7) Suitable safeguards must be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and

(8) The bin may not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

(b) Cargo, including carry-on baggage, may be carried anywhere in the passenger compartment of a small (Group B) aeroplane if it is carried in an approved cargo rack, bin, or compartment installed in or on the aeroplane, if it is secured by an approved means, or if it is carried in accordance with each of the following—

(1) For cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions, or for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;

(2) It is packaged or covered to avoid possible injury to occupants;

(3) It does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;

(4) It is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or is located in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign or placard, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passengers is provided;

(5) It is not carried directly above seated occupants.

(6) It is stowed in compliance with these restrictions during takeoff and landing.

(7) For cargo-only operations, if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aeroplane a means of unobstructed exit from the aeroplane if an emergency occurs.

8.9.2.15 TRANSPORT OF ITEMS IN THE CARGO COMPARTMENT

(a) The State of the Operator shall ensure that the operator establishes policies and procedures for the transport of items in the cargo compartment, which include the conduct of a specific safety risk assessment.

(b) The risk assessment shall include at least the:

i. hazards associated with the properties of the items to be transported;
ii. bcapabilities of the operator;
iii. operational considerations (e.g. area of operations, diversion time);
iv. capabilities of the aeroplane and its systems (e.g. cargo compartment fire suppression capabilities);
v. containment characteristics of unit load devices;
vi. packing and packaging;
vii. safety of the supply chain for items to be transported; and
viii. quantity and distribution of dangerous goods items to be transported.

8.9.2.16 PASSENGER INFORMATION SIGNS

The PIC shall turn on required passenger information signs during any movement on the surface, for each takeoff and each landing, and when otherwise considered to be necessary.

8.9.2.17 REQUIRED PASSENGER BRIEFINGS

(a) No person may commence a takeoff unless the passengers are briefed prior to takeoff in accordance with the AOC holder's Operation Manual procedures on—

(1) Smoking limitations and prohibitions;
(2) Emergency exit location and use;
(3) Use of safety belts;
(4) Emergency floatation means location and use;
(5) Fire extinguisher location and operation;
(6) Placement of seat backs;
(7) If flight is above 10,000 feet MSL, the normal and emergency use of oxygen; and
(8) The passenger briefing card.

(b) Immediately before or immediately after turning the seat belt sign off, the PIC or SCA shall ensure that the passengers are briefed to keep their seat belts fastened while seated, even when the seat belt sign is off.

(c) Before each takeoff, the PIC or SCA shall ensure that any persons of reduced mobility are personally briefed on—

(1) The route to the most appropriate exit; and
(2) The time to begin moving to the exit in event of an emergency.

8.9.2.18 PASSENGER BRIEFING: EXTENDED OVERWATER OPERATIONS

No person may commence extended overwater operations unless all passengers have been orally briefed on the location and operations of life preservers, liferafts and other flotation means, including a demonstration of the method of donning and inflating a life preserver.

8.9.2.19 PASSENGER SEAT BELTS

(a) Each passenger occupying a seat or berth shall fasten his or her safety belt and keep it fastened while the "Fasten Seat Belt" sign is lighted or, in aircraft not equipped with such a sign, whenever instructed by the PIC.

(b) No passenger safety belt may be used by more than one occupant during takeoff and landing.

(c) At each unoccupied seat, the safety belt and shoulder harness, if installed, shall be secured so as not to interfere with crew members in the performance of their duties or with the rapid egress of occupants in an emergency.

Note: A person who has not reached his or her second birthday may be held by an adult who is occupying a seat or berth.

Note: A berth, such as a multiple lounge or divan seat, may be occupied by two persons provided it is equipped with an approved safety belt for each person and is used during en route flight only.

8.9.2.20 PASSENGER SEAT BACKS

No PIC or SCA may allow the takeoff or landing of an aircraft unless each passenger seat back is in the upright position.

Note: Exceptions may only be made in accordance with procedures in the AOC holder's Operations Manual provided the seat back does not obstruct any passenger's access to the aisle or to any emergency exit.

8.9.2.21 STOWAGE OF FOOD, BEVERAGE AND PASSENGER SERVICE

(a) No PIC or SCA may allow the movement of an aircraft on the surface, takeoff or land—

(1) When any food, beverage or tableware furnished by the AOC holder is located at any passenger seat; and
(2) Unless each food and beverage tray and seat back tray table is in the stowed position.

8.9.2.22 SECURING OF ITEMS OF MASS IN PASSENGER COMPARTMENT

(a) No person may allow the takeoff or landing of an aircraft unless each item of mass in the passenger cabin is properly secured to prevent it from becoming a hazard during taxi, takeoff and landing and during turbulent weather conditions.

(b) No person may allow an aircraft to move on the surface, takeoff or land unless each passenger serving cart is secured in its stowed position.

8.10 CREW MEMBER AND FLIGHT OPERATIONS OFFICER QUALIFICATIONS: COMMERCIAL AIR TRANSPORT

8.10.1.1 LIMITATION OF PRIVILEGES OF PILOTS WHO HAVE ATTAINED THEIR 60TH BIRTHDAY AND OF PRIVILEGES OF PILOTS WHO HAVE ATTAINED THEIR 65TH BIRTHDAY CURTAILMENT

(a) No person may serve nor may any AOC holder use a person as a required PIC in single pilot operations on aircraft engaged in international commercial air transport operations if that person has reached their 60th birthday.

(b) For aircraft engaged in international commercial air transport operations requiring more than one pilot as flight crewmembers, the AOC holder may use pilots up to age 65.

(c) Check airmen who have reached their 65th birthday may continue their check airman functions, but may not serve as or occupy the position of a required pilot flight crewmember on an aeroplane engaged in international commercial air transport operations.

(d) Check airmen who do not hold an appropriate medical certificate may continue their check airman functions, but may not serve as or occupy the position of a required pilot flight crewmember on an aeroplane engaged in commercial air transport operations.

8.10.1.2 PIC LICENSE REQUIREMENTS: TURBOJET, TURBOFAN, OR LARGE AIRCRAFT

No pilot may act as PIC of a turbojet, turbofan, or large aircraft in commercial air transportation operations unless he or she holds an ATP licence and a type rating for that aircraft.

8.10.1.3 PIC LICENCE REQUIREMENTS: NON TURBOJET OR TURBOFAN SMALL AEROPLANES

(a) No pilot may act as PIC of a non-turbojet or turbofan small aircraft in commercial air transport during—

(1) IFR operations unless he or she holds a commercial pilot licence with appropriate category and class ratings for the aircraft operated, and an instrument rating and meets the experience requirements for the operation, or

(2) Day VFR operations unless he or she holds a commercial pilot licence with appropriate category and class ratings for the aircraft operated.

8.10.1.4 PIC AERONAUTICAL EXPERIENCE: SMALL AEROPLANES

(a) No pilot may act as PIC of a small aeroplane in commercial air transport during—

(1) IFR operations unless he or she meets the minimum aeronautical experience requirements necessary to qualify for the ATP licence, or

(2) VFR operations unless he or she has logged a minimum of 500 hours of time as a pilot, including at least 100 hours of cross-country flight time including 25 hours of which were at night.

8.10.1.5 SIC LICENCE REQUIREMENTS

(a) No pilot may act as SIC of an aircraft in commercial air transport operations unless he or she—

(1) Holds a commercial pilot licence with appropriate category and class ratings for the aircraft operated; and

(2) Holds an instrument rating.

8.10.1.6 FE LICENCE REQUIREMENTS

No person may act as the flight engineer of an aircraft unless he or she holds a flight engineer licence with the appropriate class rating.

8.10.1.7 ONE PILOT QUALIFIED TO PERFORM FE FUNCTIONS

The AOC holder shall ensure that, on all flights requiring a flight engineer, there is assigned at least one other flight crew member qualified to perform the FE duties in the event the FE becomes incapacitated.

8.10.1.8 PERSONS QUALIFIED TO FLIGHT RELEASE

(a) No person may act as a flight operations officer in releasing a scheduled passenger-carrying commercial air transport operation unless that person—

(1) Holds a flight operations officer license or an ATP rating; and

(2) Is currently qualified with the AOC holder for the operation and type of aircraft used.

(3) In accepting proof of qualifications other than the option of holding of a flight operations officer/flight dispatcher license, the State of the Operator, in accordance with the approved method of control and supervision of flight operations, shall require that, as a minimum, such persons meet the requirements specified in Annex 1 for the flight operations officer/flight dispatcher license.

8.10.1.9 COMPANY PROCEDURES INDOCTRINATION

No person may serve nor may any AOC holder use a person as a crew member or flight operations officer/flight dispatcher unless that person has completed the company procedures indoctrination curriculum approved by the Authority, which shall include a complete review of operations manual procedures pertinent to the crew member or flight operation officer's duties.

*Implementing Standard: See **IS: 8.10.1.9** for knowledge area and programme hour requirements.*

IS: 8.10.1.9 COMPANY PROCEDURES INDOCTRINATION

(a) Each AOC holder shall ensure that all operations personnel are provided company indoctrination training that covers the following areas:

(1) AOC holder's organisation, scope of operation, and administrative practices as applicable to their assignments and duties.

(2) Appropriate provisions of civil aviation regulations and requirements made with respect to operations and other applicable regulations and guidance materials.

(3) AOC holder policies and procedures.

(4) Applicable crew member manuals.

(5) Appropriate portions of the AOC holder's operations manual.

(b) The AOC holder shall provide a minimum of 40 programmed hours of instruction for company procedures indoctrination training unless a reduction is determined appropriate by the Authority.

8.10.1.10 Initial or Recurrent Dangerous Goods Ground Training Requirements

(a) Operators that are not approved for the shipping of dangerous goods shall establish, maintain, and have approved by the Authority, initial and recurrent personnel training programmes, as required by the Technical Instructions, on the subjects prescribed in IS 8.10.1.10.

(b) The following entities involved in the shipping of dangerous goods shall establish, maintain, and have approved by the Authority, initial and recurrent personnel training programmes, as required by the Technical Instructions, on the subjects prescribed in IS 8.10.1.10.

(1) Shippers of dangerous goods, including packers and persons or organisations undertaking the responsibilities of the shipper;

(2) Operators;

(3) Ground handling agencies which perform, on behalf of the operator, the act of accepting, handling, loading, unloading, transferring or other processing of cargo or mail;

(4) Ground handling agencies located at an aerodrome which perform, on behalf of the operator, the act of processing passengers;

(5) Agencies, not located at an aerodrome, which perform, on behalf of the operator, the act of checking in passengers;

(6) Freight forwarders;

(7) Agencies engaged in the security screening of passengers and crew and their baggage and/or cargo or mail; and

(8) Designated postal operators.

(c) Recurrent training shall be satisfactorily completed every 24 months.

(d) Dangerous goods training programmes required for the operator in (b)(2) above shall be approved by the Authority.

Note: Dangerous goods training programmes required for other than the operator in (b)(2) shall be subjected to review and approval by the appropriate national authority.

Implementing Standard: See IS:8.10.1.10 for specific course curriculum requirements.

IS: 8.10.1.10 INITIAL DANGEROUS GOODS TRAINING

(a) Each AOC holder not holding a permanent approval to carry dangerous goods shall ensure that—

(1) Personnel engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods. At a minimum this training shall cover the areas identified in Column 1 of Table 1 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how to identify such goods; and

(2) Aircraft crew members, passenger handling staff; and security staff employed by the AOC holder who deal with the screening of a passengers and their baggage, have received training which, at a minimum, shall cover the areas identified in Column 2 of Table 1 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.

(3) Established dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of Annex 18, the Technical Instructions and the State's regulations to allow operator personnel to:

(a) Identify and reject undeclared dangerous goods, including COMAT classified as dangerous goods; and

(b) Report to the appropriate authorities of the State of the Operator and the State in which it occurred any:

i. Occasions when undeclared dangerous goods are discovered in cargo or mail; and
ii. Dangerous goods accidents and incidents.

Table 1

Areas Of Dangerous Goods Training	1	2
General Philosophy	x	x
Limitations On Dangerous Goods In Air Transport	x	x
Package Marking And Labelling	x	x
Dangerous Goods In Passengers Baggage		x
Emergency Procedures		x

Note: x indicates an area to be covered.

(b) Each AOC holder holding a permanent approval to carry dangerous goods shall ensure that—

(1) Personnel engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties. At a minimum, this training shall cover the areas identified in Column 1 of Table 2 and be to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;

(2) Personnel engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods. At a minimum, this training shall cover the areas identified in Column 2 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;

(3) Personnel engaged in general cargo handling have received training to enable them to carry out their duties in respect of dangerous goods. At a minimum, this training shall cover the areas identified in Column 3 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;

(4) Flight crew members have received training which, at a minimum, shall cover the areas identified in Column 4 of Table 2. Training shall be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on an aeroplane; and

(5) Passenger handling staff; security staff employed by the operator who deal with the screening of passengers and their baggage; and crew members (other than flight crew members) have received training which, at a minimum, shall cover the areas identified in Column 5 of Table 2. Training shall be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and what requirements apply to the carriage of such goods by passengers or, more generally, their carriage on an aeroplane.

(6) The operator shall establish dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of Annex 18, the Technical Instructions and the State's regulations to enable operator personnel to:

1) identify and reject undeclared or misdeclared dangerous goods, including COMAT classified as dangerous goods;

2) report to the appropriate authorities of the State of the Operator and the State in which it occurred any:

i) occasions when undeclared or misdeclared dangerous goods are discovered in cargo or mail; and

ii) dangerous goods accidents and incidents;

(7) Report to the appropriate authorities of the State of the Operator and the State of Origin any occasions when dangerous goods are discovered to have been carried;

i) when not loaded, segregated, separated or secured in accordance with the Technical Instructions, Part 7, Chapter 2; and

ii) without information having been provided to the pilot-in-command;

(8) accept, handle, store, transport, load and unload dangerous goods, including COMAT classified as dangerous goods as cargo on board an aircraft; and

(9) provide the pilot-in-command with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo.

(c) Each AOC holder shall ensure that all personnel who require dangerous goods training receive recurrent training at intervals of not longer than 2 years.

(d) Each AOC holder shall ensure that records of dangerous goods training are maintained for all personnel required such training and that these records are maintained at the location where the personnel perform such duties.

(e) Each AOC holder shall ensure that its handling agent's staff are trained in accordance with the applicable column of Table 1 or Table 2.

Table 2

Areas Of Training	1	2	3	4	5
General Philosophy	x	x	x	x	X
Limitations On Dangerous Goods In The Air Transport	x	x	x	x	X
Classification And List Of Dangerous Goods	x	x		x	
General Packing Requirements And Packing Instructions	x				
Packaging Specifications Marking	x				
Package Marking And Labelling	x	x	x	x	X
Documentation From The Shipper	x				
Acceptance Of Dangerous Good, Including The Use Of A Checklist	x				
Loading, Restrictions On Loading And Segregation	x	x	x	x	
Inspections For Damage Or Leakage And Decontamination Procedures	x	x			
Provision Of Information To Commander	x	x		x	
Dangerous Goods In Passengers' Baggage	x			x	X
Emergency Procedures	x	x		x	X

Note: x indicates an area to be covered.

(f) An AOC holder shall provide dangerous goods training manuals which contain adequate procedures and information to assist personnel in identifying packages marked or labelled as containing hazardous materials including—

(i) Instructions on the acceptance, handling, and carriage of hazardous materials:

(ii) Instructions governing the determination of proper shipping names and hazard classes:

(iii) Packaging, labelling, and marking requirements:

(iv) Requirements for shipping papers, compatibility requirements, loading, storage, and handling requirements; and (v) Restrictions.

IS 8.10.1.10 Initial or Recurrent Dangerous Goods Ground Training Requirements

(e) The following categories of individuals shall be trained in dangerous goods.

Category Number	Employee description
1	Shippers and persons understanding the responsibilities of shippers
2	Packers
3	Personnel of freight forwarders involved in processing dangerous goods
4	Personnel of freight forwarders involved in processing cargo or mail (other than dangerous goods)
5	Personnel of freight forwarders involved in the handling, storage and loading of cargo or mail
6	Operator's and ground handling agent's personnel accepting dangerous goods
7	Operator's and ground handling agent's personnel accepting cargo or mail (other than dangerous goods)
8	Operator's and ground handling agent's personnel involved in the handling, storage and loading of cargo or mail and baggage
9	Passenger handling personnel
10	Flight crew members, loadmasters, load planners and FOOs/flight dispatchers
11	Crew members (other than flight crew members)
12	Security personnel who are involved with the screening of passengers and crew and their baggage and cargo or mail (e.g., security screeners, their supervisors, and personnel involved in implementing security procedures)
13	Operator's and ground handling agent's personnel accepting cargo or mail (other than dangerous goods)
14	Operator's and ground handling agent's personnel involved in the handling, storage and loading of cargo or mail (other than dangerous goods) and baggage
15	Passenger handling personnel
16	Flight crew members, loadmasters, load planners and FOOs/flight dispatchers
17	Crew members (other than flight crew members)

(a) Training courses for entities shipping dangerous goods shall contain the following:

	Shippers and Packers		*Freight Forwarders*			*Operators and Ground Handling Agents*						Security Personnel
	Categories of Personnel											
Aspects of transport of dangerous goods by air with which they shall be familiar, as a minimum	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	X	X	X	X	X	X	X	X	X	X	X	X
Limitations	X		X	X	X	X	X	X	X	X	X	X
General requirements for shippers	X		X			X						
Classification	X	X	X			X						X
List of dangerous goods	X	X	X			X				X		
Packing requirements	X	X	X			X						
Labelling and marking	X	X	X	X	X	X	X	X	X	X	X	X
Dangerous goods transport document and other relevant documentation	X		X	X		X	X					
Acceptance procedures						X						
Recognition of undeclared dangerous goods	X	X	X	X	X	X	X	X	X	X	X	X
Storage and loading procedure					X	X		X		X		
Pilots' notification						X		X		X		
Provisions for passengers and crew	X	X	X	X	X	X	X	X	X	X	X	X
Emergency procedures	X	X	X	X	X	X	X	X	X	X	X	X

(a) Training courses for operators not carrying dangerous goods as cargo or mail shall contain the following:

Contents	*Categories of Personnel*				
	13	14	15	16	17
General philosophy	X	X	X	X	X
Limitations	X	X	X	X	X
Labelling and marking					
Dangerous goods transport document and other relevant documentation	X				
Recognition of undeclared dangerous goods	X	X	X	X	X
Provisions for passengers and crew	X	X	X	X	X
Emergency procedures	X	X	X	X	X

Note 1: Depending on the responsibilities of the person, the aspects of training to be covered may vary from those shown in the tables above. For example, with respect to classification, personnel involved in implementing security procedures (e.g., screeners and their supervisors) need only be trained in the general properties of dangerous goods.

Note 2: The categories of personnel identified in the tables above are not all encompassing. Personnel employed by or interacting with the aviation industry in areas such as passenger and cargo reservation centres, and engineering and maintenance, except when acting in a capacity identified in the tables above, shall be provided with dangerous goods training in accordance with 8.10.1.10 of this part.

Note 3: The requirements for training the postal worker can be found in the Technical Instructions.

ICAO Doc 9284, Part 1, Chapter 4: Table 1-4

8.10.1.11 INITIAL OR RECURRENT SECURITY TRAINING REQUIREMENTS

(a) No person may serve nor may any AOC holder use operational personnel unless they have completed the initial security curriculum approved by the Authority.

(b) No person may serve nor may any AOC holder use operational personnel unless they have completed the recurrent training security curriculum approved by the Authority within 12 calendar months.

(c) The operator shall establish and maintain an approved security training programme which ensures crew members act in the most appropriate manner to minimise the consequences of acts of unlawful interference. As a minimum, this programme shall include the following elements:

(1) Determination of the seriousness of any occurrence;

(2) Crew communication and coordination;

(3) Appropriate self-defence responses;

(4) Use of non-lethal protective devices assigned to crew members whose use is authorised by the State of the Operator;

(5) Understanding of behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behaviour and passenger responses;

(6) Live situational training exercises regarding various threat conditions;

(7) Flight crew compartment procedures to protect the aeroplane; and

(8) Aeroplane search procedures and guidance on least-risk bomb locations where practicable.

(d) The operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aeroplane so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

8.10.1.12 INITIAL CREW RESOURCE MANAGEMENT

No person may serve nor may any AOC holder use a person as a flight operations officer or crew member or flight operations officer unless that person has completed the initial CRM curriculum approved by the Authority.

Implementing Standard: IS:8.10.1.12 for course curriculum topics.

IS:8.10.1.12 INITIAL CREW RESOURCE MANAGEMENT TRAINING

(a) Each AOC holder shall ensure that the flight operations officer and all aircraft crew members have CRM training as part of their initial and recurrent training requirements. (b) A CRM training program shall include—

(1) An initial indoctrination/awareness segment;
(2) A method to provide recurrent practice and feedback; and (3) A method of providing continuing reinforcement.

(c) Curriculum topics to be contained in an initial CRM training course include—

(1) Communications processes and decision behaviour;
(2) Internal and external influences on interpersonal communications;
(3) Barriers to communication;
(4) Listening skills;
(5) Decision making skills;
(6) Effective briefings;
(7) Developing open communications;
(8) Inquiry, advocacy, and assertion training;
(9) Crew self-critique;
(10) Conflict resolution;
(11) Team building and maintenance;
(12) Leadership and followship training;
(13) Interpersonal relationships;
(14) Workload management;
(15) Situational awareness;
(16) How to prepare, plan and monitor task completions;
(17) Workload distribution;
(18) Distraction avoidance;
(19) Individual factors; and
(20) Stress reduction.

8.10.1.13 INITIAL EMERGENCY EQUIPMENT DRILLS

No person may serve nor may any AOC holder use a person as a crew member unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crew member position approved by the Authority for the emergency equipment available on the aircraft to be operated.

Implementing Standard: See IS:8.10.1.13 for course curriculum requirements.

IS:8.10.1.13 INITIAL EMERGENCY EQUIPMENT DRILLS

(a) Each aircraft crew member shall accomplish emergency training during the specified training periods, using those items of installed emergency equipment for each type of aeroplane in which he or she is to serve:

(b) During initial training, each aircraft crew member shall perform the following one-time emergency drills—

(1) Protective Breathing Equipment/Firefighting Drill:

(i) Locate source of fire or smoke (actual or simulated fire).

(ii) Implement procedures for effective crew co-ordination and communication, including notification of flight crew members about fire situation.

(iii) Don and activate installed PBE or approved PBE simulation device.

(iv) Manoeuvre in limited space with reduced visibility.

(v) Effectively use the aircraft's communication system.

(vi) Identify class of fire.

(vii) Select the appropriate extinguisher.

(viii) Properly remove extinguisher from securing device.

(ix) Prepare, operate and discharge extinguisher properly. (x) Utilise correct firefighting techniques for type of fire.

(2) Emergency Evacuation Drill:

(i) Recognise and evaluate an emergency.

(ii) Assume appropriate protective position.

(iii) Command passengers to assume protective position.

(iv) Implement crew co-ordination procedures.

(v) Ensure activation of emergency lights.

(vi) Assess aircraft conditions.

(vii) Initiate evacuation (dependent on signal or decision).

(viii) Command passengers to release seatbelts and evacuate.

(ix) Assess exit and redirect, if necessary; to open exit, including deploying slides and commanding helpers to assist.

(x) Command passengers to evacuate at exit and run away from aircraft.

(xi) Assist special need passengers, such as handicapped, elderly, and persons in a state of panic.

(xii) Actually exit aircraft or training device using at least one of the installed emergency evacuation slides.

Note: The crew member may either observe the aeroplane exits being opened in the emergency mode and the associated exit slide/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions

(c) Each aircraft crew member shall accomplish additional emergency drills during initial and recurrent training, including performing the following emergency drills—

(1) Emergency Exit Drill:

(i) Correctly pre-flight each type of emergency exit and evacuation slide or slideraft (if part of cabin crew member's assigned duties).

(ii) Disarm and open each type of door exit in normal mode.

(iii) Close each type of door exit in normal mode.

(iv) Arm of each type of door exit in emergency mode.

(v) Opening each type of door exit in emergency mode.

(vi) Use manual slide inflation system to accomplish or ensure slide or slideraft inflation.

(vii) Open each type of window exit.

(viii) Remove escape rope and position for use.

(2) Hand Fire Extinguisher Drill:

(i) Pre-flight each type of hand fire extinguisher.

(ii) Locate source of fire or smoke and identify class of fire.

(iii) Select appropriate extinguisher and remove from securing device. (iv) Prepare extinguisher for use.

(v) Actually operate and discharge each type of installed hand fire extinguisher.

Note: Fighting an actual or a simulated fire is not necessary during this drill.

(vi) Utilise correct firefighting techniques for type of fire.

(vii) Implement procedures for effective crew co-ordination and communication, including notification of crew members about the type of fire situation.

(3) Emergency Oxygen System Drill:

(i) Actually operate portable oxygen bottles, including masks and tubing.

(ii) Verbally demonstrate operation of chemical oxygen generators.

(iii) Prepare for use and operate oxygen device properly, including donning and activation.

(iv) Administer oxygen to self, passengers, and to those persons with special oxygen needs. (v) Utilise proper procedures for effective crew co-ordination and communication. (vi) Activate PBE.

(vii) Manually open each type of oxygen mask compartment and deploy oxygen masks.

(viii) Identify compartments with extra oxygen masks.

(ix) Implement immediate action decompression procedures. (x) Reset oxygen system, if applicable.

(4) Flotation Device Drill:

(i) Don and inflate life vests.

(ii) Remove and use flotation seat cushions.

(iii) Demonstrate swimming techniques using a seat cushion.

(5) Ditching Drill, if applicable:

Note: During a ditching drill students shall perform the "prior to impact" and "after impact" procedures for a ditching, as appropriate to the specific operator's type of operation.

(i) Implement crew co-ordination procedures, including briefing with captain to obtain pertinent ditching information and briefing flight crew members.

(ii) Co-ordinate time frame for cabin crew and passenger preparation.

(iii) Adequately brief passengers on ditching procedures.

(iv) Ensure cabin is prepared, including the securing of carry-on baggage, lavatories, and galleys.

(v) Demonstrate how to properly deploy and inflate sliderafts.

(vi) Remove, position, attach sliderafts to aircraft.

(vii) Inflate rafts.

(viii) Use escape ropes at overwing exits.

(ix) Command helpers to assist.

(x) Use slides and seat cushions as flotation devices.

(xi) Remove appropriate emergency equipment from aircraft. (xii) Board rafts properly.

(xiii) Initiate raft management procedures (i.e., Disconnecting rafts from aircraft, applying immediate first aid, rescuing persons in water, salvaging floating rations and equipment, deploying sea anchor, tying rafts together, activating or ensuring operation of emergency locator transmitter).

(xiv) Initiate basic survival procedures (i.e., Removing and utilising survival kit items, repairing and maintaining raft, ensuring protection from exposure, erecting canopy, communicating location, providing continued first aid, providing sustenance).

(xv) Use heaving line to rescue persons in water.

(xvi) Tie sliderafts or rafts together.

(xvii) Use life line on edge of slideraft or raft as a handhold. (xviii) Secure survival kit items.

(d) Each aircraft crew member shall accomplish additional emergency drill requirements during initial and recurrent training including observing the following emergency drills—

(1) Liferaft Removal and Inflation Drill, if applicable:

(i) Removal of a liferaft from the aircraft or training device. (ii) Inflation of a liferaft.

(2) Slideraft Transfer Drill:

(i) Transfer of each type of slideraft pack from an unusable door to a usable door.

(ii) Disconnect slideraft at unusable door.

(iii) Redirect passengers to usable slideraft.

(iv) Installation and deployment of slideraft at usable door.

(3) Slide and Slideraft Deployment, Inflation, and Detachment Drill:

(i) Engage slide girt bar in floor brackets.

(ii) Inflate slides with and without quick-release handle (manually and automatically).

(iii) Disconnecting slide from aircraft for use as a flotation device. Arm sliderafts for automatic inflation.
(iv) Disconnecting slideraft from the aircraft.

(4) Emergency Evacuation Slide Drill:
(i) Open armed exit with slide or slideraft deployment and inflation.
(ii) Egress from aircraft via the evacuation slide and run away to a safe distance.

8.10.1.14 INITIAL AIRCRAFT GROUND TRAINING

(a) No person may serve nor may any AOC holder use a person as a crew member or flight operations officer unless he or she has completed the initial ground training approved by the Authority for the aircraft type.

(b) Initial aircraft ground training for flight crew members shall include the pertinent portions of the operations manuals relating to aircraft-specific performance, mass and balance, operational policies, systems, limitations, normal, abnormal and emergency procedures on the aircraft type to be used and be aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin.

Implementation Standard: See IS:8.10.1.14(b) for specific course curriculum requirements for flight crew members.

Note: The AOC holder may have separate initial aircraft ground training curricula of varying lengths and subject emphasis which recognise the experience levels of flight crew members approved by the Authority.

(c) For cabin crew members, initial aircraft ground training shall include the pertinent portions of the operations manuals relating to aircraft-specific configuration, equipment, normal and emergency procedures for the aircraft types within the fleet and be aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin.

Implementation Standard: See IS:8.10.1.14 (c) for specific course curriculum requirements for cabin crew members.

(d) For flight operations officers, aircraft initial ground training shall include the pertinent portions of the operations manuals relating to aircraft-specific flight preparation procedures, performance, mass and balance, systems, limitations for the aircraft types within the fleet and be aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin.

Implementation Standard: See IS:8.10.1.14 (d) for specific course curriculum requirements for flight operations officers.

IS: 8.10.1.14(B) INITIAL AIRCRAFT GROUND TRAINING - FLIGHT CREW

(a) Each AOC holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown. Instructions shall include at least the following general subjects—

(1) AOC holder's dispatch, flight release, or flight locating procedures;
(2) Principles and methods for determining weight and balance, and runway limitations for takeoff;
(3) Adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions:
(i) Icing.
(ii) Fog.
(iii) Turbulence.
(iv) Heavy precipitation.
(v) Thunderstorms.
(vi) Low-level windshear and microburst. (vii) Low visibility.
(4) Normal and emergency communications procedures and navigation equipment including the AOC holder's communications procedures and ATC clearance requirements;
(5) Navigation procedures used in area departure, en route, area arrival, approach and landing phases;
(6) Approved crew resource management training;
(7) Air traffic control systems, procedures, and phraseology;

(8) Aircraft performance characteristics during all flight regimes, including:
(i) The use of charts, tables, tabulated data and other related manual information (ii) Normal, abnormal, and emergency performance problems.
(iii) Meteorological and weight limiting performance factors (such as temperature, pressure, contaminated runways, precipitation, climb/runway limits).
(iv) Inoperative equipment performance limiting factors (such as MEL/CDL, inoperative antiskid).
(v) Special operational conditions (such as unpaved runways, high altitude aerodromes and drift down requirements).

(b) Each AOC holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown, including at least the following aircraft systems:

(1) Aircraft:
(i) Aircraft dimensions, turning radius, panel layouts, cockpit and cabin configurations. (ii) Other major systems and components or appliances of the aircraft.

(2) Powerplants:
(i) Basic engine description. (ii) Engine thrust ratings.
(iii) Engine components such as accessory drives, ignition, oil, fuel control, hydraulic, and bleed air features.

(3) Electrical.
(i) Sources of aircraft electrical power (engine driven generators, APU generator, and external power);
(ii) Electrical buses; (iii) Circuit breakers;
(iv) Aircraft battery; and (v) Standby power systems.

(4) Hydraulic.
(i) Hydraulic reservoirs, pumps, accumulators; filters, check valves, interconnects and actuators; and
(ii) Other hydraulically operated components.

(5) Fuel.
(i) Fuel tanks (location and quantities);
(ii) Engine driven pumps;
(iii) Boost pumps;
(iv) System valves and crossfeeds;
(v) Quantity indicators; and (vi) Provisions for fuel jettisoning.

(6) Pneumatic.
(i) Bleed air sources (APU or external ground air); and
(ii) Means of routing, venting and controlling bleed air via valves, ducts, chambers, and temperature and pressure limiting devices

(7) Air conditioning and pressurisation.
(i) Heaters, air conditioning packs, fans, and other environmental control devices;
(ii) Pressurisation system components such as outflow and negative pressure relief valves; and (iii) Automatic, standby, and manual pressurisation controls and annunciators.

(8) Flight controls.
(i) Primary controls (yaw, pitch, and roll devices);
(ii) Secondary controls (leading/trailing edge devices, flaps, trim, and damping mechanisms);
(iii) Means of actuation (direct/indirect or fly by wire); and (iv) Redundancy devices.

(9) Landing gear.
(i) Landing gear extension and retraction mechanism including the operating sequence of struts, doors, and locking devices, and brake and antiskid systems, if applicable;
(ii) Steering (nose or body steering gear);
(iii) Bogie arrangements; (iv) Air/ground sensor relays; and (v) Visual downlock indicators.

(10) Ice and rain protection.
(i) Rain removal systems; and

(ii) Anti-icing and/or de-icing system(s) affecting flight controls, engines, pitot static probes, fluid outlets, cockpit windows, and aircraft structures.

(11) Equipment and furnishings.
- (i) Exits;
- (ii) Galleys;
- (iii) Water and waste systems;
- (iv) Lavatories;
- (v) Cargo areas;
- (vi) Crew member and passenger seats;
- (vii) Bulkheads;
- (viii) Seating and/or cargo configurations; and (ix) Non-emergency equipment and furnishings.

(12) Navigation equipment.
- (i) Flight directors;
- (ii) Horizontal situation indicator;
- (iii) Radio magnetic indicator;
- (iv) Navigation receivers (GPS, ADF, VOR, OMEGA, LORAN-C, RNAV, Marker Beacon, DME);
- (v) Inertial systems (INS, IRS);
- (vi) Functional displays;
- (vii) Fault indications and comparator systems;
- (viii) Aircraft transponders;
- (ix) Radio altimeters;
- (x) Weather radar; and
- (xi) Cathode ray tube or computer generated displays of aircraft position and navigation information.

(13) Auto flight system.
- (i) Autopilot;
- (ii) Autothrottles;
- (iii) Flight director and navigation systems;
- (iv) Automatic approach tracking;
- (v) Autoland; and
- (vi) Automatic fuel and performance management systems.

(14) Flight instruments.
- (i) Panel arrangement;
- (ii) Flight instruments (attitude indicator, directional gyro, magnetic compass, airspeed indicator, vertical speed indicator, altimeters, standby instruments); and
- (iii) Instrument power sources and instrument sensory sources (e.g., Pitot static pressure).

(15) Display systems.
- (i) Weather radar; and
- (ii) Other CRT displays (e.g., checklist, vertical navigation or longitudinal navigation displays).

(16) Communication equipment.
- (i) VHF/HF radios;
- (ii) Audio panels;
- (iii) Inflight interphone and passenger address systems;
- (iv) Voice recorder; and
- (v) Air/ground passive communications systems (ACARS).

(17) Warning systems.
- (i) Aural, visual, and tactile warning systems (including the character and degree of urgency related to each signal); and
- (ii) Warning and caution annunciator systems (including ground proximity and takeoff warning systems).

(18) Fire protection.
- (i) Fire and overheat sensors, loops, modules, or other means of providing visual and/or aural indications of fire or overheat detection;

(ii) Procedures for the use of fire handles, automatic extinguishing systems and extinguishing agents; and

(iii) Power sources necessary to provide protection for fire and overheat conditions in engines, APU, cargo bay/wheel well, cockpit, cabin and lavatories.

(19) Oxygen.

(i) Passenger, crew, and portable oxygen supply systems;

(ii) Sources of oxygen (gaseous or solid);

(iii) Flow and distribution networks;

(iv) Automatic deployment systems;

(v) Regulators, pressure levels and gauges; and (vi) Servicing requirements.

(20) Lighting.

(i) Cockpit, cabin, and external lighting systems;

(ii) Power sources; (iii) Switch positions; and (iv) Spare lightbulb locations.

(21) Emergency equipment.

(i) Fire and oxygen bottles;

(ii) First aid kits;

(iii) Liferafts and life preservers;

(iv) Crash axes;

(v) Emergency exits and lights;

(vi) Slides and sliderafts;

(vii) Escape straps or handles; and (viii) Hatches, ladders and movable stairs.

(22) Auxiliary Power Unit (APU).

(i) Electric and bleed air capabilities;

(ii) Interfaces with electrical and pneumatic systems;

(iii) Inlet doors and exhaust ducts; (iv) Fuel supply.

(c) Each AOC holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown, including at least the following *aircraft systems integration items*:

(1) Use of checklist.

(i) Safety chocks;

(ii) Cockpit preparation (switch position and checklist flows);

(iii) Checklist callouts and responses; and (iv) Checklist sequence.

(2) Flight planning.

(i) Performance limitations (meteorological, weight, and MEL/CDL items);

(ii) Required fuel loads;

(iii) Weather planning (lower than standard takeoff minimums or alternate requirements).

(3) Navigation systems.

(i) Pre-flight and operation of applicable receivers;

(ii) Onboard navigation systems; and (iii) Flight plan information input and retrieval.

(4) Autoflight.

(i) Autopilot, autothrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators.

(5) Cockpit familiarisation

(i) Activation of aircraft system controls and switches to include normal, abnormal and emergency switches; and

(ii) Control positions and relevant annunciators, lights, or other caution and warning systems.

IS: 8.10.1.14(C) INITIAL AIRCRAFT GROUND TRAINING - CABIN CREW MEMBERS

(a) Each AOC holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following *general subjects*:

(1) Aircraft familiarisation.

(i) Aircraft characteristics and description;

(ii) Flightdeck configuration;
(iii) Cabin configuration;
(iv) Galleys; (v) Lavatories; and
(vi) Stowage areas.

(2) Aircraft equipment and furnishings.
(i) Cabin crew member stations;
(ii) Cabin crew member panels;
(iii) Passenger seats;
(iv) Passenger service units and convenience panels;
(v) Passenger information signs; (vi) Aircraft markings; and (vii) Aircraft placards.

(3) Aircraft systems.
(i) Air conditioning and pressurisation system;
(ii) Aircraft communication systems (call, interphone and passenger address);
(iii) Lighting and electrical systems;
(iv) Oxygen systems (flightcrew, observer and passenger); and (v) Water system.

(4) Aircraft exits.
(i) General information;
(ii) Exits with slides or sliderafts (pre-flight and normal operation);
(iii) Exits without slides (pre-flight and normal operations); and (iv) Window exits.

(5) Crew member communication and co-ordination.
(i) Authority of PIC;
(ii) Routine communication signals and procedures; and (iii) Crew member briefing.

(6) Routine crew member duties and procedures.
(i) Crew member general responsibilities;
(ii) Reporting duties and procedures for specific aircraft;
(iii) Predeparture duties and procedures prior to passenger boarding;
(iv) Passenger boarding duties and procedures;
(v) Prior to movement on the surface duties and procedures;
(vi) Prior to takeoff duties and procedures applicable to specific aircraft;
(vii) Inflight duties and procedures;
(viii) Prior to landing duties and procedures;
(ix) Movement on the surface and arrival duties and procedures;
(x) After arrival duties and procedures; and (xi) Intermediate stops.

(7) Passenger handling responsibilities.
(i) Crew member general responsibilities;
(ii) Infants, children, and unaccompanied minors;
(iii) Passengers needing special assistance;
(iv) Passengers needing special accommodation;
(v) Carry-on stowage requirements; (vi) Passenger seating requirements; and
(vii) Smoking and no smoking requirements.

(8) Approved Crew Resource Management (CRM) training for cabin crew members.

(9) Dangerous Goods training:- To be aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin;

(10) Security procedures

(b) Each AOC holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following *aircraft specific emergency subjects*:

(1) Emergency equipment.
(i) Emergency communication and notification systems;
(ii) Aircraft exits;

(iii) Exits with slides or sliderafts (emergency operation);
(iv) Slides and sliderafts in a ditching;
(v) Exits without slides (emergency operation); (vi) Window exits (emergency operation);
(vii) Exits with tailcones (emergency operation);
(viii) Cockpit exits (emergency operation);
(ix) Ground evacuation and ditching equipment;
(x) First aid equipment;
(xi) Portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
(xii) Firefighting equipment;
(xiii) Emergency lighting systems; and
(xiv) Additional emergency equipment.

(2) Emergency assignments and procedures.
(i) General types of emergencies specific to aircraft;
(ii) Emergency communication signals and procedures;
(iii) Rapid decompression;
(iv) Insidious decompression and cracked window and pressure seal leaks; (v) Fires;
(vi) Ditching;
(vii) Ground evacuation;
(viii) Unwarranted evacuation (i.e., passenger initiated);
(ix) Illness or injury;
(x) Abnormal situations involving passengers or crew members;
(xi) Hijacking;
(xii) Bomb threat;
(xiii) Turbulence;
(xiv) Other unusual situations; and
(xv) Previous aircraft accidents and incidents.

(3) Aircraft specific emergency drills.
(i) Emergency exit drill;
(ii) Hand fire extinguisher drill;
(iii) Emergency oxygen system drill; (iv) Flotation device drill;
(v) Ditching drill, if applicable;
(vi) Liferaft removal and inflation drill, if applicable;
(vii) Slideraft pack transfer drill, if applicable;
(viii) Slide or slideraft deployment, inflation, and detachment drill, if applicable; and (ix) Emergency evacuation slide drill, if applicable.

(c) Each AOC holder shall ensure that initial ground training for cabin crew members includes a competence check given by the appropriate supervisor or ground instructor to determine his or her ability to perform assigned duties and responsibilities.

(d) Each AOC holder shall ensure that initial ground training for cabin crew members consists of at least the following programmed hours of instruction:
(1) Multi-engine turbine: 16 hours; and
(2) Multi-engine reciprocating: 8 hours.

IS: 8.10.1.14(D) INITIAL AIRCRAFT GROUND TRAINING -FLIGHT OPERATIONS OFFICER

(a) Each AOC holder shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following general dispatch subjects:
(1) Normal and emergency communications procedures
(2) Available sources of weather information
(3) Actual and prognostic weather charts

(4) Interpretation of weather information
(5) Adverse weather phenomena (e.g., clear air turbulence, windshear, and thunderstorms)
(6) Notice to Airmen (NOTAM) system
(7) Navigational charts and publications
(8) Air traffic control (ATC) and instrument procedures
(9) Familiarisation with operational area
(10) Characteristics of special aerodromes and other operationally significant aerodromes which the operator uses (i.e., terrain, approach aids, or prevailing weather phenomena)
(11) Joint flight operations officer/pilot responsibilities
(12) Approved Crew Resource Management (CRM) training for flight operations officers

(b) Each AOC holder shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following aircraft characteristics:
(1) General operating characteristics of the AOC holder's aircraft (2) Aircraft specific training with emphasis on the following topics:
(i) Aircraft operating and performance characteristics,
(ii) Navigation equipment,
(iii) Instrument approach and communications equipment, and
(iv) Emergency equipment.
(3) Flight manual training
(4) Equipment training

(c) Each AOC holder shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following emergency procedures:
(1) Assisting the flight crew in an emergency
(2) Alerting of appropriate governmental, company and private agencies

(d) Each AOC holder shall ensure that initial ground training for flight operations officers includes a competence check given by an appropriate supervisor or ground instructor that demonstrates the required knowledge and abilities.

8.10.1.15 INITIAL AIRCRAFT FLIGHT TRAINING

(a) No person may serve nor may any AOC holder use a person as a flight crew member unless he or she has completed the initial flight training approved by the Authority for the aircraft type.

(b) Initial flight training shall focus on the manoeuvring and safe operation of the aircraft in accordance with AOC holder's normal, abnormal and emergency procedures.

(c) An AOC holder may have separate initial flight training curriculum which recognise the experience levels of flight crew members approved by the Authority.

Implementing Standard: See IS:8.10.1.15 for specific flight curriculum.

IS:8.10.1.15 INITIAL AIRCRAFT FLIGHT TRAINING

(a) Each AOC holder shall ensure that pilot initial flight training includes at least the following:

Note: Flight training may be conducted in an appropriate aircraft or adequate training simulator (simulator shall have landing capability).

(1) Preparation
(i) Visual inspection (for aircraft with a flight engineer, use of pictorial display authorised) (ii) Pre-taxi procedures
(iii) Performance limitations
(2) Surface operation
(i) Pushback
(ii) Powerback taxi, if applicable to type of operation to be conducted (iii) Starting

(iv) Taxi
(v) Pre take-off checks

(3) Takeoff
(i) Normal
(ii) Crosswind
(iii) Rejected
(iv) Power failure after V_1
(v) Lower than standard minimum, if applicable to type of operation to be conducted

(4) Climb
(i) Normal
(ii) One-engine inoperative during climb to en route altitude

(5) En route
(i) Steep turns (PIC only)
(ii) Approaches to stalls (takeoff, en route, and landing configurations)
(iii) Inflight powerplant shutdown
(iv) Inflight powerplant restart
(v) High speed handling characteristics

(6) Descent
(i) Normal
(ii) Maximum rate

(7) Approaches
(i) VFR procedures
(ii) Visual approach with 50% loss of power on one-engine (2 engines inoperative on 3-engine aeroplanes) (PIC only)
(iii) Visual approach with slat/flap malfunction
(iv) IFR precision approaches (ILS normal and ILS with one-engine inoperative)
(v) IFR non-precision approaches (NDB normal and VOR normal)
(vi) Non-precision approach with one engine inoperative (LOC backcourse procedures, SDF/LDA, GPS, TACAN and circling approach procedures)

Note: Simulator shall be qualified for training/checking on the circling manoeuvre.

(vii) Missed approach from precision approach
(viii) Missed approach from non-precision approach
(ix) Missed approach with powerplant failure

(8) Landings
(i) Normal with a pitch mistrim (small aircraft only)
(ii) Normal from precision instrument approach
(iii) Normal from precision instrument approach with most critical engine inoperative
(iv) Normal with 50% loss of power on one side (2 engines inoperative on 3-engine aeroplanes) (PIC only)
(v) Normal with flap/slat malfunction
(vi) Rejected landings
(vii) Crosswind
(viii) Manual reversion/degraded control augmentation
(ix) Short/soft field (small aircraft only)
(x) Glassy/rough water (seaplanes only)

(9) After landing
(i) Parking
(ii) Emergency evacuation
(iii) Docking, mooring, and ramping (seaplanes only)

(10) Other flight procedures during any airborne phase

(i) Holding
(ii) Ice accumulation on airframe
(iii) Air hazard avoidance
(iv) Windshear/mircoburst

(11) Normal, abnormal and alternate systems procedures during any phase
(i) Pneumatic/pressurisation
(ii) Air conditioning
(iii) Fuel and oil
(iv) Electrical
(v) Hydraulic
(vi) Flight controls
(vii) Anti-icing and de-icing systems
(viii) Autopilot
(ix) Flight management guidance systems and/or automatic or other approach and landing aids
(x) Stall warning devices, stall avoidance devices, and stability augmentation systems
(xi) Airborne weather radar
(xii) Flight instrument system malfunction
(xiii) Communications equipment
(xiv) Navigation systems

(12) Emergency systems procedures during any phase
(i) Aircraft fires
(ii) Smoke control
(iii) Powerplant malfunctions
(iv) Fuel jettison
(v) Electrical, hydraulic, pneumatic systems
(vi) Flight control system malfunction
(vii) Landing gear and flap system malfunction

(b) Each AOC Holder shall ensure that flight engineer flight training includes at least the following:

(1) Training and practice in procedures related to the carrying out of flight engineer duties and functions. This training and practice may be accomplished either in flight, in an aeroplane simulator or a training device.

(2) A proficiency check as specified in Section 8.10.1.23.

(c) Each AOC holder shall ensure that flight training includes at least the following:

(1) Initial flight training for flight navigators must include flight training and a flight check that is adequate to ensure the crewmember's proficiency in the performance of his/her assigned duties.

(2) The flight training and check specified in paragraph (1) must be performed- (i) In-flight or in an appropriate training device; or
(ii) In commercial air transport operations, if performed under the supervision of a qualified flight navigator.

8.10.1.16 Initial Specialised Operations Training

(a) No person may serve nor may any AOC holder use a person as a flight crew member unless that person has completed the appropriate initial specialised operations training curriculum approved by the Authority.

(b) Specialised operations for which initial training curricula shall be developed include:

(1) Low minima operations, including LVTOs and CAT II and CAT III operations;

(2) Extended Diversion Time operations (EDTO);

(3) Specialised navigation;

(4) PIC right seat qualification;

(5) RVSM; and

(6) RNP.

(c) Specific initial specialised operations training curriculum requirements are prescribed in IS 8.10.1.16.

IS: 8.10.1.16 Initial Specialised Operations Training

(a) Each AOC holder shall provide initial specialised operations training to ensure that each pilot and FOO is qualified in the type of operation in which each pilot and FOO serves and in any specialised or new equipment, procedures, and techniques, such as:

(1) LORAN

(i) Knowledge of specialised navigation procedures, such as MNPS, NPAC

(ii) Knowledge of specialised equipment, such as INS, LORAN, GPS

(2) CAT II and CAT III approaches

(3) Special equipment, procedures and practice

(4) A demonstration of competency

(5) LVTO operations

(i) Runway and lighting requirements

(ii) Rejected take-offs at, or near, V_1 with a failure of the most critical engine

(iii) Taxi operations

(iv) Procedures to prevent runway incursions under low visibility conditions

(6) Extended range operations with two engine aeroplanes

(7) Approaches using on-board radar

(8) Autopilot instead of CP

8.10.1.17 AIRCRAFT DIFFERENCES

No person may serve nor may any AOC holder use a person as a flight operations officer or crew member on an aircraft of a type for which a differences curriculum is included in the AOC holder's approved training program, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

Implementing Standard: See IS:8.10.1.17 for aircraft differences training pertaining to flight operations officers.

IS: 8.10.1.17 AIRCRAFT DIFFERENCES - FLIGHT OPERATIONS OFFICER

(a) Each AOC holder shall provide aircraft differences training for flight operations officers when the operator has aircraft variances within the same type of aircraft, which includes at least the following:

(1) Operations procedures—

(i) Operations under adverse weather phenomena conditions, including clear air turbulence, windshear, and thunderstorms;

(ii) Weight and balance computations and load control procedures;

(iii) Aircraft performance computations, to include takeoff weight limitations based on departure runway, arrival runway, and en route limitations, and also engine-out limitations;

(iv) Flight planning procedures, to include route selection, flight time, and fuel requirements analysis;

(v) Dispatch release preparation;

(vi) Crew briefings;

(vii) Flight monitoring procedures;

(viii) Flightcrew response to various emergency situations, including the assistance the aircraft flight operations officer can provide in each situation;
(ix) MEL and CDL procedures;
(x) Manual performance of an required procedures in case of the loss of automated capabilities; (xi) Training in appropriate geographic areas;
(xii) ATC and instrument procedures, to include ground hold and central flow control procedures; and
(xiii) Radio/telephone procedures.

(2) Emergency procedures—
(i) Actions taken to aid the flightcrew; and
(ii) AOC holder and Authority notification.

8.10.1.18 USE OF FLIGHT SIMULATION TRAINING DEVICES (FSTD)

(a) Each aeroplane simulator and other training device that is used for flight crew member qualification shall—
(1) Be specifically approved by the Authority for—
(i) The AOC holder;
(ii) The type aircraft, including type variations, for which the training or check is being conducted;
(iii) The particular manoeuvre, procedure, or crew member function involved;
(2) Maintain the performance, functional, and other characteristics that are required for approval;
(3) Be modified to conform with any modification to the aeroplane being simulated that results in changes to performance, functional, or other characteristics required for approval;
(4) Be given a daily functional pre-flight check before use; and
(5) Have a daily discrepancy log kept by the appropriate instructor or check airman at the end of each training or check flight.

(b) The simulation device shall have the same technology for the basic flight instruments (attitude indicator, airspeed, altimeter, heading reference) as those of the aircraft used by the operator.

(1) Operators that have electronic/glass displays shall use simulators that have electronic/glass Displays

(2) Operators that have standard instruments shall use simulators that have standard instruments.

8.10.1.18(B) APPROVAL OF A FLIGHT SIMULATION TRAINING DEVICE FOR CREDIT IN TRAINING AND CHECKING

(a) No AOC holder may use an FSTD for training or checking unless that simulator has been specifically approved for the AOC holder in writing by the Authority.

(b) No AOC holder may use a simulator for credit in training, recency and checking other than that specified in the Authority's approval.

8.10.1.19 INTRODUCTION OF NEW EQUIPMENT OR PROCEDURES

No person may serve nor may any AOC holder use a person as a flight crew member when that service would require expertise in the use of new equipment or procedures for which a curriculum is included in the AOC holder's approved training program, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

8.10.1.20 AIRCRAFT PROFICIENCY CHECK

(a) No person may serve nor may any AOC holder use a person as a pilot flight crew member unless, since the beginning of the 6th calendar month before that service, that person has passed the proficiency check prescribed by the Authority in the make and model aircraft on which their services are required.

Note: For a pilot operating VFR only, the proficiency check shall exclude instrument procedures and maneuvers as appropriate.

Implementing standard: See IS: 8.10.1.20 for specific operation and procedures pertaining to the proficiency checks.

IS: 8.10.1.20 AIRCRAFT PROFICIENCY CHECK: PILOT

(a) Satisfactory completion of a PIC proficiency check following completion of an approved air carrier training program for the particular type aircraft, satisfies the requirement for an aircraft type rating practical test if—

(1) That proficiency check includes all manoeuvres and procedures required for a type rating practical test.; and

(2) Proficiency checks are be conducted by an examiner approved by the Authority.

(b) Aircraft proficiency checks for PIC and SIC must include the following operations and procedures listed in Table A. As noted, examiners may waive certain events on the flight test based on an assessment of the pilot's demonstrated level of performance.

Table A

TYPE OF OPERATION OR PROCEDURE	PIC or SIC	Notes
Ground Operations		
Preflight inspection	PIC/SIC	
Taxiing	PIC/SIC	Both pilots may take simultaneous credit.
Powerplant checks	PIC/SIC	Both pilots may take simultaneous credit.
Takeoffs		
Normal	PIC/SIC	May be waived if performed on immediately preceding check
Instrument	PIC/SIC	
Crosswind	PIC/SIC	May be waived if performed on immediately preceding check
With powerplant failure	PIC/SIC	
Rejected takeoff	PIC/SIC	Both pilots may take simultaneous credit. May be waived.
Instrument Procedures		
Area departure	PIC/SIC	May be waived if Area Arrival performed.
Area arrival	PIC/SIC	May be waived if Area Departure performed.
Holding	PIC/SIC	May be waived if performed on immediately preceding check

ILS approach-all engine/s	PIC/SIC	Maybe waived for multi-engine a/c
ILS approach –Simulated asymmetric engine failure.	PIC/SIC	
Coupled ILS approach	PIC/SIC	Both pilots may take simultaneous credit
Nonprecision approach	PIC/SIC	
Missed approach-all engine/s	PIC/SIC	Maybe waived for multi-engine a/c
Missed approach-simulated asymmetric engine failure	PIC/SIC	
Circling approach	PIC/SIC	Only when authorized in the AOC holder's Operations Manual. May be waived.
Inflight Maneuvers		
Steep turns	PIC only	May be waived if performed on immediately preceding check
Specific flight characteristics	PIC/SIC	As applicable to make of a/c
Approaches to stalls	PIC/SIC	May be waived if performed on immediately preceding check
Powerplant failure	PIC/SIC	
Landings		
Normal landing	PIC/SIC	May be waived if performed on immediately preceding check
Landing from an ILS	PIC/SIC	May be waived if performed on immediately preceding check
Crosswind landing	PIC/SIC	May be waived if performed on immediately preceding check
Landing with failed engine	PIC/SIC	
Landing from circling approach	PIC/SIC	Only if authorized in Operations Manual. May be waived.
Abnormal Procedures	PIC/SIC	
2 engine inoperative approach (3 and 4 engine aircraft)	PIC/SIC	
Rejected landing	PIC/SIC	
2 engine inoperative landing (3 and 4 engine aircraft)	PIC only	
Other Events	PIC or SIC	Examiner's discretion.

(c) The oral and flight test phases of a proficiency check should not be conducted simultaneously.

(d) When the examiner determines that an applicant's performance is unsatisfactory, the examiner may terminate the flight test immediately or, with the consent of the applicant, continue with the flight test until the remaining events are completed.

8.10.1.21 RE-ESTABLISHING RECENCY OF EXPERIENCE: PILOT

(a) In addition to meeting all applicable training and checking requirements, a required pilot flight crew member who, in the preceding 90 days has not made at least three takeoffs and landings in the type aeroplane in which that person is to serve, shall, under the supervision of a check airman, re-establish recency of experience as follows:

(1) Make at least three takeoffs and landings in the type aeroplane in which that person is to serve or in a qualified simulator.

(2) Make at least one takeoff with a simulated failure of the most critical powerplant, one landing from the minimum ILS authorised for the AOC holder, and one landing to a full stop.

(b) When using a simulator to accomplish any of the takeoff and landing training requirements necessary to re-establish recency of experience, each required flight crew member position shall be occupied by an appropriately qualified person and the simulator shall be operated as if in a normal in-flight environment without use of the repositioning features of the simulator.

(c) A check airman who observes the takeoffs and landings of a pilot flight crew member shall certify that the person being observed is proficient and qualified to perform flight duty in operations and may require any additional manoeuvres that are determined necessary to make this certifying statement.

IS:8.10.1.21 FLIGHT ENGINEER PROFICIENCY CHECKS

(a) Examiners shall include during proficiency checks for flight engineers an oral or written examination of the normal, abnormal, and emergency procedures listed below:

(1) Normal procedures—
- (i) Interior pre-flight
- (ii) Panel set-up
- (iii) Fuel load
- (iv) Engine start procedures
- (v) Taxi and before takeoff procedures
- (vi) Takeoff and climb Pressurisation
- (vii) Cruise and fuel management
- (viii) Descent and approach
- (ix) After landing and securing
- (x) Crew co-ordination
- (xi) Situational awareness, traffic scan, etc.
- (xii) Performance computations
- (xiii) Anti-ice, de-ice

(2) Abnormal and emergency procedures—
- (i) Troubleshooting
- (ii) Knowledge of checklist
- (iii) Ability to perform procedures
- (iv) Crew co-ordination
- (v) Minimum equipment list (MEL) and configuration deviation list (CDL)
- (vi) Emergency or alternate operation of aeroplane flight systems

8.10.1.22 PAIRING OF LOW EXPERIENCE CREW MEMBERS

(a) If an SIC has fewer than 100 hours of flight time in the type aeroplane being flown in commercial air transport, and the PIC is not an appropriately qualified check pilot, the PIC shall make all takeoffs and landings in situations designated as critical by the Authority.

(b) No PIC or SIC may conduct operations for a type aeroplane in commercial air transport unless either pilot has at least 75 hours of line operating flight time, either as PIC or SIC.

(c) The Authority may, upon application by the AOC holder, authorise deviations from paragraph (b) by an appropriate amendment to the operations specifications in any of the circumstances identified in IS:8.10.1.22.

Implementing Standard: See IS.8.10.1.22 for those situations designated as critical by the Authority and for circumstances authorising a deviation from paragraph (b).

IS:8.10.1.22 PAIRING OF LOW EXPERIENCE CREW MEMBERS: COMMERCIAL AIR TRANSPORT

(a) Situations designated as critical by the Authority at special aerodromes designated by the Authority or at special aerodromes designated by the AOC holder include—

(1) The prevailing visibility value in the latest weather report for the aerodrome is at or below 3/4 mile;

(2) The runway visual range for the runway to be used is at or below 4,000 feet;

(3) The runway to be used has water, snow, slush or similar conditions that may adversely affect aeroplane performance;

(4) The braking action on the runway to be used is reported to be less than "good";

(5) The crosswind component for the runway to be used is in excess of 15 knots;

(6) Windshear is reported in the vicinity of the aerodrome; or

(7) Any other condition in which the PIC determines it to be prudent to exercise the PIC's prerogative.

(b) Circumstances which would be routinely be considered for deviation from the required minimum line operating flight time include—

(1) A newly certified AOC holder does not employ any pilots who meet the minimum flight time requirements;

(2) An existing AOC holder adds to its fleet a type aeroplane not before proven for use in its operations; or

(3) An existing AOC holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the aeroplanes operated from that domicile.

8.10.1.23 FLIGHT ENGINEER PROFICIENCY CHECKS

(a) No person may serve nor may any AOC holder use a person as a flight engineer on an aeroplane unless within the preceding 6 calendar months he or she has—

(1) Had a proficiency check in accordance with the requirements prescribed by the Authority; or

(2) 50 hours flight time with an AOC holder as flight engineer in the type aeroplane.

Implementing Standard: See IS:8.10.1.21 for specific procedures used in FE proficiency checks.

8.10.1.24 COMPETENCE CHECKS: CABIN CREW MEMBERS

No person may serve nor may any AOC holder use a person as a cabin crew member unless, since the beginning of the 12th calendar month before that service, that person has passed the competency check prescribed by the Authority performing the emergency duties appropriate to that person's assignment.

Implementing Standard: See IS:8.10.1.24 for specific procedures used in cabin crew member competence checks.

IS: 8.10.1.24 COMPETENCE CHECKS: CABIN CREW MEMBERS

(a) Evaluators shall conduct competency checks for cabin crew members to demonstrate that the candidate's proficiency level is sufficient to successfully perform assigned duties and responsibilities.

(b) A qualified supervisor or inspector, approved by the Authority, shall observe and evaluate competency checks for cabin crew members.

(c) Evaluators shall include during each cabin crew member competency check a demonstrated knowledge of:

(1) Emergency equipment—

(i) Emergency communication and notification systems; (ii) Aircraft exits;

(iii) Exits with slides or sliderafts (emergency operation);

(iv) Slides and sliderafts in a ditching;

(v) Exits without slides (emergency operation); (vi) Window exits (emergency operation);

(vii) Exits with tailcones (emergency operation);

(viii) Cockpit exits (emergency operation);

(ix) Ground evacuation and ditching equipment;

(x) First aid equipment;

(xi) Portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
(xii) Firefighting equipment;
(xiii) Emergency lighting systems; and (xiv) Additional emergency equipment.

(2) Emergency procedures—
(i) General types of emergencies specific to aircraft;
(ii) Emergency communication signals and procedures;
(iii) Rapid decompression;
(iv) Insidious decompression and cracked window and pressure seal leaks; (v) Fires;
(vi) Ditching;
(vii) Ground evacuation;
(viii) Unwarranted evacuation (i.e., Passenger initiated);
(ix) Illness or injury;
(x) Abnormal situations involving passengers or crew members; (xi) Turbulence; and
(xii) Other unusual situations.

(3) Emergency drills—
(i) Location and use of all emergency and safety equipment carried on the aeroplane;
(ii) The location and use of all types of exits;
(iii) Actual donning of a lifejacket where fitted;
(iv) Actual donning of protective breathing equipment; and (v) Actual handling of fire extinguishers.

(4) Crew Resource Management—
(i) Decision making skills;
(ii) Briefings and developing open communication;
(iii) Inquiry, advocacy, and assertion training; and
(iv) Workload management.

(5) Dangerous goods—
(i) Recognition of and transportation of dangerous goods;
(ii) Proper packaging, marking, and documentation; and
(iii) Instructions regarding compatibility, loading, storage and handling characteristics.

(6) Security—
(i) Hijacking; and (ii) Disruptive passengers.

8.10.1.25 COMPETENCE CHECKS: FLIGHT OPERATIONS OFFICERS

No person may serve nor may any AOC holder use a person as a flight operations officer unless, since the beginning of the 12th calendar month before that service, that person has passed the competency check, prescribed by the Authority, performing the flight preparation and subsequent duties appropriate to that person's assignment.

Implementing Standard: See IS:8.10.1.25 for specific procedures used in flight operation officer competence checks.

IS:8.10.1.25 COMPETENCE CHECKS: FLIGHT OPERATIONS OFFICERS

(a) Evaluators shall conduct competency checks for flight operations officers to demonstrate that the candidate's proficiency level is sufficient to ensure the successful outcome of all dispatch operations.

(b) A qualified supervisor or inspector, approved by the Authority, shall observe and evaluate competency checks for flight operations officers.

(c) Each competency check for flight operations officers shall include:
(1) An evaluation of all aspects of the dispatch function;
(2) A demonstration of the knowledge and abilities in normal and abnormal situations; and
(3) An observation of actual flights being dispatched

(d) Each evaluator of newly hired flight operations officers shall include during initial competency checks an evaluation of all of geographic areas and types of aircraft the flight operations officer will be qualified to dispatch. (Note: The supervisor may approve a competency check of representative aircraft types when, in the supervisor's judgement, a check including all types is impractical or unnecessary)

(e) Evaluators may limit initial equipment and transition competency checks solely to the dispatch of the types of aeroplanes on which the aircraft dispatcher is qualifying (unless the check is to simultaneously count as a recurrent check).

(f) Each evaluator of flight operations officers shall include, during recurrent and requalification competency checks, a representative sample of aircraft and routes for which the aircraft dispatcher maintains current qualification.

(g) The Authority requires special operations competency checks before an aircraft dispatcher is qualified in ETOPS or other special operations authorised by the Authority.

8.10.1.26 SUPERVISED LINE FLYING: PILOTS

(a) Each pilot initially qualifying as PIC shall complete a minimum of 10 flights performing the duties of a PIC under the supervision of a check airman.

(b) Each PIC transitioning to a new aircraft type shall complete a minimum of 5 flights performing the duties of a PIC under the supervision of a check airman.

(c) Each pilot qualifying for duties other than PIC shall complete a minimum of 5 flights performing those duties under the supervision of a check airman.

(d) During the time that a qualifying PIC is acquiring operating experience, a check pilot who is also serving as the PIC shall occupy a pilot station.

(e) In the case of a transitioning PIC, the check pilot serving as PIC may occupy the observer's seat if the transitioning pilot has made at least two takeoffs and landings in the type aeroplane used, and has satisfactorily demonstrated to the check pilot that he is qualified to perform the duties of a PIC for that type of aeroplane.

8.10.1.27 SUPERVISED LINE FLYING: FLIGHT ENGINEERS

Each person qualifying as a flight engineer for an aircraft type shall perform those functions for a minimum of five flights under the supervision of a check airman or a qualified flight engineer.

8.10.1.28 SUPERVISED LINE EXPERIENCE: CABIN CREW MEMBERS

Each person qualifying as a cabin crew member shall perform those functions for a minimum of two flights under the supervision of a senior cabin crew member.

Note: While qualifying, this person may not be a required crew member.

8.10.1.29 LINE OBSERVATIONS: FLIGHT OPERATIONS OFFICERS

No person may serve nor may any AOC holder use a person as a flight operations officer unless, since the beginning of the 12th calendar month before that service, that person has observed, on the flight deck, the conduct of two complete flights over routes representative of those for which that person is assigned duties.

8.10.1.30 ROUTE AND AREA CHECKS: PILOT QUALIFICATION

(a) No person may serve nor may any AOC holder use a person as a pilot unless, within the preceding 12 calendar months, that person has passed a route check in which he or she satisfactorily performed their assigned duties in one of the types of aeroplanes they are to fly.

(b) No person may perform PIC duties over a designated special operational area that requires a special navigation system or procedures or in ETOPS operations unless their competency with the system and procedures has been demonstrated to the AOC holder within the past 12 calendar months.

(c) Each PIC shall demonstrate special operational competency by navigation over the route or area as PIC under the supervision of a check airman and, on a continuing basis, by flights performing PIC duties.

(d) No person may serve nor may any AOC holder use a person as PIC for operations into aerodromes outside a 75 nautical miles radius of the Cheddi Jagan International Airport – Timehri unless the pilot has logged at least 200 hours of fight time operating into such aerodromes with a qualified pilot.

(e) The operator shall not utilize a pilot as pilot-in-command of a helicopter or aeroplane on an operation for which that pilot is not currently qualified until such pilot has complied with (f) and (g).

(f) Each such pilot shall demonstrate to the operator an adequate knowledge of:

a) the route to be flown, and the aerodromes which are to be used. This shall include knowledge of:
1) the terrain and minimum safe altitudes;
2) the seasonal meteorological conditions;
3) the meteorological, communication and air traffic facilities, services and procedures;
4) the search and rescue procedures; and
5) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

b) procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

(g) A pilot-in-command shall have made an actual approach into each aerodrome of landing on the route, accompanied by a pilot who is qualified for the aerodrome, as a member of the flight crew or as an observer on the flight deck, unless:

1) the approach to the aerodrome is not over difficult terrain and the instrument approach procedures and aids available are similar to those with which the pilot is familiar, and a margin to be approved by the State of the Operator is added to the normal operating minima, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions; or

2) the descent from the initial approach altitude can be made by day in visual meteorological conditions; or

3) the operator qualifies the pilot-in-command to land at the aerodrome concerned by means of an adequate pictorial presentation; or

4) The aerodrome concerned is adjacent to another aerodrome at which the pilot-in-command is currently qualified to land.

(h) The operator shall not continue to utilize a pilot as a pilot-in-command on a route or within an area specified by the operator and approved by the State of the Operator unless, within the preceding 12 months, that pilot has made at least one trip as a pilot member of the flight crew, or as a check pilot, or as an observer in the flight crew compartment:

1) within that specified area; and

2) If appropriate, on any route where procedures associated with that route or with any aerodromes intended to be used for take-off or landing require the application of special skills or knowledge.

(i) In the event that more than 12 months elapse in which a pilot-in-command has not made such a trip on a route in close proximity and over similar terrain, within such a specified area, route or aerodrome, and has not practised such

procedures in a training device which is adequate for this purpose, prior to again serving as a pilot-in-command within that area or on that route, that pilot must requalify in accordance with 8.10.1.30 (f) and 8.10.1.30 (g)

(j) A pilot-in-command shall have made a flight, representative of the operation with which the pilot is to be engaged which must include a landing at a representative heliport, as a member of the flight crew and accompanied by a pilot who is qualified for the operation.

8.10.1.31 PIC LOW MINIMUMS AUTHORISATION

(a) Until a PIC has 15 flights performing PIC duties in the aircraft type (which included 5 approaches to landing using Category I or II procedures), he or she may not plan for or initiate an instrument approach when the ceiling is less than 300 feet and the visibility less than 1 mile.

(b) Until a PIC has 20 flights performing PIC duties in the aircraft type (which included 5 approach and landing using Category III procedures), he or she may not plan for or initiate an approach when the ceiling is less than 100 feet or the visibility is less than 1200 RVR.

8.10.1.32 DESIGNATED SPECIAL AERODROMES AND HELIPORTS: PIC QUALIFICATION

(a) No person may serve nor may any AOC holder use a person as PIC for operations at designated special aerodromes and heliports unless within the preceding 12 calendar months—

(1) The PIC has been qualified by the AOC holder through a pictorial means acceptable to the [AUTHORITY] for that aerodrome; or

(2) The PIC or the assigned SIC has made a takeoff and landing at that aerodrome while serving as a flight crew member for the AOC holder.

(b) Designated special aerodrome and heliport limitations are not applicable if the operation will occur—

(1) During daylight hours;

(2) When the visibility is at least 3 miles; and

(3) When the ceiling at that aerodrome is at least 1000 feet above the lowest initial approach altitude prescribed for an instrument approach procedure.

(c) No person may serve nor may any AOC holder use a person as PIC for operations into any aerodrome with runway length less than 2000 feet unless that pilot has been checked into that aerodrome by the chief pilot or an approved pilot and the pilot's log has been endorsed by the 'checking pilot.'

8.10.1.33 RECURRENT TRAINING: FLIGHT CREW MEMBERS

(a) No person may serve nor may any AOC holder use a person as a flight crew member unless within the preceding 12 calendar months that person has completed the recurrent ground and flight training curricula approved by with the Authority.

(b) The recurrent ground training shall include training on—

(1) Aircraft systems and limitations and normal, abnormal and emergency procedures;

(2) Emergency equipment and drills;

(3) Crew resource management;

(4) Recognition or transportation of dangerous goods; and

(5) Security training.

(c) The recurrent flight training curriculum shall include—

(1) Manoeuvring and safe operation of the aircraft in accordance with AOC holder's normal, abnormal and emergency procedures;

(2) Manoeuvres and procedures necessary for avoidance of in-flight hazards; and

(3) For authorised pilots, at least one low visibility takeoff to the lowest applicable minimum LVTO and two approaches to the lowest approved minimums for the AOC holder, one of which is to be a missed approach.

Implementing Standard: See IS:8.10.1.33 for detailed recurrent training requirements.

Note: Satisfactory completion of a proficiency check with the AOC holder for the type aircraft and operation to be conducted may be used in lieu of recurrent flight training.

IS: 8.10.1.33 RECURRENT TRAINING: FLIGHT CREW

(a) Each AOC holder shall establish a recurrent training program for all flight crew members in the AOC holder's operations manual and shall have it approved by the Authority.

(b) Each flight crew member shall undergo recurrent training relevant to the type or variant of aeroplane on which he or she is certified to operate and for the crew member position involved.

(c) Each AOC holder shall have all recurrent training conducted by suitably qualified personnel.

(d) Each AOC holder shall ensure that flight crew member recurrent ground training includes at least the following:

(1) General subjects

(i) Flight locating procedures

(ii) Principles and method for determining weight/balance and runway limitations

(iii) Meteorology to ensure practical knowledge of weather phenomena including the principles of frontal system, icing, fog, thunderstorms, windshear, and high altitude weather situations (iv) ATC systems and phraseology

(v) Navigation and use of navigational aids

(vi) Normal and emergency communication procedures

(vii) Visual cues before descent to MDA

(viii) Accident/incident and occurrence review

(ix) Other instructions necessary to ensure the pilot's competence

(2) Aircraft systems and limitations

(i) Normal, abnormal, and emergency procedures

(ii) Aircraft performance characteristics

(iii) Engines and or propellers

(iv) Major aircraft components

(v) Major aircraft systems (i.e., flight controls, electric, hydraulic and other systems as appropriate)

(vi) Ground icing and de-icing procedures and requirements

(3) Emergency equipment and drills

(4) Every 12 months—

(i) Location and use of all emergency and safety equipment carried on the aeroplane;

(ii) The location and use of all types of exits;

(iii) Actual donning of a lifejacket where fitted;

(iv) Actual donning of protective breathing equipment; and (v) Actual handling of fire extinguishers.

(5) Every 3 years—

(i) Operation of all types of exits;

(ii) Demonstration of the method used to operate a slide, where fitted; and

(iii) Fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire;

Note: With halon extinguishers, an alternative method acceptable to the authority may be used.

(iv) Effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;

(v) Actual handling of pyrotechnics, real or simulated, where fitted;

(vi) Demonstration in the use of the life-raft(s), where fitted;

(vii) An emergency evacuation drill;

(viii) A ditching drill, if applicable; and (ix) A rapid decompression drill, if applicable.

(6) Crew resource management—

(i) Decision making skills;
(ii) Briefings and developing open communication;
(iii) Inquiry, advocacy, and assertion training;
(iv) Workload management; and (v) Situational awareness.

(7) Dangerous goods—
(i) Recognition of and transportation of dangerous goods;
(ii) Proper packaging, marking, and documentation; and
(iii) Instructions regarding compatibility, loading, storage and handling characteristics.

(8) Security—
(i) Hijacking; and
(ii) Disruptive passengers.

(e) Each AOC holder shall verify knowledge of the recurrent ground training by an oral or written examination.

(f) Each AOC holder shall ensure that pilot recurrent flight training include at least the following:
Note: Flight training may be conducted in an appropriate aircraft or adequate training simulator (simulator shall have landing capability).

(1) Preparation—
(i) Visual inspection (use of pictorial display authorised); and (ii) Pre-taxi procedures.

(2) Surface operation—
(i) Performance limitations;
(ii) Cockpit management;
(iii) Securing cargo;
(iv) Pushback;
(v) Powerback taxi;
(vi) Starting;
(vii) Taxi; and
(viii) Pre take-off checks.

(3) Takeoff— (i) Normal;
(ii) Crosswind;
(iii) Rejected;
(iv) Power failure after V_1;
(v) Powerplant failure during second segment; and (vi) Lower than standard minimum.

(4) Climb—
(i) Normal; and
(ii) One-engine inoperative during climb to en route altitude.

(5) En route—
(i) Steep turns;
(ii) Approaches to stalls (takeoff, en route, and landing configurations);
(iii) Inflight powerplant shutdown;
(iv) Inflight powerplant restart; and
(v) High speed handling characteristics.

(6) Descent—
(i) Normal; and
(ii) Maximum rate.

(7) Approaches—
(i) VFR procedures;
(ii) Visual approach with 50% loss of power on one-engine (2 engines inoperative on 3-engine aeroplanes) (PIC only);
(iii) Visual approach with slat/flap malfunction;
(iv) IFR precision approaches (ILS normal and ILS with one-engine inoperative);
(v) IFR non-precision approaches (NDB normal and VOR normal);

(vi) Non-precision approach with one engine inoperative (LOC backcourse, SDF/LDA, GPS, TACAN and circling approach procedures);

Note: Simulator shall be qualified for training/checking on the circling manoeuvre.

(vii) Missed approach from precision approach;
(viii) Missed approach from non-precision approach; and (ix) Missed approach with powerplant failure.

(8) Landings—
- (i) Normal with a pitch mistrim (small aircraft only);
- (ii) Normal from precision instrument approach;
- (iii) Normal from precision instrument approach with most critical engine inoperative;
- (iv) Normal with 50% loss of power on one side (2 engines inoperative on 3-engine aeroplanes) (PIC only);
- (v) Normal with flap/slat malfunction;
- (vi) Rejected landings;
- (vii) Crosswind;
- (viii) Short/soft field (small aircraft only); and (ix) Glassy/rough water (seaplanes only).

(9) After landing—
- (i) Parking;
- (ii) Emergency evacuation; and
- (iii) Docking, mooring, and ramping (seaplanes only).

(10) Other flight procedures during any airborne phase—
- (i) Holding;
- (ii) Ice accumulation on airframe;
- (iii) Air hazard avoidance; and (iv) Windshear/microburst.

(11) Normal, abnormal and alternate systems procedures during any phase—
- (i) Pneumatic/pressurisation;
- (ii) Air conditioning;
- (iii) Fuel and oil;
- (iv) Electrical;
- (v) Hydraulic;
- (vi) Flight controls;
- (vii) Anti-icing and de-icing systems;
- (viii) Flight management guidance systems and/or automatic or other approach and landing aids;
- (ix) Stall warning devices, stall avoidance devices, and stability augmentation systems;
- (x) Airborne weather radar;
- (xi) Flight instrument system malfunction;
- (xii) Communications equipment;
- (xiii) Navigation systems;
- (xiv) Auto-pilot;
- (xv) Approach and landing aids; and (xvi) Flight instrument system malfunction.

(12) Emergency systems procedures during any phase—
- (i) Aircraft fires;
- (ii) Smoke control;
- (iii) Powerplant malfunctions;
- (iv) Fuel jettison;
- (v) Electrical, hydraulic, pneumatic systems;
- (vi) Flight control system malfunction; and (vii) Landing gear and flap system malfunction.

(g) Each AOC holder shall ensure that flight engineer recurrent flight training includes at least the flight training specified in IS: 8.10.1.15(b).

(h) Each AOC holder shall ensure that flight navigator recurrent training includes enough training and an inflight check to ensure competency with respect to operating procedures and navigation equipment to be used and familiarity with essential navigation information pertaining to the AOC holder's routes that require a flight navigator.

(i) The AOC holder may combine recurrent training with the AOC holder's proficiency check.

(j) Recurrent ground and flight training curricula may be accomplished concurrently or intermixed, but completion of each of these curricula shall be recorded separately.

8.10.1.34 RECURRENT TRAINING: CABIN CREW MEMBERS

(a) No person may serve nor may any AOC holder use a person as a cabin crew member unless within the preceding 12 calendar months that person has completed the recurrent ground curricula approved by the Authority.

(b) The recurrent ground training shall include training on—

(1) Aircraft-specific configuration, equipment and procedures;
(2) Emergency and first aid equipment and drills;
(3) Crew resource management;
(4) Recognition or transportation of dangerous goods; and
(5) Security training.

Implementing Standard: See IS:8.10.1.34 for specific emergency program training requirements for cabin crew members.

IS: 8.10.1.34 RECURRENT EMERGENCY TRAINING: CABIN CREW MEMBERS

(a) Each AOC holder shall establish and have approved by the Authority a recurrent training program for all cabin crew members.

(b) Each cabin crew member shall undergo recurrent training in evacuation and other appropriate normal and emergency procedures and drills relevant to their assigned positions and the type(s) and/or variant(s) of aeroplane on which they operate.

(c) Each AOC holder shall have all recurrent training conducted by suitably qualified personnel.

(d) Each AOC holder shall ensure that, every 12 months, each cabin crew member receive recurrent training in at least the following:

(1) Emergency equipment—
(i) Emergency communication and notification systems; (ii) Aircraft exits;
(iii) Exits with slides or sliderafts (emergency operation);
(iv) Slides and sliderafts in a ditching;
(v) Exits without slides (emergency operation); (vi) Window exits (emergency operation);
(vii) Exits with tailcones (emergency operation);
(viii) Cockpit exits (emergency operation);
(ix) Ground evacuation and ditching equipment;
(x) First aid equipment;
(xi) Portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
(xii) Firefighting equipment;
(xiii) Emergency lighting systems; and
(xiv) Additional emergency equipment.

(2) Emergency procedures—
(i) General types of emergencies specific to aircraft;

(ii) Emergency communication signals and procedures;
(iii) Rapid decompression;
(iv) Insidious decompression and cracked window and pressure seal leaks; (v) Fires;
(vi) Ditching;
(vii) Ground evacuation;
(viii) Unwarranted evacuation (i.e., passenger initiated);
(ix) Illness or injury;
(x) Abnormal situations involving passengers or crew members; (xi) Turbulence; and
(xii) Other unusual situations.

(3) Emergency drills.

(4) Every 12 months—
(i) Location and use of all emergency and safety equipment carried on the aeroplane;
(ii) The location and use of all types of exits;
(iii) Actual donning of a lifejacket where fitted;
(iv) Actual donning of protective breathing equipment; and (v) Actual handling of fire extinguishers.

(5) Every 3 years—
(i) Operation of all types of exits;
(ii) Demonstration of the method used to operate a slide, where fitted;
(iii) Fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire;

Note: With Halon extinguishers, an alternative method acceptable to the Authority may be used.

(iv) Effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;
(v) Actual handling of pyrotechnics, real or simulated, where fitted;
(vi) Demonstration in the use of the life-raft(s), where fitted;
(vii) An emergency evacuation drill;
(viii) A ditching drill, if applicable;
(ix) A rapid decompression drill, if applicable;

(6) Crew resource management—
(i) Decision making skills;
(ii) Briefings and developing open communication;
(iii) Inquiry, advocacy, and assertion training; and (iv) Workload management.

(7) Dangerous goods—
(i) Recognition of and transportation of dangerous goods;
(ii) Proper packaging, marking, and documentation; and
(iii) Instructions regarding compatibility, loading, storage and handling characteristics.

(8) Security—
(i) Hijacking; and
(ii) Disruptive passengers.

(e) An AOC holder may administer each of the recurrent training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

8.10.1.35 RECURRENT TRAINING: FLIGHT OPERATIONS OFFICERS

(a) No person may serve nor may any AOC holder use a person as a flight operations officer unless within the preceding 12 calendar months that person has completed the recurrent ground curricula approved by the Authority.

(b) The recurrent ground training shall include training on—
(1) Aircraft-specific flight preparation;

(2) Crew resource management; and
(3) Recognition or transportation of dangerous goods.

Implementing Standard: See IS:8.10.1.35 for specific program training requirements for flight operations officers.

IS: 8.10.1.35 RECURRENT TRAINING - FLIGHT OPERATIONS OFFICER

(a) Each AOC holder shall establish and maintain a recurrent training program, approved by the Authority and established in the AOC holder's operations manual, to be completed annually by each flight operations officer.

(b) Each flight operations officer shall undergo recurrent training relevant to the type(s) and/or variant(s) of aeroplane and operations conducted by the AOC holder.

(c) Each AOC holder shall conduct all recurrent training by suitably qualified personnel.

(d) An AOC holder shall ensure that, every 12 months, each flight operations officer receive recurrent training in at least the following:
(1) Aircraft-specific flight preparation;
(2) Emergency assistance to flight crews;
(3) Crew Resource Management; and
(4) Dangerous goods.

(e) An AOC holder may administer each of the recurrent ground and flight training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

8.10.1.36 CHECK AIRMAN TRAINING

No person may serve nor may any AOC holder use a person as a check airman unless he or she has completed the curricula approved by the Authority for those functions for which they are to serve.

Implementing Standard: See IS:8.10.1.36 for specific training program requirements for check airmen.

IS: 8.10.1.36 CHECK AIRMAN TRAINING

(a) No person may use a person, nor may any person serve as a check airman (aeroplane) or check airman (simulator) in a training program unless, with respect to the aeroplane type involved, that person has satisfactorily completed the appropriate training phases for the aeroplane, including recurrent training, that are required to serve as PIC or flight engineer, as applicable.

(b) Each AOC holder shall ensure that initial ground training for check airmen includes:
(1) Check airman duties, functions, and responsibilities;
(2) Applicable regulations and the AOC holder's policies and procedures;
(3) Appropriate methods, procedures, and techniques for conducting the required checks;
(4) Proper evaluation of student performance including the detection of:
(i) Improper and insufficient training, and
(ii) Personal characteristics of an applicant that could adversely affect safety;
(5) Appropriate corrective action in the case of unsatisfactory checks; and
(6) Approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aeroplane.

(c) Transition ground training for all check airmen shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aeroplane to which the check airman is in transition.

(d) Each AOC holder shall ensure that the initial and transition flight training for check airmen (aeroplane) includes:
(1) Training and practice in conducting flight evaluations (from the left and right pilot seats for pilot check airmen) in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight checks;

(2) The potential results of improper, untimely, or non-execution of safety measures during an evaluation; and

(3) The safety measures (to be taken from either pilot seat for pilot check airmen) for emergency situations that are likely to develop during an evaluation.

(e) Each AOC holder shall ensure that the initial and transition flight training for check airmen (simulator) includes:

(1) Training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by this part (this training and practice shall be accomplished in a flight simulator or in a flight training device).

(2) Training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the evaluations required by this Part.

(f) An AOC holder may accomplish flight training for check airmen in full or in part in an aircraft, in a flight simulator, or in a flight training device, as appropriate.

8.10.1.37 INSTRUCTOR TRAINING

(a) No person may serve nor may any AOC holder use a person as an instructor for flight crew, cabin crew, FODs, or dangerous goods, unless that person has completed the curricula approved by the Authority for those functions for which they are to serve.

(b) Specific training programme requirements for flight crew instructors are prescribed in IS 8.10.1.37.

IS 8.10.1.37 INSTRUCTOR TRAINING

(a) FLIGHT CREW INSTRUCTOR TRAINING.

(1) No operator may use a person, nor may any person serve as flight instructor in a training programme unless:

(i) That person has satisfactorily completed initial or transition flight instructor training; and

(ii) Within the preceding 24 calendar months, that person satisfactorily conducts instruction under the observation of an inspector from the Authority or an AOC holder's check personnel.

(2) An AOC holder may accomplish the observation check for a flight instructor, in part or in full, in an aircraft or an FSTD.

(3) Each AOC holder shall ensure that initial ground training for flight instructors includes the following:

(iii) Flight instructor duties, functions, and responsibilities.

(iv) Applicable regulations and the AOC holder's policies and procedures.

(v) Appropriate methods, procedures, and techniques for conducting the required checks.

(vi) Proper evaluation of student performance including the detection of:

(A) Improper and insufficient training; and

(B) Personal characteristics of an applicant that could adversely affect safety.

(C) Appropriate corrective action in the case of unsatisfactory checks.

(D) Approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft.

(vii) Except for holders of existing flight instructor licences:

(A) The fundamental principles of the teaching-learning process;

(B) Teaching methods and procedures; and

(C) The instructor-student relationship.

(4) Each AOC holder shall ensure that the transition ground training for flight instructors includes the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the flight instructor is in transition.

(5) Each AOC holder shall ensure that the initial and transition flight training for flight instructors includes the following:

(i) The safety measures for emergency situations that are likely to develop during instruction.

(ii) The potential results of improper, untimely, or non-execution of safety measures during instruction.

(iii) For pilot flight instructor (aircraft):

(A) In-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence as an instructor; and

(B) The safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction.

(6) For FE instructors and FN instructors, in-flight training to ensure competence to perform assigned duties.

(7) An AOC holder may accomplish the flight training requirements for flight instructors in full or in part in-flight or in an FSTD, as appropriate.

(8) An AOC holder shall ensure that the initial and transition flight training for flight instructors (FSTD) includes the following:

(i) Training and practice in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight instruction required by this part. This training and practice shall be accomplished in full or in part in an FSTD.

(ii) Training in the operation of FSTDs, to ensure competence to conduct the flight instruction required by this part.

(b) CABIN CREW INSTRUCTOR TRAINING.

1) No operator may use a person, nor may any person serve as cabin instructor in a training programme unless:

(i) That person has satisfactorily completed initial or transition cabin instructor training; and

(ii) Within the preceding 24 calendar months, that person satisfactorily conducts instruction under the observation of an inspector from the Authority or an AOC holder's check personnel.

2) An AOC holder may accomplish the observation check for a cabin instructor, in part or in full, in an aircraft or a cabin simulation training device.

3) Each AOC holder shall ensure that initial ground training for cabin instructors includes the following:

(i) Cabin instructor duties, functions, and responsibilities.

(ii) Applicable regulations and the AOC holder's policies and procedures.

(iii) Appropriate methods, procedures, and techniques for conducting the required checks.

(iv) Proper evaluation of student performance including the detection of:

(A) Improper and insufficient training; and

(B) Personal characteristics of an applicant that could adversely affect safety.

(v) Appropriate corrective action in the case of unsatisfactory checks.

(vi) Approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft, as applicable.

(vii) Except for existing cabin instructors:

(A) The fundamental principles of the teaching-learning process;

(B) Teaching methods and procedures; and

(C) The instructor-student relationship.

(4) Each AOC holder shall ensure that the transition ground training for cabin instructors includes the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft, as appropriate to which the cabin instructor is in transition.

(5) Each AOC holder shall ensure that the initial and transition flight training for cabin instructors includes the following:

(i) The safety measures for emergency situations that are likely to develop during instruction.

(ii) The potential results of improper, untimely, or non-execution of safety measures during instruction.

(c) FLIGHT OPERATIONS OFFICER INSTRUCTOR TRAINING.

(1) No operator may use a person, nor may any person serve as FOO instructor in a training programme unless:

(i) That person has satisfactorily completed initial or transition FOO instructor training; and

(ii) Within the preceding 24 calendar months, that person satisfactorily conducts instruction under the observation of an inspector from the Authority or an AOC holder's check FOO.

(2) An AOC holder may accomplish the observation check for a FOO instructor, in part or in full, in a flight operations centre.

(3) Each AOC holder shall ensure that initial ground training for FOO instructors includes the following:

(i) FOO instructor duties, functions, and responsibilities.

(ii) Applicable regulations and the AOC holder's policies and procedures.

(iii) Appropriate methods, procedures, and techniques for conducting the required checks.

(iv) Proper evaluation of student performance including the detection of:

(A) Improper and insufficient training; and

(B) Personal characteristics of an applicant that could adversely affect safety.

(v) Appropriate corrective action in the case of unsatisfactory checks.

(vi) Approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures for the aircraft or position involved.

(vii) Except for holders of existing FOO instructor licences:

(A) The fundamental principles of the teaching-learning process;

(B) Teaching methods and procedures; and

(C) The instructor-student relationship.

(4) Each AOC holder shall ensure that the transition ground training for FOO instructors includes the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft or position involved to which the FOO instructor is in transition.

(5) Each AOC holder shall ensure that the initial and transition training for FOO instructors includes the following:

(i) The safety measures for emergency situations that are likely to develop during instruction in a flight operations centre.

(ii) The potential results of improper, untimely, or non-execution of safety measures during instruction in a flight operations centre.

(d) DANGEROUS GOODS INSTRUCTOR TRAINING.

(1) No operator may use a person, nor may any person serve as dangerous goods instructor in a training programme unless:

(i) That person has satisfactorily completed dangerous goods training in the applicable dangerous goods category prior to delivering such a dangerous goods training programme.

(ii) That person has within the preceding 24 calendar months, satisfactorily conducted initial or recurrent instructions or in the absence undergoes recurrent training.

8.10.1.38 FLIGHT INSTRUCTOR QUALIFICATIONS

(a) No AOC holder may use a person nor may any person serve as a flight instructor in an established training program unless, with respect to the aeroplane type involved, that person—

(1) Holds the airman licences and rating required to serve as a PIC, a flight engineer, or a flight navigator, as applicable;

(2) Has satisfactorily completed the appropriate training phases for the aeroplane, including recurrent training, that are required to serve as a PIC, flight engineer, or flight navigator, as applicable;

(3) Has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a PIC, flight engineer, or flight navigator, as applicable;

(4) Has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check; and

(5) Holds at least a Class III medical certificate unless serving as a required crew member, in which case holds a Class I or a Class II medical certificate as appropriate.

8.10.1.39 CHECK AIRMAN PILOT QUALIFICATIONS

(a) No AOC holder may use a person, nor may any person serve as a check airman in an established training program unless, with respect to the aeroplane type involved, that person—

(1) Holds the airman licences and ratings required to serve as a PIC, a flight engineer, or a flight navigator, as applicable;

(2) Has satisfactorily completed the appropriate training phases for the aeroplane, including recurrent training, that are required to serve as a PIC, flight engineer, or flight navigator, as applicable;

(3) Has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a PIC, flight engineer, or flight navigator, as applicable;

(4) Has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check;

(5) Holds at least a Class III medical certificate unless serving as a required crew member, in which case holds a Class I or Class II medical certificate as appropriate; and

(6) Has been approved by the Authority for the check airman duties involved.

8.10.1.40 CHECK AIRMAN DESIGNATION

No person may serve nor may any AOC holder use a person as a check airman for any flight check unless that person has been designated by name and approved function by the Authority within the preceding 12 calendar months.

8.10.1.41 CHECK AIRMAN LIMITATIONS

(a) No person may serve nor may any AOC holder use a person as a check airman for any check—

(1) In an aircraft as a required pilot flight crew member unless that person holds the required airman licences and ratings and has completed for the AOC holder all applicable training, qualification and currency requirements of this Part applicable to the crew position and the flight operations being checked;

(2) In an aircraft as an observer check airman unless that person holds the airman licences and ratings and has completed all applicable training, qualification and line observation requirements of this Part applicable to the position and the flight operations being checked; or

(3) In a simulator unless that person has completed or observed with the AOC holder all training, qualification and line observation requirements of this Part applicable to the position and flight operations being checked.

8.10.1.42 SUBSTITUTION OF SIMULATOR EXPERIENCE

(a) No AOC holder may use a simulator for training or checking unless that simulator has been specifically approved for the AOC holder in writing by the Authority.

(b) No AOC holder may use a simulator for any purpose other than that specified in the Authority's approval.

8.10.1.43 LINE QUALIFICATION: CHECK AIRMAN AND INSTRUCTOR

(a) No person may serve nor may any AOC holder use a person as a check airman or simulator instructor unless, since the beginning of the 12th calendar month before that service, that person has—

(1) Flown at least 5 flights as a required crew member for the type of aircraft involved; or

(2) Observed, on the flight deck, the conduct of 2 complete flights in the aircraft type to which the person is assigned.

8.10.1.44 TERMINATION OF A PROFICIENCY, COMPETENCE OR LINE CHECK

If it is necessary to terminate a check for any reason, the AOC holder may not use the crew member or flight operations officer in commercial air transport operations until the completion of a satisfactory recheck.

8.10.1.45 RECORDING OF CREW MEMBER QUALIFICATIONS

(a) The AOC holder shall record in its records maintained for each crew member and flight operations officer, the completion of each of the qualifications required by this Part.

(b) A pilot may complete the curricula required by this Part may be accomplished concurrently or intermixed with other required curricula, but completion of each of these curricula shall be recorded separately.

(c) The operator shall maintain a record, sufficient to satisfy the State of the Operator, of the qualification of the pilot and of the manner in which such qualification has been achieved.

8.10.1.46 MONITORING OF TRAINING AND CHECKING ACTIVITIES

(a) To enable adequate supervision of its training and checking activities, the AOC holder shall forward to the Authority at least 24 hours prior to the scheduled activity the dates, report times and report location of all—

(1) Training for which a curriculum is approved in the AOC holder's training program; and

(2) Proficiency, competence and line checks.

(b) Failure to provide the information required by paragraph (a) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.

8.10.1.47 ELIGIBILITY PERIOD

(a) Crew members who are required to take a proficiency check, a test or competency check, or recurrent training to maintain qualification for commercial air transport operations may complete those requirements at any time during the eligibility period.

(b) The eligibility period is defined as the three calendar month period including the month-prior, the month due, and the month-after any due date specified by this subsection.

(c) Completion of the requirement at any time during the period shall be considered as completed in the month-due for calculation of the next due date.

8.10.1.48 REDUCTIONS IN REQUIREMENTS

(a) The Authority may authorise reductions in, or waive, certain portions of the training requirements of this subpart, taking into account the previous experience of the crew members.

(b) Any AOC holder request for reduction or waiver shall be made in writing and outline the basis under which the request is made.

(c) If the request was for a specific crew member, the correspondence from the Authority authorising the reduction and the basis for it shall be filed in the record the AOC holder maintains for that crew member.

(d) A person who progresses successfully through flight training, is recommended by their instructor or a check airman, and successfully completes the appropriate flight check for a check airman, or is permitted by the Authority, to complete a course in less than programmed time, need not complete the programmed hours of flight training for the particular aeroplane.

Note: Whenever the Authority finds that 20 percent of the flight checks given at a particular training base during the previous 6 months are unsuccessful, this method of approval will not be used by the AOC holder at that base until the Authority finds that the effectiveness of the flight training there has improved.

8.11 FLIGHT TIME, FLIGHT DUTY PERIODS, DUTY PERIODS, AND REST PERIODS FOR FATIGUE MANAGEMENT

8.11.1.1 Applicability

(a) This section is applicable to the rest, duty and flight time limitations of crew members and FOOs/flight dispatchers engaged in commercial air transport flight operations.

8.11.1.2 COMPLIANCE WITH SCHEDULING REQUIREMENTS

(a) The Authority will consider a person in compliance with prescribed standards if he or she exceeds the prescribed flight duty limitations when—

(1) The flight is scheduled and normally terminates within the prescribed limitations; but

(2) Due to circumstances beyond the control of the AOC holder (such as adverse weather conditions) are not expected at the time of departure to reach the destination within the scheduled time.

(b) The Authority will consider a person in compliance with prescribed duty limitations, if he or she exceeds those limitations during an emergency or adverse situations beyond the control of the AOC holder.

8.11.1.3 DUTY AND REST PERIODS – ALL CREW MEMBERS AND FLIGHT OPERATIONS OFFICERS

(a) WITH RESPECT TO DUTY PERIODS.

(1) Persons are considered to be on duty if they are performing any tasks on behalf of the AOC holder, whether scheduled, requested or self-initiated.

(2) If an AOC holder requires a flight crew member to engage in deadhead transportation for more than 4 hours, one half of that time shall be treated as duty time, unless they are given 10 hours of rest on the ground before being assigned to flight duty.

(3) No AOC holder may schedule:

(i) A flight crew member for more than the duty periods prescribed by Table B, except as approved by the Authority.

(ii) A cabin crew member for more than 14 consecutive hours of duty, except as approved by the Authority.

(iii) A FOO/aircraft dispatcher for more than 10 consecutive hours of duty within a 24-consecutive-hour period, unless that person is given an intervening rest period of at least 8 hours at or before the end of the 10 hours duty, except in cases where circumstances or emergency conditions beyond the control of the AOC holder require otherwise.

(D) Each AOC holder shall establish the daily duty period for a FOO/aircraft dispatcher so that it begins at a time that allows the FOO/aircraft dispatcher to become thoroughly familiar with existing and anticipated weather conditions along the route before the FOO/aircraft dispatcher dispatches any aircraft.

(E) The FOO/aircraft dispatcher shall remain on duty until each aircraft dispatched by that FOO/aircraft dispatcher has completed its flight or has gone beyond that FOO/aircraft dispatcher's jurisdiction or until the FOO/aircraft dispatcher is relieved by another qualified dispatcher.

(b) WITH RESPECT TO REST PERIODS.

(1) The minimum rest period is considered to be 8 consecutive hours.

(2) The minimum rest period for flight crew members shall be 9 consecutive hours, unless otherwise prescribed by the Authority.

(3) The AOC holder may exercise the option to reduce a crew member's rest period within the limitations prescribed in IS 8.11.1.3 Table D and E.

(4) The AOC holder shall relieve the flight crew member, FOO/flight dispatcher, or cabin crew member from all duties for 24 consecutive hours during any 7 consecutive day period.

(5) Time spent in transportation, not local in character, which is required by the AOC holder to position crew members to or from flights is not considered part of a rest period.

(6) Time spent in transportation on aircraft (at the insistence of the AOC holder) to or from a crew member's home station is not considered part of a rest period.

(7) No AOC holder may assign, nor may any person:

(i) Perform duties in commercial air transportation unless that person has had at least the minimum rest period applicable to those duties as prescribed by the Authority; or

(ii) Accept an assignment to any duty with the AOC holder during any required rest period.

IS 8.11.1.3 DUTY AND REST PERIODS

(a) Each AOC holder, scheduling official and crew member shall use the following tables as appropriate, to consolidate all scheduling and actual event requirements with respect to crew member flight time, duty and rest periods for commercial air transport operations.

Table A—Maximum Flight Time Limits for Unaugmented Operations Table as per scientific evidence from 14 CFR Part 117

0000-0459	8
0500-1959	9
2000-2359	8

Table B—Flight Duty Period: Unaugmented Operations as per scientific evidence from 14 CFR Part 117

Scheduled time of start (acclimated time)	Maximum flight duty period (hours) for lineholders based on number of flight segments						
	1	2	3	4	5	6	7 +
0000-0359	9	9	9	9	9	9	9
0400–0459	10	10	10	10	9	9	9
0500–0559	12	12	12	12	11.5	11	10.5
0600–0659	13	13	12	12	11.5	11	10.5
0700–1159	14	14	13	13	12.5	12	11.5
1200–1259	13	13	13	13	12.5	12	11.5
1300–1659	12	12	12	12	11.5	11	10.5
1700–2159	12	12	11	11	10	9	9
2200–2259	11	11	10	10	9	9	9
2300–2359	10	10	10	9	9	9	9

Table C—Flight Duty Period: Augmented Operations as per scientific evidence from 14 CFR Part 117

Scheduled time of start (acclimated time)	Maximum flight duty period (hours) based on rest facility and number of pilots.					
	Class 1 Rest Facility		Class 2 Rest Facility		Class 3 Rest Facility	
	3 pilots	4 pilots	3 pilots	4 pilots	3 pilots	4 pilots
0000–0559	15	17	14	15.5	13	13.5
0600–0659	16	18.5	15	16.5	14	14.5
0700–1259	17	19	16.5	18	15	15.5
1300–1659	16	18.5	15	16.5	14	14.5
1700–2359	15	17	14	15.5	13	13.5

Table D. Conditions Required for Flight Crew Member Rest Reduction

Flight Deck Duty Period (Hours)	Normal Rest Period (Hours)	Authorised Reduced Rest Period (Hours)	Next Rest Period if Reduction Taken
Less than 8	9	8	10
8-9	10	8	11
9 or more	11	9	12

Table E. Conditions Required for Cabin Crew Member Rest Reduction

Scheduled Duty Period (Hours)	Extra Cabin Crew Members Required	Normal Rest Period (Hours)	Authorised Reduced Rest Period (Hours)	Next Rest Period if Reduction Taken
14 or less	0	9	8	10
14-16	1	12	10	14
16-18	2	12	10	14
18-20	3	12	10	14

8.11.1.4 DUTY ALOFT – FLIGHT CREW

(a) The Authority will consider all time spent on an aircraft as an assigned or relief flight crew member, whether resting or performing tasks to be duty aloft.

(b) The Authority will consider a flight crew member to be on continuous duty aloft unless he or she receives a rest period of 9 consecutive hours on the ground.

(c) Each AOC holder shall provide adequate sleeping quarters, including a berth, on the aeroplane whenever a flight crew member is scheduled to be aloft for more than 12 hours during any 24 consecutive hours.

8.11.1.5 MAXIMUM NUMBER OF FLIGHT TIME HOURS – FLIGHT CREW

(a) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transportation, if that flight crew member's total flight time will exceed 8 hours in any 24 consecutive hours.

(b) No person may schedule any flight crew member and no flight crew member may accept an assignment as a required crew member for more than 7 flights in commercial air transportation during any period of 18 consecutive hours, whichever comes first.

(c) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transportation, if that flight crew member's total flight time will exceed 30 hours in any 7-day period.

(d) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transportation, if that flight crew member's total flight time will exceed 100 hours in any 28-day period.

(e) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transportation, if that flight crew member's total flight time, total flights or duty aloft in commercial flying will exceed the limitations prescribed by the Authority.

(f) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transportation, if that flight crew member's total flight time will exceed 1000 hours in any 12-calendar-month period.

8.11.1.6 SPECIAL FLIGHT DUTY SCHEMES

(a) The Authority may approve a special flight duty scheme for an AOC holder.

(b) An AOC holder may elect to apply the flight crew member flight duty and rest requirements to the cabin crew members.

8.11.1.7 FLIGHT TIME, DUTY, AND REST PERIOD RECORDS

(a) Each AOC holder shall maintain records for each crew member and FOO/flight dispatcher of flight time, flight duty periods, duty periods, and rest periods for a period of 24 months.

8.11.1.8 MANAGING FATIGUE-RELATED SAFETY RISKS

(a) For the purpose of managing fatigue-related safety risks, an AOC holder shall establish either:

(1) Flight time, flight duty period, duty period limitations and rest period requirements that are within the prescriptive fatigue management regulations; or

(2) An FRMS in compliance with paragraph 8.11.1.8(e) of this subsection; or

(3) A FRMS in compliance with paragraph 8.11.1.8(e) of this subsection for part of its operations and the requirements of 8.11 of this part for the remainder of its operations.

(b) Where the operator adopts prescriptive fatigue management regulations for part or all of its operations, the Authority may approve, in exceptional circumstances, variations to these regulations on the basis of a risk assessment provided by the operator. Approved variations shall provide a level of safety equivalent to, or better than that achieved through the prescriptive fatigue management regulations.

(c) The Authority shall approve an operator's FRMS before it may take the place of any or all the prescriptive fatigue management regulations. An approved FRMS shall provide a level of safety equivalent to, or better than, the prescriptive fatigue management regulations.

(d) Operators using an FRMS shall adhere to the following provisions of the FRMS approval process that allows the Authority to ensure that the approved FRMS meets the requirements of paragraph 8.11.1.8(c) of this subsection:

(1) Establish maximum values for flight times and/or flight duty period(s) and duty period(s), and minimum values for rest periods that shall be based upon scientific principles and knowledge, subject to safety assurance processes.

Note: Guidance on the development and implementation of fatigue management regulations is contained in ICAO Doc 9966, Manual for the Oversight of Fatigue Management Approaches.

(2) Adhere to Authority mandates to decrease maximum values and increase in minimum values in the event that the operator's data indicates these values are too high to too low, respectively; and

(3) Provide justification to the Authority for any increase in maximum values or decrease in minimum values based on accumulated FRMS experience and fatigue-related data before such changes will be approved by the Authority.

(e) Operators implementing an FRMS to manage fatigue-related safety risks shall, as a minimum:

(1) Incorporate scientific principles and knowledge within the FRMS;

(2) Identify fatigue-related safety hazards and the resulting risks on an ongoing basis;

(3) Ensure that the remedial actions, necessary to effectively mitigate the risks associated with the hazards, are implemented promptly;

(4) Provide for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions; and

(5) Provide for continuous improvement to the overall performance of the FRMS.

Note: Provisions on the protection of safety data, safety information and related sources are contained in ICAO Annex 19, Appendix 3.

8.12 FLIGHT RELEASE: COMMERCIAL AIR TRANSPORT

8.12.1.1 APPLICABILITY

This Subpart is applicable to an AOC holder and the person designated by the AOC holder to issue a flight release.

8.12.1.2 Qualified Persons Required for Operational Control Functions

(a) A qualified person shall be designated by the AOC holder to exercise the functions and responsibilities for operational control of each flight in commercial air transport.

(b) For passenger-carrying flights conducted on a published schedule, a licensed and qualified FOO shall be on-duty at an operations base to perform the operational control functions.

(c) For all other flights, the Director of Operations and the PIC are the qualified persons exercising operational control responsibilities, and shall be available for consultation before, during, and immediately following the flight operation.

(1) The Director of Operations may delegate the functions for initiating, continuation, diversion, and termination of a flight to other employees. However, the Director of Operations shall retain full responsibility for these functions.

(d) For all flights, the PIC shares in the responsibility for operational control of the aircraft and has the situational authority to make decisions regarding operational control issues in-flight.

(1) Where a decision of the PIC differs from that recommended, the person making the recommendation shall make a record of the associated facts.

8.12.1.3 Functions Associated with Operational Control

(a) The person exercising responsibility for operational control for an AOC holder shall:

(1) Authorise the specific flight operation;

(2) Ensure that only those operations authorised by the AOC operations specifications are conducted;

(3) Ensure that an airworthy aircraft properly equipped for the flight is available;

(4) Specify the conditions under which a flight may be dispatched or released (weather minimums, flight planning, aircraft loading, and fuel requirements;

(5) Ensure that qualified personnel and adequate facilities are available to support and conduct the flight;

(6) Ensure that crew members are in compliance with the flight and duty time requirements when departing on a flight;

(7) Provide the PIC and other personnel who perform operational control functions with access to the necessary information for the safe conduct of a flight (such as weather, NOTAMs, and aerodrome analysis);

(8) Ensure that proper flight planning and preparation is made;

(9) Ensure that flight locating and flight following procedures are followed;

(10) Ensure that each flight has complied with the conditions specified for release before it is allowed to depart;

(11) Ensure that when the conditions specified for a release cannot be met, the flight is either cancelled, delayed, re-routed, or diverted, and

(12) For all flights, ensure the monitoring of the progress of the flight and the provision of information that may be necessary to safety.

8.12.1.4 Operational Control Duties

(a) For all flights, the qualified person performing the duties of a FOO shall be to:

(1) Assist the PIC in-flight preparation and provide the relevant information required;

(2) Assist the PIC in preparing the operational and ATC flight plans;

(3) Sign the dispatch copy of the flight release;

(4) Furnish the PIC while in-flight, by appropriate means, with information which may be necessary for the safe conduct of the flight; and

(5) In the event of an emergency situation which endangers the safety of the aeroplane or persons becomes known first to the FOO/flight dispatcher, action by that persons shall be in accordance with such procedures as outlined in the AOC holder's OM. Where necessary, immediately notify the appropriate authorities on the nature of the situation, and if required, a request for assistance.

(6) Notify the appropriate ATS unit when the position of the aeroplane cannot be determined by an aircraft tracking capability and attempts to establish communication are unsuccessful.

(b) A qualified person performing the operational control duties shall avoid taking any action that would conflict with the procedures established by:

(7) ATC;

(8) The meteorological service;

(9) The communications service; or

(10) AOC holder.

8.12.1.5 CONTENTS OF A FLIGHT RELEASE/OPERATIONAL FLIGHT PLAN

(a) The flight release/operational flight plan must contain at least the following information concerning each flight:

(1) Company or organisation name.
(2) Make, model, and registration number of the aircraft being used.
(3) Flight or trip number, and date of flight.
(4) Name of each flight crew member, cabin crew member, and PIC.
(5) Departure aerodrome, destination aerodromes, alternate aerodromes, and route.
(6) Minimum fuel supply (in gallons or pounds).
(7) A statement of the type of operation (e.g., IFR, VFR).
(8) The latest available weather reports and forecasts for the destination aerodrome and alternate aerodromes.
(9) Any additional available weather information that the PIC considers necessary.

(b) The dispatch or flight release/operational flight plan shall be signed by the PIC and, when applicable, the FOO, and a copy shall be filed with operator or a designated agent. If these procedures are not possible, it shall be left with the aerodrome authority or on record at a suitable place at the point of departure.

8.12.1.6 FLIGHT RELEASE: AIRCRAFT REQUIREMENTS

(a) No person may issue a flight release for a commercial air transport operation unless the aircraft is airworthy and properly equipped for the intended flight operation.

(b) No person may issue a flight release for a commercial air transport operation using an aircraft with inoperative instruments and equipment installed, except as specified in the Minimum Equipment List approved for the AOC holder for that type aircraft.

8.12.1.7 FLIGHT RELEASE: FACILITIES AND NOTAMS

(a) No person may release an aircraft over any route or route segment unless there are adequate communications and navigational facilities in satisfactory operating condition as necessary to conduct the flight safely.

(b) The flight operations officer shall ensure that the PIC is provided all available current reports or information on aerodrome conditions and irregularities of navigation facilities that may effect the safety of the flight.

Note: For their review of the operational flight plan, the PIC will be provided with all available NOTAMs with respect to the routing, facilities and aerodromes.

8.12.1.8 FLIGHT RELEASE: WEATHER REPORTS AND FORECASTS

(a) No person may release a flight unless he or she is thoroughly familiar with reported and forecast weather conditions on the route to be flown.

(b) No person may release a flight unless he or she has communicated all information and reservations they may have regarding weather reports and forecasts to the PIC.

8.12.1.9 FLIGHT RELEASE IN ICING CONDITIONS

(a) No person may release an aircraft, when in their opinion or that of the PIC, the icing conditions that may be expected or are met exceed that for which the aircraft is certified and has sufficient operational de-icing or anti-icing equipment.

(b) No person may release an aircraft any time conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless there is the available to the PIC at the aerodrome of departure adequate facilities and equipment to accomplish the procedures approved for the AOC holder by the Authority for ground de-icing and anti-icing.

8.12.1.10 FLIGHT RELEASE UNDER VFR OR IFR

No person may release a flight under VFR or IFR unless the weather reports and forecasts indicated that the flight can reasonably be expected to be completed as specified in the release.

8.12.1.11 FLIGHT RELEASE: MINIMUM FUEL SUPPLY

No person may issue a flight release for a commercial air transport operation unless the fuel supply specified in the release is equivalent to or greater than the minimum flight planning requirements, including anticipated contingencies.

8.12.1.12 FLIGHT RELEASE: AIRCRAFT LOADING AND PERFORMANCE

(a) No person may issue a flight release unless he or she is familiar with the anticipated loading of the aircraft and is reasonably certain that the proposed operation will not exceed the—

(1) Centre of gravity limits;
(2) Aircraft operating limitations; and
(3) Minimum performance requirements.

8.12.1.13 FLIGHT RELEASE: AMENDMENT OR RE-RELEASE EN ROUTE

(a) Each person who amends a flight release while the flight is en route shall record that amendment.

(b) No person may amend the original flight release to change the destination or alternate aerodrome while the aircraft is en route unless the flight preparation requirements for routing, aerodrome selection and minimum fuel supply are met at the time of amendment or re-release.

(c) No person may allow a flight to continue to an aerodrome to which it has been released if the weather reports and forecasts indicate changes which would render that aerodrome unsuitable for the original flight release.

8.12.1.14 Flight Release – With Airborne Weather Radar Equipment

(a) No person may release a large aircraft carrying passengers under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment is in satisfactory operating condition.

(b) No person may issue a flight release for a commercial air transport operation unless the requirements of 8.12.1.5 of this part for operational flight planning have been met.

(c) Completed flight preparation forms shall be kept by an operator for a period of 3 months.

8.12.1.15 Revocation

The Civil Aviation Requirements for Operations 2024 are revoked.

Made this 30th day of May, 2024.

DIRECTOR GENERAL • GUYANA CIVIL AVIATION AUTHORITY

Director-General
For the Guyana Civil Aviation Authority