| **8.1** | **GENERAL** |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **8.1.1** | **APPLICABILITY AND DEFINITIONS** |  |  |  |  |
| **8.1.1.1** | **APPLICABILITY** |  |  |  |  |
| (a)(1) | The Standards and Recommended Practices contained in Annex 6 Part I shall be applicable to the operation of airplanes by operators authorized to conduct commercial air transport operations (international and domestic). |  |  |  |  |
| (a)(2) | The Standards and Recommended Practices contained in Annex 6, Part II (airplanes), and Annex 6 Part III Section III (helicopters) shall be applicable to general aviation operations (international and domestic). |  |  |  |  |
| (a)(3) | The Standards and Recommended Practices contained in Annex 6, Part III Sections I and II, shall be applicable to all helicopters engaged in commercial air transport operations (international and domestic), except for these Standards and Recommended Practices are not applicable to helicopters in aerial work. |  |  |  |  |
| (b) | CAR Part 8 prescribes the requirements for: |  |  |  |  |
| (b)(1) | Operations conducted by airman certified in Republic of the Philippines while operating aircraft registered in Republic of the Philippines. |  |  |  |  |
| (b)(2) | Operations of foreign registered aircraft by Republic of the Philippines Operators. |  |  |  |  |
| (b)(3) | Operations of aircraft within Republic of the Philippines by airman or Operators of a foreign State. |  |  |  |  |
| (c) | For operations outside of Republic of the Philippines, all Republic of the Philippines 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 a 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 airplanes”.* |  |  |  |  |
|  | *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** | **RESERVED** |  |  |  |  |
| **8.1.1.3** | **ABBREVIATIONS** |  |  |  |  |
| (a) | The following acronyms and abbreviations are used in this Part: |  |  |  |  |
| (a)(1) | ADS-S – Automatic Department Surveillance - Contract |  |  |  |  |
| (a)(2) | AFM - Airplane Flight Manual |  |  |  |  |
| (a)(3) | AGL - Above Ground Level |  |  |  |  |
| (a)(4) | AOC - Air Operator Certificate |  |  |  |  |
| (a)(5) | AOA – Angle of Attack |  |  |  |  |
| (a)(6) | AOM - Aircraft Operating Manual |  |  |  |  |
| (a)(7) | APU - Auxiliary Power Unit |  |  |  |  |
| (a)(8) | ATC - Air Traffic Control |  |  |  |  |
| (a)(9) | CAT – Category |  |  |  |  |
| (a)(10) | CDL - Configuration Deviation List |  |  |  |  |
| (a)(11) | CP - Co-pilot |  |  |  |  |
| (a)(12) | CRM - Crew Resource Management |  |  |  |  |
| (a)(13) | DH - Decision Height |  |  |  |  |
| (a)(14) | EDTO – Extended Diversion Time Operation |  |  |  |  |
| (a)(15) | ETA - Estimated Time of Arrival |  |  |  |  |
| (a)(16) | FE - Flight Engineer |  |  |  |  |
| (a)(17) | FL - Flight Level |  |  |  |  |
| (a)(18) | GPS - Global Positioning System |  |  |  |  |
| (a)(19) | IMC - Instrument Meteorological Conditions |  |  |  |  |
| (a)(20) | INS - Inertial Navigation System |  |  |  |  |
| (a)(21) | LDA - Localizer-type Directional Aid |  |  |  |  |
| (a)(22) | LOC – Localizer |  |  |  |  |
| (a)(23) | LORAN - Long-range Navigation |  |  |  |  |
| (a)(24) | LVTO – Low Visibility Take Off |  |  |  |  |
| (a)(25) | MDA – Minimum Decent Altitude |  |  |  |  |
| (a)(26) | MEA — Minimum En Route Altitude |  |  |  |  |
| (a)(27) | MEL – Minimum Equipment List |  |  |  |  |
| (a)(28) | MMEL – Master Minimum Equipment List |  |  |  |  |
| (a)(29) | MNPS – Minimum Navigation Performance Specifications |  |  |  |  |
| (a)(30) | MOCA — Minimum Obstruction Clearance Altitude |  |  |  |  |
| (a)(31) | MSL – Mean Sea Level |  |  |  |  |
| (a)(32) | NOTAM – Notice to Airmen |  |  |  |  |
| (a)(33) | NOTOC – Notice to Captain |  |  |  |  |
| (a)(34) | RFM – Rotorcraft Flight Manual |  |  |  |  |
| (a)(35) | RVR – Runway Visibility Range |  |  |  |  |
| (a)(36) | RVSM – Reduced Vertical Separation Minimum |  |  |  |  |
| (a)(37) | PBC – Performance-based Communication |  |  |  |  |
| (a)(38) | PBE – Protective Breathing Equipment |  |  |  |  |
| (a)(39) | PBN – Performance-based Navigation |  |  |  |  |
| (a)(40) | PBS – Performance-based Surveillance |  |  |  |  |
| (a)(41) | PIC – Pilot In Command |  |  |  |  |
| (a)(42) | RCP – Required Communication Performance |  |  |  |  |
| (a)(43) | RNAV – Area Navigation |  |  |  |  |
| (a)(44) | RNP – Required Navigation Performance |  |  |  |  |
| (a)(45) | RSP – Required Surveillance Performance |  |  |  |  |
| (a)(46) | SAR – Search and Rescue |  |  |  |  |
| (a)(47) | SCC – Senior Cabin crew |  |  |  |  |
| (a)(48) | SIC – Second-in-command (co-pilot or first officer) |  |  |  |  |
| (a)(49) | SM – Statute Miles |  |  |  |  |
| (a)(50) | TACAN – Tactical Air Navigation System |  |  |  |  |
| (a)(51) | UPRT – Airplane upset prevention and recovery training |  |  |  |  |
| (a)(52) | VMC – Visual Meteorological Conditions |  |  |  |  |
| (a)(53) | VSM – Vertical Separation Minimum |  |  |  |  |
| (a)(54) | V1 - Take-off decision speed |  |  |  |  |
| (a)(55) | Vmo- Maximum operating speed. |  |  |  |  |
| (a)(56) | VSO - 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 Republic of the Philippines-registered aircraft unless it displays the proper markings prescribed in Part 4. |  |  |  |  |
| **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. |  |  |  |  |
|  | *Note: The instrument and equipment required for specific operations are listed in Part 7.* |  |  |  |  |
| **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 Operator shall not operate a multi-engine aircraft with inoperative instruments and equipment installed unless the following conditions are met: |  |  |  |  |
| (b)(1) | An approved Minimum Equipment List exists for that aircraft. |  |  |  |  |
| (b)(2) | The Authority has issued the Operator 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 Operators 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. |  |  |  |  |
| (b)(3) | The approved Minimum Equipment List must: |  |  |  |  |
| (b)(3)(i) | Be prepared in accordance with the limitations specified in paragraph (c) of this section. |  |  |  |  |
| (b)(3)(ii) | Provide for the operation of the aircraft with certain instruments and equipment in an inoperative condition. |  |  |  |  |
| (b)(4) | Records identifying the inoperative instruments and equipment and the information required by subparagraph (b)(3)(ii) of this section must be available to the pilot. |  |  |  |  |
| (b)(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: |  |  |  |  |
| (c)(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. |  |  |  |  |
| (c)(2) | Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise. |  |  |  |  |
| (c)(3) | Instruments and equipment required for specific operations under Part 7, Part 8 and/or Part 9 of these regulations. |  |  |  |  |
| (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 under Subpart 5.4.1.11 of these regulations |  |  |  |  |
|  | *Implementing Standard: See IS: 8.2.1.5 for specific limitation on inoperative instruments and equipment.* |  |  |  |  |
| **8.2.1.6** | **CIVIL AIRCRAFT FLIGHT MANUAL, MARKING AND PLACARD REQUIREMENTS** |  |  |  |  |
| (a) | No person may operate a Republic of the Philippines-registered civil aircraft unless there is available in the aircraft |  |  |  |  |
| (a)(1) | A current, approved AFM or RFM; or |  |  |  |  |
| (a)(2) | An AOM ap8proved by the Authority for the Operator, |  |  |  |  |
| (a)(3) | 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 Republic of the Philippines 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 AFM or RFM shall be updated by implementing changes made mandatory by the State of Registry. |  |  |  |  |
| (d) | 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. |  |  |  |  |
| **8.2.1.7** | **REQUIRED AIRCRAFT AND EQUIPMENT INSPECTIONS** |  |  |  |  |
| (a) | Unless otherwise authorized by the Authority, no person may operate a Republic of the Philippines civil aircraft unless it has had the following inspections. |  |  |  |  |
| (a)(1) | An annual inspection within the past 12 calendar months; |  |  |  |  |
| (a)(2) | For remuneration or hire operations, a 100-hour inspection; |  |  |  |  |
| (a)(3) | For IFR operations, an altimeter and pitot-static system inspection in the past 24 calendar months; |  |  |  |  |
| (a)(4) | For transponder equipped aircraft, a transponder check within the past 12 calendar months; And |  |  |  |  |
| (a)(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 Subpart 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.* |  |  |  |  |
|  | *Note: The requirements of these inspections are provided in Part 5.* |  |  |  |  |
| **8.2.1.8** | **DOCUMENTS TO BE CARRIED ON AIRCRAFT: ALL OPERATIONS** |  |  |  |  |
| (a) | Except as provided in Subpart 8.2.1.6, no person may operate a civil aircraft in commercial air transport operations unless it has within it the following current and approved documents: |  |  |  |  |
| (a)(1) | Certificate of Aircraft Registration issued to the owner. |  |  |  |  |
| (a)(2) | Certificate of Airworthiness. |  |  |  |  |
| (a)(3) | Aircraft Journey Log. |  |  |  |  |
| (a)(4) | Aircraft Radio License. |  |  |  |  |
| (a)(5) | List of passenger names and points of embarkation and destination, if applicable. |  |  |  |  |
| (a)(6) | Cargo manifest including special loads information. |  |  |  |  |
| (a)(7) | Aircraft Technical Log. |  |  |  |  |
| (a)(8) | Air Operator Certificate: where applicable, shall carry a certified true copy of the AOC specified in Subpart 9.1.1.4, and a copy of the operations specifications relevant to the aircraft type, issued in conjunction with the certificate. When the certificate and the  associated operations specifications are issued by the State of the Operator in a language other than English, an English translation shall be included. |  |  |  |  |
| (a)(9) | Noise Certificate, or a document attesting noise certification. When the document, or a suitable statement attesting noise certification as contained in another document approved by the State of Registry, is issued in a language other than English, it shall include an English translation. |  |  |  |  |
| (a)(10) | AFM (for airplanes) or RFM (for helicopters). |  |  |  |  |
| (a)(11) | Part(s) of the Operations Manual relevant to operation(s) conducted. |  |  |  |  |
| (a)(12) | MEL |  |  |  |  |
| (a)(13) | Category II or III Manual, as applicable. |  |  |  |  |
| (a)(14) | Operational Flight Plan. |  |  |  |  |
| (a)(15) | Filed ATC flight plan. |  |  |  |  |
| (a)(16) | NOTAMS briefing documentation. |  |  |  |  |
| (a)(17) | Meteorological information. |  |  |  |  |
| (a)(18) | Mass and balance documentation. |  |  |  |  |
| (a)(19) | Roster of special situation passengers. |  |  |  |  |
| (a)(20) | Maps and charts for routes of proposed flight or possibly diverted flights. |  |  |  |  |
| (a)(21) | Forms for complying with the reporting requirements of the Authority and the Operator. |  |  |  |  |
| (a)(22) | For international flights, a general declaration for customs. |  |  |  |  |
| (a)(23) | Any documentation that may be required by the Authority or States concerned with a proposed flight. |  |  |  |  |
| (a)(24) | The appropriate licenses for each crew member of the flight crew. |  |  |  |  |
| (a)(25) | Copy of the return to service, if any, in force with respect to the aircraft. |  |  |  |  |
| (a)(26) | Search and rescue information, for international flights. |  |  |  |  |
| (a)(27) | Aircraft insurance coverage |  |  |  |  |
| (b) | Except as provided in Subpart 8.2.1.6, no person may operate a civil aircraft in general aviation operations unless it has within it the following current and approved documents: |  |  |  |  |
| (b)(1) | Certificate of Registration issued to the owner. |  |  |  |  |
| (b)(2) | Certificate of Airworthiness. |  |  |  |  |
| (b)(3) | Aircraft Journey Log. |  |  |  |  |
| (b)(4) | Aircraft Radio License. |  |  |  |  |
| (b)(5) | List of passenger names and points of embarkation and destination, if applicable. |  |  |  |  |
| (b)(6) | Cargo manifest including special loads information. |  |  |  |  |
| (b)(7) | The appropriate licenses for each crew member of the flight crew. |  |  |  |  |
| (b)(8) | Copy of the return to service, if any, in force with respect to the aircraft. |  |  |  |  |
| (b)(9) | Noise Certificate, or a document attesting noise certification. When the document, or a suitable statement attesting noise certification as contained in another document approved by the State of Registry, is issued in a language other than English, it shall include an English translation. |  |  |  |  |
| (b)(10) | AFM (for airplanes) or RFM (for helicopters). |  |  |  |  |
| (b)(11) | Category II or III Manual, as applicable. |  |  |  |  |
| (b)(12) | Operational Flight Plan. |  |  |  |  |
| (b)(13) | NOTAMS briefing documentation. |  |  |  |  |
| (b)(14) | Maps and charts for routes of proposed flight or possibly diverted flights. |  |  |  |  |
| (b)(15) | Forms for complying with the reporting requirements of the Authority. |  |  |  |  |
| (b)(16) | For international flights, a general declaration for customs. |  |  |  |  |
| (b)(17) | Any documentation that may be required by the Authority or States concerned with a proposed flight. |  |  |  |  |
| (b)(18) | Search and rescue information, for international flights. |  |  |  |  |
| (b)(19) | Any documentation that may be required by the Authority or States concerned with a proposed flight. |  |  |  |  |
| (b)(20) | Aircraft insurance coverage |  |  |  |  |
| (c) | In case of loss or theft of any of the following: Certificate of Registration, Certificate of Airworthiness, Noise Certificate, Aircraft Radio License or Air Operator Certificate, the operation is allowed to continue until the flight reaches the base or place where a replacement document can be provided. (21 March 2011) |  |  |  |  |
|  | *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** | **INSURANCE REQUIREMENTS: ALL OPERATIONS** |  |  |  |  |
|  | No person may operate an aircraft unless it has a valid insurance guarantee covering aircraft hull, each person, freight and mail on board aircraft, and third parties liability, as prescribed by the  Authority. |  |  |  |  |
| **8.2.2** | **(AOC) AIRCRAFT TRACKING** |  |  |  |  |
| (a) | On and after 8 November 2018, an Operator shall establish an aircraft tracking capability to track airplanes throughout its area of operations.  Note.- *Guidance on aircraft tracking capabilities is contained in the* Normal Aircraft Tracking Implementation Guidelines (*Cir 347*) |  |  |  |  |
| (b) | An Operator should track the position of an airplane through automated reporting at least every 15 minutes for the portion(s) of the inflight operation(s) under the following conditions: |  |  |  |  |
| (b)(1) | the airplane has a maximum certificated take-off mass of over 27,000 kg and a seating capacity greater than 19; and |  |  |  |  |
| (b)(2) | where an ATS unit obtains airplane position information at greater than 15 minute intervals.  *Note.- See CAR-ANS Part 11.2, for coordination between the operator and air traffic services providers regarding position report messages.* |  |  |  |  |
| (c) | An Operator shall track the position of an airplane through automated reporting at least every 15 minutes for the portion(s) of the inflight operation(s) that is planned in an oceanic area(s) under the following conditions: |  |  |  |  |
| (c)(1) | the airplane has a maximum certificated take-off mass of over 45,500 kg and a seating capacity greater than 19; and |  |  |  |  |
| (c)(2) | where an ATS unit obtains airplane position information at greater than 15 minutes intervals.    *Note 1.- Oceanic area- for the purpose of aircraft tracking is the airspace which overlies waters outside the territory of the Philippines.*  *Note 2.- See CAR-ANS Part 11.2, for coordination between the operator and air traffic services providers regarding position report messages.*  *Note 3. - Operational procedures for monitoring the aircraft tracking information are contained in PANS-OPS, Volume III, Section 10.* |  |  |  |  |
| (d) | Notwithstanding the provisions in Part 8.2.2 (b) and (c), the Authority shall, 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: |  |  |  |  |
| (d)(1) | capability of the operator’s operational control systems and processes, including those for contacting ATS units; |  |  |  |  |
| (d)(2) | overall capability of the aeroplane and its systems; |  |  |  |  |
| (d)(3) | available means to determine the position of, and communicate with, the aeroplane; |  |  |  |  |
| (d)(4) | frequency and duration of gaps in automated reporting; |  |  |  |  |
| (d)(5) | human factors consequences resulting from changes to flight crew procedures; and |  |  |  |  |
| (d)(6) | specific mitigation measures and contingency procedures.  *Note. - Guidance on development, implementation and approval of the risk assessment process which allows for variations to the need for automatic reporting and the required interval, including variation examples, is contained in the Aircraft Tracking Implementation Guidelines (Cir 347).* |  |  |  |  |
| (e) | An operator shall establish procedures approved by the Authority for the retention of aircraft tracking data to assist SAR in determining the last known position of the aircraft.  *Note. 1 – Refer to PCAR Part 9.1.1.4 for operator responsibilities when using third parties for the conduct of aircraft tracking under PCAR.*  *Note. - Operational procedures for monitoring and making position information of a flight in distress available to the appropriate organizations in a timely manner are contained in PANS-OPS, Volume III, Section 10.* |  |  |  |  |
| **8.3** | **AIRCRAFT MAINTENANCE REQUIREMENTS** |  |  |  |  |
| **8.3.1.1** | **APPLICABILITY** |  |  |  |  |
| (a) | This Subpart prescribes the rules governing the inspection of Republic of the Philippines registered civil aircraft operating within or outside Republic of the Philippines. |  |  |  |  |
| (b) | Subparts 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 Operator in Part 9. |  |  |  |  |
| (c) | This Subpart applies to all aircraft, as designated below, operated as commercial air transport in Republic of the Philippines if the operator has not been designated an Operator by Republic of the Philippines. |  |  |  |  |
| (d) | This Subpart applies to all general aviation large, complex aircraft operated **in** Republic of the Philippines, whether or not the aircraft is registered in Republic of the Philippines. |  |  |  |  |
| (e) | Where any aircraft, not registered in Republic of the Philippines and operating under an inspection program approved or accepted by the State of Registry, does not have the equipment required by Republic of the Philippines for operations within Republic of the Philippines; 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 Republic of the Philippines. |  |  |  |  |
| (f) | The owner of an airplane over 5,700 kg maximum certificated take-off mass, or in the case where it is leased, the lessee, shall, as prescribed by the State of Registry, ensure that the information resulting from maintenance and operational experience with respect to continuing airworthiness, is transmitted as required by Subpart 8.3.1.6. |  |  |  |  |
| **8.3.1.2** | **GENERAL** |  |  |  |  |
| (a) | The registered owner or operator of an aircraft is 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, including Part 5. |  |  |  |  |
| (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 operations specifications approved by the Authority under Part 9 or in accordance with an inspection program approved under this Subsection are complied with. |  |  |  |  |
| (d) | The owner or operator shall use one of the following inspection programs as appropriate for aircraft and the type operation: |  |  |  |  |
| (d)(1) | Annual inspection; |  |  |  |  |
| (d)(2) | Annual/100 hours inspection; |  |  |  |  |
| (d)(3) | Progressive; or |  |  |  |  |
| (d)(4) | Continuous airworthiness program. |  |  |  |  |
| (e) | No aircraft shall have a Maintenance Release signed after inspection unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the airplane, including airframe, power-units, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with the selected inspection program |  |  |  |  |
| (f) | 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: |  |  |  |  |
| (f)(1) | Instructions and procedures for 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 |  |  |  |  |
| (f)(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. |  |  |  |  |
| (g) | 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 when the inspection is due under the new program. |  |  |  |  |
| **8.3.1.3** | **ANNUAL INSPECTIONS** |  |  |  |  |
| (a) | An annual inspection program may be used for non-complex aircraft with a maximum certificated take-off mass of less than 5,700 kg that are not used in commercial air transport. |  |  |  |  |
| (b) | An annual inspection under this paragraph may be performed by an AMT / A&P in accordance with Part 2 or an AMO. |  |  |  |  |
| (c) | No person may operate an aircraft unless, within the preceding 12 calendar-months, the aircraft has had: |  |  |  |  |
| (c)(1) | An annual inspection in accordance with Part 5 and has been completed by an AMT / A&P or an AMO. |  |  |  |  |
| (c)(2) | An inspection for the issuance of a Certificate of Airworthiness completed for the Authority in accordance with Part 5. |  |  |  |  |
| **8.3.1.4** | **ANNUAL/100 HOURS INSPECTIONS** |  |  |  |  |
| (a) | No person may operate a non-complex aircraft with a certificated maximum take-off mass less than 5,700 kg carrying any person (other than a crew member) used in commercial air transport, and no person may give flight instruction for compensation or hire in an aircraft which that person provides, unless: |  |  |  |  |
| (a)(1) | Within the preceding 100 hours of time in service the aircraft has received an annual or a 100-hour inspection, and |  |  |  |  |
| (a)(2) | Been approved for return to service in accordance with Part 5 of these regulations. |  |  |  |  |
| (b) | 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) | An annual inspection under this paragraph must be performed, a maintenance release and a return to service signed in accordance with Part 2 at an AMO. |  |  |  |  |
| (d) | A 100-hour inspection under this paragraph must be performed, a maintenance release and a return to service signed in accordance with Part 2 at an AMO. |  |  |  |  |
| **8.3.1.5** | **PROGRESSIVE INSPECTIONS** |  |  |  |  |
| (a) | A progressive inspection program may be used for aircraft with a maximum certificated take-off mass of less than 5,700 kg. |  |  |  |  |
| (b) | Aircraft inspected under a progressive inspection program may be used for aircraft engaged in commercial air transport. |  |  |  |  |
| (c) | 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: |  |  |  |  |
| (c)(1) | An AMO appropriately rated in accordance with Part 6, to conduct the progressive inspection; |  |  |  |  |
| (c)(2) | A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail: |  |  |  |  |
| (c)(2)(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; |  |  |  |  |
| (c)(2)(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; |  |  |  |  |
| (c)(2)(iii) | Sample routine and detailed inspection forms and instructions for their use; and |  |  |  |  |
| (c)(2)(iv) | Sample reports and records and instructions for their use; |  |  |  |  |
| (c)(3) | Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and |  |  |  |  |
| (c)(4) | Appropriate current technical information for the aircraft. |  |  |  |  |
| (d) | 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. |  |  |  |  |
| (e) | 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. |  |  |  |  |
| (f) | Each owner/operator shall include in the inspection 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) | If the progressive inspection is discontinued, the owner or operator shall immediately notify the Authority, in writing, of the discontinuance. |  |  |  |  |
| (g)(1) | After the discontinuance, the first annual inspection under Part 8 is due within 12 calendar months after the last complete inspection of the aircraft under the progressive  inspection. |  |  |  |  |
| (g)(2) | The 100-hour inspection is due within 100 hours after that complete inspection. |  |  |  |  |
| (g)(3) | 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. |  |  |  |  |
| (g)(4) | A routine inspection of the aircraft and a detailed inspection of several components are not considered to be a complete inspection. |  |  |  |  |
| **8.3.1.6** | **CONTINUOUS AIRWORTHINESS MAINTENANCE INSPECTION** |  |  |  |  |
| (a) | The registered owner or operator of each large airplane certificated with a maximum take-off mass of over 5,700 kg, turbine-powered multi-engine airplane, and turbine-powered rotorcraft shall select, identify in the aircraft maintenance records, and use one of the following continuous airworthiness maintenance inspection programs for the inspection of the aircraft: |  |  |  |  |
| (a)(1) | A current inspection program recommended by the manufacturer; |  |  |  |  |
| (a)(2) | A continuous airworthiness maintenance program for that make and model of aircraft currently approved by the Authority for use by an AOC holder; or |  |  |  |  |
| (a)(3) | Any other inspection program established by the registered owner or operator of that aircraft and approved by the Authority. |  |  |  |  |
| (b) | Each owner/operator shall include in the selected inspection 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. |  |  |  |  |
|  | *Note: The aircraft manufacturer’s inspection program and any other inspection program approved by the Authority will specify who can perform aircraft maintenance, inspections and return of the aircraft to service.* |  |  |  |  |
| **8.3.1.7** | **CHANGES TO AIRCRAFT MAINTENANCE INSPECTION PROGRAM** |  |  |  |  |
| (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. |  |  |  |  |
| **8.3.1.8** | **REQUIRED MAINTENANCE** |  |  |  |  |
| (a) | Each owner or operator of an aircraft shall: |  |  |  |  |
| (a)(1) | Have that aircraft inspected as prescribed in Part 8.3 and discrepancies repaired as prescribed in the Performance Rules of Part 5; |  |  |  |  |
| (a)(2) | Repair, replace, remove, or inspect any inoperative instruments or items of equipment at the next required inspection, except when permitted to be deferred under the provisions of a Minimum Equipment List (MEL); |  |  |  |  |
| (a)(3) | Ensure that a placard has been installed on the aircraft when listed discrepancies include inoperative instruments or equipment; and |  |  |  |  |
| (a)(4) | Ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service. |  |  |  |  |
| **8.3.1.9** | **MAINTENANCE AND INSPECTION RECORDS RETENTION** |  |  |  |  |
| (a) | Except for records maintained by an AOC holder and notwithstanding the requirements of Part 13, each registered owner or operator shall retain the following records for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service for paragraph (2); and the records in paragraph (1) below for a minimum period of one year after the signing of the maintenance release or until the work is repeated or superseded by other work of equivalent scope and detail: |  |  |  |  |
| (a)(1) | Records of the maintenance, preventive maintenance, minor modifications, and records of the 100-hour; 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- |  |  |  |  |
| (a)(1)(i) | A description (or reference to data acceptable to the Authority) of the work performed, |  |  |  |  |
| (a)(2)(ii) | The date of completion of the work performed; and |  |  |  |  |
| (a)(3)(iii) | The signature and certificate number of the person signing the Maintenance Release; And |  |  |  |  |
| (a)(4)(iv) | As necessary the identification of the person at the AMO approving the aircraft for return to service. |  |  |  |  |
| (a)(2) | Records containing the following information- |  |  |  |  |
| (a)(2)(i) | The total time-in-service of the airframe, each engine, each propeller, and each rotor. |  |  |  |  |
| (a)(2)(ii) | The current status of all life-limited aeronautical products; |  |  |  |  |
| (a)(2)(iii) | The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis; |  |  |  |  |
| (a)(2)(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. |  |  |  |  |
| (a)(2)(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. |  |  |  |  |
| (a)(2)(vi) | Copies of the forms prescribed by this chapter for each major modification to the airframe and currently installed engines, rotors, propellers, and appliances. |  |  |  |  |
| (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. |  |  |  |  |
|  | *Note: Requirements for maintenance records for an AOC holder are detailed in subsection 9.4.1.7*. |  |  |  |  |
| **8.3.1.10** | **LEASE OR SALE OF AIRCRAFT-TRANSFER OF MAINTENANCE RECORDS** |  |  |  |  |
| (a) | Any owner or operator who sells or leases a Republic of the Philippines registered aircraft shall transfer to the purchaser/ lessor, at the time of sale or lease, the records identified in Subparts 8.3.1.8 and 8.3.1.9 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. |  |  |  |  |
| (b) | The operator of an aircraft shall comply with the requirements of Subpart 8.3.1.9, as applicable, while the aircraft is leased. |  |  |  |  |
| **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 flight manual (for helicopters: operations manual…. |  |  |  |  |
| (a) | …. The flight crew members 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 aircraft used, the type of operation involved and the duration of flight between points where flight crew members are changed. |  |  |  |  |
| (b) | The flight crew shall include at least one member who holds a valid radio license, issued or rendered valid by the State of Registry, authorizing operation of the type of radio transmitting equipment to be used. |  |  |  |  |
| (c) | The flight crew shall include at least one member who holds a flight navigator license in all operations where, as determined by the Authority, navigation necessary for the safe conduct of the flight cannot be adequately accomplished by the pilots from the pilot station. |  |  |  |  |
| (d) | A co-pilot (CP) is required for IFR commercial air transport operations, unless the Authority has issued an exemption. This exemption shall be for domestic operations only and airplane weighing less than 5,700 kg or helicopters weighing less than 3,175 kg. |  |  |  |  |
| (e) | When a separate flight engineer’s station is incorporated in the design of an airplane, 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 license, without interference with regular duties. |  |  |  |  |
| **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 flight crew members have maintained recent experience and competence. |  |  |  |  |
| (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. |  |  |  |  |
| (c) | The operator or owner of the aircraft shall ensure that flight crewmembers engaged in international civil aviation operations speak and understand the English language. |  |  |  |  |
| (d) | The PIC of an aircraft equipped with an airborne collision avoidance system (ACAS II) shall ensure that each flight crew member has been appropriately trained to competency in the use of ACAS II equipment and the avoidance of collisions. |  |  |  |  |
| **8.4.1.3** | **AUTHORIZATION 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 |  |  |  |  |
| (a)(1) | The Authority has determined that an equivalent level of safety can be achieved through the operating limitations on the authorization; |  |  |  |  |
| (a)(2) | The applicant shows that compliance with this subsection is impracticable for the flight or series of flights, |  |  |  |  |
| (a)(3) | The operations: |  |  |  |  |
| (a)(3)(i) | Involve only a ferry flight, training flight, test flight, or skill test for a pilot license or rating; |  |  |  |  |
| (a)(3)(ii) | Are within Republic of the Philippines, unless, by previous agreement with the Authority, the aircraft is flown to an adjacent contracting State for maintenance, |  |  |  |  |
| (a)(3)(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 |  |  |  |  |
| (a)(3)(iv) | Involve only the carriage of flight crew members considered essential for the flight. |  |  |  |  |
| (a)(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** | **LICENSES REQUIRED** |  |  |  |  |
| (a) | No person may act as PIC or in any other capacity as a required flight crew member of a civil aircraft of: |  |  |  |  |
| (a)(1) | Republic of the Philippines registry, unless he or she carries in their personal possession the appropriate and current license for that flight crew position for that type of aircraft and a valid medical certificate. |  |  |  |  |
| (a)(2) | Foreign registry, unless he or she carries in their personal possession a valid and current license for that type of aircraft issued to them by the State in which the aircraft is registered. |  |  |  |  |
| (b) | Each operator shall ensure that flight crew members demonstrate the ability to speak and understand the language used for communications as specified in CAR Part 2. |  |  |  |  |
| **8.4.1.5** | **FLIGHT CREW: LIMITATIONS ON USE OF SERVICES FOR COMMERCIAL AIRTRANSPORT** |  |  |  |  |
|  | No person may serve as an airman, nor may any Operator 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: |  |  |  |  |
| (a)(1) | In the case of an aircraft, the pilot holds an instrument rating or an ATP license with an appropriate airplane category, class, and type (if required) rating for the airplane being flown; |  |  |  |  |
| (a)(2) | In the case of helicopter, the pilot holds a helicopter instrument rating or an ATP license for helicopters not limited to VFR operations. |  |  |  |  |
| **8.4.1.7** | **SPECIAL AUTHORIZATION 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 |  |  |  |  |
| (a)(1) | In the case of a PIC, he or she holds a current Category II or III pilot authorization issued by the State of Registry for that type aircraft. |  |  |  |  |
| (a)(2) | In the case of a CP, he or she is authorized by the State of Registry to act as CP in that aircraft in Category II/III operations. |  |  |  |  |
| (b) | An authorization is not required for individual pilots of an Operator that has operations specifications approving Category II or III operations. |  |  |  |  |
| **8.4.1.8** | **PILOT LOGBOOKS** |  |  |  |  |
| (a) | Each pilot shall show the aeronautical training and experience used to meet the requirements for a license or rating, or recent experience, by a reliable record. |  |  |  |  |
| (b) | Each PIC shall carry his or her logbook on all general aviation flights. |  |  |  |  |
| (c) | A student pilot shall carry his or her logbook, including the proper flight instructor endorsements, on all solo cross-country flights. |  |  |  |  |
|  | *Note: The acceptable methods of logging experience are outlined in Part 2 – Personnel Licensing.* |  |  |  |  |
| **8.4.1.9** | **PILOT CURRENCY: TAKE-OFF AND LANDINGS, AND CRUISE RELIEF** |  |  |  |  |
| (a) | No person may act as PIC or a co-pilot of an aircraft unless, within the preceding 90 days that pilot has: |  |  |  |  |
| (a)(1) | Made three take-offs 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 or in a flight simulation training device approved for the purpose. |  |  |  |  |
| (a)(2) | For a tail-wheel airplane, made the three take-offs and landings in a tail-wheel airplane with each landing to a full stop. |  |  |  |  |
| (a)(3) | For night operations, made the three take-offs and landings required by paragraph (a)(1) above at night. |  |  |  |  |
| (b) | A pilot who has not met the recency of experience for take-offs and landings shall satisfactorily complete a requalification curriculum acceptable to the Authority. |  |  |  |  |
| (c) | Requirements of paragraphs (a) and (b) above may be satisfied in a flight simulator approved by the Authority. |  |  |  |  |
| (d) | No person may act as a cruise relief pilot in a commercial air transport unless within the preceding 90 days, that pilot has either: |  |  |  |  |
| (d)(1) | Operated as PIC, CP or cruise pilot on the same type of aircraft; or |  |  |  |  |
| (d)(2) | Carried out flying skill refresher training including normal, abnormal and emergency procedures specific to cruise flight on the same type of aircraft or in a flight simulator approved for the purpose, and has practised approach and landing procedures, where the approach and landing procedure practice may be performed as the pilot who is not flying the aircraft. |  |  |  |  |
| (e) | When a pilot is flying several variants of the same type of aircraft or different types of aircraft with similar characteristics in terms of operating procedures, systems and handling, the Authority shall  decide under which conditions the requirements of paragraph (a) for each variant or each type of aircraft can be combined. |  |  |  |  |
| **8.4.1.10** | **PILOT CURRENCY: IFR OPERATIONS** |  |  |  |  |
| (a) | No person may act as a pilot under IFR, nor in IMC, unless he or she has, within the past six calendar months |  |  |  |  |
| (a)(1) | Logged at least six hours of instrument flight time including at least three hours in flight in the category of aircraft: and |  |  |  |  |
| (a)(2) | Completed at least six instrument approaches. |  |  |  |  |
| (b) | A pilot who has completed an instrument competency check with an authorized representative of the Authority retains currency for IFR operations for six calendar months following that check. |  |  |  |  |
| **8.4.1.11** | **PILOT CURRENCY: GENERAL AVIATION OPERATIONS** |  |  |  |  |
| (a) | In addition to the requirements in Subparts 8.4.1.9 and 8.4.1.10: |  |  |  |  |
| (a)(1) | No person may act as PIC of an aircraft type certified for more than one pilot or a turbojet aircraft unless, since the beginning of the past 12 calendar months, he or she has passed a proficiency check in an aircraft with an authorized representative of the Authority. |  |  |  |  |
| (a)(2) | No person may act as PIC of an aircraft type certified for more than one pilot or a turbojet aircraft 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. |  |  |  |  |
| (a)(3) | 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. |  |  |  |  |
| (a)(4) | No person may act as CP of an aircraft type certified for more than one pilot unless, since the beginning of the 12 calendar months, he or she has logged 3 take-off and landings as the sole manipulator of the controls in the aircraft of the same type. |  |  |  |  |
| (b) | The person conducting the proficiency checks shall ensure that each check duplicates the maneuvers of the type rating skill test. |  |  |  |  |
|  | *Note: Subsection 8.4.1.11 does not apply to pilots engaged in commercial air transport operations. Those requirements are outlined in Subpart 8.10.1.21.* |  |  |  |  |
| **8.4.1.12** | **PILOT PRIVILEGES AND LIMITATIONS** |  |  |  |  |
|  | A pilot may conduct operations only within the general privileges and limitations of each license as specified in Part 2 of these regulations. |  |  |  |  |
| **8.5** | **CREW MEMBER DUTIES AND RESPONSIBILITIES** |  |  |  |  |
| **8.5.1.1** | **AUTHORITY AND RESPONSIBILITY OF THE PIC** |  |  |  |  |
| (a) | Pilot-in-command (PIC): Each operator shall designate one pilot to act as PIC for each flight. |  |  |  |  |
| (b) | The PIC shall be responsible for the operations and safety of the aircraft and for the safety of all crew members, passengers and cargo on board, when the doors are closed. … |  |  |  |  |
| (b) | …. The PIC 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 ….* |  |  |  |  |
| (b) | ....and in the case of helicopters, rotor blades stopped). |  |  |  |  |
| (c) | The PIC of an aircraft shall have final authority as to the operation of the aircraft while he or she is in command. |  |  |  |  |
| (d) | 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. |  |  |  |  |
| (e) | 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. |  |  |  |  |
| **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 - |  |  |  |  |
| (b)(1) | Notify the appropriate local authority without delay; |  |  |  |  |
| (b)(2) | Submit a report on any such violation to the appropriate authority of such State, if required by the State in which the incident occurs; and |  |  |  |  |
| (b)(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) | An 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. |  |  |  |  |
| (e) | An operator shall ensure that all pilots are familiar with the laws, regulations, and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the airports to be used and the air navigation facilities relating thereto… |  |  |  |  |
| (e) | …The operator shall ensure that other members of the flight crew are familiar with such of these laws, regulations, and procedures as are pertinent to the performance of their respective duties in the operation of the aircraft. |  |  |  |  |
| **8.5.1.3** | **NEGLIGENT OR RECKLESS OPERATIONS OF THE AIRCRAFT** |  |  |  |  |
|  | 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 license. |  |  |  |  |
| (b) | The PIC shall be responsible for ensuring that a flight is not: |  |  |  |  |
| (b)(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 |  |  |  |  |
| (b)(2) | Continued beyond the nearest suitable airport/heliport if a flight crew member’s 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** | **PROHIBITION ON USE OF PSYCHOACTIVE SUBSTANCES, INCLUDING NARCOTICS, DRUGS OR ALCOHOL** |  |  |  |  |
| (a) | No person may act or attempt to act as a crew member of a civil aircraft: |  |  |  |  |
| (a)(1) | Within 8 hours after the consumption of any alcoholic beverage; |  |  |  |  |
| (a)(2) | While under the influence of alcohol; or |  |  |  |  |
| (a)(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. |  |  |  |  |
| (c) | Whenever there is a reasonable basis to believe that a person may not be in compliance with this paragraph 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. |  |  |  |  |
| (d) | Any test information provided to the Authority under the provisions of this section may be used as evidence in any legal proceeding. |  |  |  |  |
| **8.5.1.6** | **FLIGHT CREW MEMBER USE OF SEAT BELTS AND SAFETY HARNESSES** |  |  |  |  |
| (a) | Each flight crew member shall have his or her seat belts fastened during take-off and landing and all other times when seated at his or her station. |  |  |  |  |
| (b) | Safety harness. Any flight crew member occupying a pilot’s seat shall keep the safety harness fastened during the take-off and landing phases; all other flight crew members shall keep their safety harnesses fastened during the take-off and landing phases … |  |  |  |  |
| (b) | … unless the shoulder straps interfere with the performance of their duties, in which case the shoulder straps may be unfastened but the seat belt must remain fastened. |  |  |  |  |
| (c) | Each flight crew member occupying a station equipped with a shoulder harness shall fasten that harness during take-off and landing, except that the shoulder harness may be unfastened if the flight crew member cannot perform the required duties with the shoulder harness fastened. |  |  |  |  |
| (d) | 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. |  |  |  |  |
| (e) | 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: |  |  |  |  |
| (b)(1) | Absence is necessary for the performance of his or her duties in connection with the operation; |  |  |  |  |
| (b)(2) | Absence is necessary for physiological needs, provided one qualified pilot remains at the controls at all times; or |  |  |  |  |
| (b)(3) | The crew member is taking a rest period and a qualified relief crewmember replaces him or her at the duty station. |  |  |  |  |
| (b)(3)(i) | For the assigned PIC during the en route cruise portion of the flight by a pilot who holds an airline transport pilot license and an appropriate type rating, and who is currently qualified as PIC or CP, and is qualified as PIC of that aircraft during the en route cruise portion of the flight; and |  |  |  |  |
| (b)(3)(ii) | In the case of the assigned CP, by a pilot qualified to act as PIC or Co-pilot of that aircraft during en route operations. |  |  |  |  |
| (c) | An operator shall, for each type of aircraft, assign to all flight crew members the necessary functions they are to perform in an emergency or in a situation requiring emergency evacuation…. |  |  |  |  |
| (c) | … Annual training in accomplishing these functions shall be contained in the operator’s training program and shall include instruction in the use of all emergency and lifesaving equipment required to be carried, and drills in the emergency evacuation of the aircraft. |  |  |  |  |
| **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, suitable for the type of operation undertaken, as specified by the operator. |  |  |  |  |
| (b) | Each pilot crew member shall have at his or her station an aircraft checklist containing at least the pre-take-off, after take-off, 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. |  |  |  |  |
| (e) | Each aircraft shall have at least one copy of current cabin crew safety manual on board. Each cabin crew member shall have at his or her station the safety directives/procedures-part of cabin  crew safety manual for quick review during take-off and landing. |  |  |  |  |
| **8.5.1.9** | **COMPLIANCE WITH CHECKLISTS** |  |  |  |  |
|  | The PIC shall ensure that the checklists specified in Subpart 9.3.1.11 are complied with in detail. |  |  |  |  |
| **8.5.1.10** | **SEARCH AND RESCUE INFORMATION** |  |  |  |  |
| (a) | An operator shall ensure that PIC has available on board the aircraft all the essential information concerning the search and rescue services in the area over which the aircraft will be flown. |  |  |  |  |
| (b) | For all flights, the PIC shall have available on board the aircraft essential information concerning the search and rescue services in the areas over which it is intended the aircraft will be flown. |  |  |  |  |
| **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** |  |  |  |  |
| (a) | 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. |  |  |  |  |
| (b) | No person may operate a passenger carrying airplane having a maximum certificated take-off mass in excess of 45,000 kg or with a passenger capacity greater than 60, unless the flight crew compartment door is closed and locked: |  |  |  |  |
| (b)(1) | From the time all external doors are closed following embarkation; until |  |  |  |  |
| (b)(2) | Any such door is opened for disembarkation; except |  |  |  |  |
| (b)(3) | When necessary to permit access and egress by authorized persons. |  |  |  |  |
| **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 - |  |  |  |  |
| (a)(1) | An operating crew member; |  |  |  |  |
| (a)(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 |  |  |  |  |
| (a)(3) | Permitted by and carried out in accordance with instructions contained in the Operations Manual. |  |  |  |  |
| (b) | The PIC shall ensure that |  |  |  |  |
| (b)(1) | In the interest of safety, admission on the flight deck does not cause distraction and/or interference with the flight's operations; and |  |  |  |  |
| (b)(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 [Inspector's Credential Form] 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 Operator. |  |  |  |  |
| **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 LOG: COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| (a) | The PIC shall ensure that all portions of the technical log are completed with known or suspected defects in the aircraft before, during and after flight operations, including: |  |  |  |  |
| (a)(1) | The journey logbook; and |  |  |  |  |
| (a)(2) | The aircraft maintenance records section. |  |  |  |  |
| **8.5.1.19** | **REPORTING MECHANICAL IRREGULARITIES** |  |  |  |  |
| (a) | The PIC shall ensure that all mechanical irregularities occurring during flight time are: |  |  |  |  |
| (a)(1) | For general aviation operations, entered in the aircraft logbook and disposed of in accordance with the MEL or other approved or prescribed procedure. |  |  |  |  |
| (a)(2) | For commercial air transport operations and aerial work operations, entered in the aircraft maintenance records section of the technical log of the aircraft at the appropriate points before, during and 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** | **REPORTING OF HAZARDOUS CONDITIONS** |  |  |  |  |
| (a) | The PIC shall report to the appropriate ATC facility, without delay and with enough details to be pertinent to the safety of other aircraft, any hazardous flight conditions encountered en-route,  including those associated with meteorological conditions. |  |  |  |  |
| (a)(1) | Those associated with meteorological observations during en-route and climb-out phases of flight; |  |  |  |  |
| (a)(2) | On volcanic activity; |  |  |  |  |
| (a)(3) | Meteorological Observation  *Note.- The procedures for making meteorological observations on board aircraft in flight and for recording and reporting them are contained in ICAO Annex 3, the PANS-ATM (ICAO Doc 4444) and the appropriate Regional Supplementary Procedures (ICAO Doc 7030).*  *Note 2.- The procedures for making special air-reports regarding runway braking action are contained in the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, ICAO Doc 4444), Chapter 4 and Appendix 1, Instructions for air-reporting by voice communication.* |  |  |  |  |
| (a)(3)(i) | As of 4 November 2021, 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.  *Note.- The procedures for making special air-reports regarding runway braking action are contained in the PANS-ATM (ICAO Doc 4444), Chapter 4 and Appendix I.* |  |  |  |  |
| (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. |  |  |  |  |
| **8.5.1.22** | **REPORTING OF INCIDENTS** |  |  |  |  |
| (a) | Air traffic incident report. The PIC shall submit, without delay, an air traffic incident report whenever an aircraft in flight has been endangered by: |  |  |  |  |
| (a)(1) | A near collision with another aircraft or object; |  |  |  |  |
| (a)(2) | Faulty air traffic procedures or lack of compliance with applicable procedures by ATC or by the flight crew: or |  |  |  |  |
| (a)(3) | A failure of ATC facilities. |  |  |  |  |
| (b) | Birds. In the event a bird constitutes an in-flight hazard or an actual bird strike occurs, the PIC shall, without delay: |  |  |  |  |
| (b)(1) | Inform the appropriate ground station whenever a potential bird hazard is observed; and |  |  |  |  |
| (b)(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. |  |  |  |  |
| (e) | Laser illumination: the flight crew shall immediately report the incident of laser illumination by radio to the appropriate Air Traffic Control. |  |  |  |  |
| **8.5.1.23** | **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.  *Note.- A definition of the term “serious injury” is contained in PCAR Part 13.* |  |  |  |  |
| (b) | The PIC shall submit a report to the Authority of any accident which occurred while he or she was responsible for the flight. |  |  |  |  |
| **8.5.1.24** | **OPERATION OF FLIGHT DECK VOICE AND FLIGHT DATA RECORDERS** |  |  |  |  |
| (a) | The PIC shall ensure that whenever an aircraft has flight recorders installed, those recorders are operationally checked and operated continuously from the instant |  |  |  |  |
| (a)(1) | For a flight data recorder, the aircraft begins its take-off roll until it has completed the landing roll, and |  |  |  |  |
| (a)(2) | For a flight deck voice recorder, the initiation of the pre-start checklist until the end of the securing aircraft checklist. |  |  |  |  |
| (b) | The PIC may not permit a flight data recorder or flight deck voice recorder to be disabled, switched off or erased during flight, unless necessary to preserve the data for an accident or incident investigation. |  |  |  |  |
| (c) | In event of an accident or incident, the PIC shall act to preserve the recorded data for subsequent investigation. |  |  |  |  |
| **8.5.1.25** | **CREW MEMBER OXYGEN: MINIMUM SUPPLY AND USE** |  |  |  |  |
| (a) | The PIC shall ensure that all flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in Subpart 8.6.2.13.2. |  |  |  |  |
| (b) | All flight crew members of pressurized aircrafts operating above an altitude where the atmospheric pressure is less than 376 hPa shall have available at the flight duty station a quick donning type of oxygen mask which will readily supply oxygen upon demand. |  |  |  |  |
| (c) | 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. |  |  |  |  |
| (d) | In no case shall the minimum supply of oxygen on board the aircraft be less than that prescribed by the Authority. |  |  |  |  |
|  | *Note: The requirements for oxygen supply and use are prescribed in Part 7, 7.8.12 Required Instruments and Equipment.* |  |  |  |  |
| (e) | 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. |  |  |  |  |
| (f) | One pilot at the controls of a pressurized aircraft in flight shall wear and use an oxygen mask |  |  |  |  |
| (f)(1) | For general aviation operations, at flight levels above 350, if there is no other pilot at their duty station: and |  |  |  |  |
| (f)(2) | For commercial air transport operations, at flight levels above 250, if there is no other pilot at their duty station. |  |  |  |  |
| (g) | Cabin crew should be safeguarded so as to ensure reasonable probability of their retaining consciousness during any emergency descent which may be necessary in the event of loss of pressurization … |  |  |  |  |
| (g) | … and, in addition, they should have such means of protection as will enable them to administer first aid to passengers during stabilized flight following the emergency. … |  |  |  |  |
| (g) | … and, in addition, they should have such means of protection as will enable them to administer first aid to passengers during stabilized flight following the emergency…. |  |  |  |  |
| (g) | ... Passengers should be safeguarded by such devices or operational procedures as will ensure reasonable probability of their surviving the effects of hypoxia in the event of loss of pressurization.  *Note.- It is not envisaged that cabin crew will always be able to provide assistance to passengers during emergency descent procedures which may be required in the event of loss of pressurization.* |  |  |  |  |
| **8.5.1.26** | **PORTABLE ELECTRONIC DEVICES** |  |  |  |  |
| (a) | No PIC or SCC may permit any person to use, nor may any person use a portable electronic device, including cell-phone, on board an aircraft that may adversely affect the performance of aircraft systems and equipment unless |  |  |  |  |
| (a)(1) | For IFR operations other than commercial air transport, the PIC allows such a device prior to its use; or |  |  |  |  |
| (a)(2) | For commercial air transport operations, the Operator makes a determination of acceptable devices and publishes that information in the Operations Manual for the crew members use; and |  |  |  |  |
| (a)(3) | The PIC or SCC informs passengers of the permitted use. |  |  |  |  |
| **8.5.1.27** | **CARRIAGE OF DANGEROUS GOODS** |  |  |  |  |
| **8.5.1.27.1** | **GENERAL** |  |  |  |  |
| (a) | No person shall carry dangerous goods in an aircraft registered in Republic of the Philippines or operated in Republic of the Philippines except: |  |  |  |  |
| (a)(1) | With the written permission of the Authority and in accordance with the regulations and/or conditions set by the Authority in granting such permission; and |  |  |  |  |
| (a)(2) | In accordance with the Technical Instructions for the Safe Transport of Dangerous Goods by Air issued by the Council of International Civil Aviation Organization and with any variations to those instructions that the Authority may from time to time mandate and provide notification of to ICAO. |  |  |  |  |
| (b) | Operators wishing to carry dangerous goods in an aircraft to, from or over the territory of Republic of the Philippines must obtain prior written permission from the Director General. The application must include details of Dangerous Goods Training Program. |  |  |  |  |
| (c) | The operator shall ensure that all personnel, including third-party personnel, involved in the acceptance, handling, loading and unloading of cargo are informed of the operator’s operational approval and limitations with regard to the transport of dangerous goods. |  |  |  |  |
| (d) | On shipments to, from, within, or transiting through Republic of the Philippines, a 24-hour emergency response information must be provided for all dangerous goods, except for dangerous goods for which no transport document is required. |  |  |  |  |
| (e) | The transport document must include a 24-hour emergency response telephone number (including the area codes and for international number for location outside Republic of the Philippines, the international access code, country and city codes are needed). … : |  |  |  |  |
| (e) | … The telephone number must be monitored at all times by a person who : |  |  |  |  |
| (e)(1) | Has complete knowledge of emergency response and accident information fro dangerous goods; |  |  |  |  |
| (e)(2) | Has immediate access to a person who possesses such knowledge and information; and |  |  |  |  |
| (e)(3) | Is knowledgeable of the hazards and characteristics of the dangerous goods being transported. |  |  |  |  |
| (f) | Infectious substances other than human blood, human urine and tissue are prohibited from entry to Republic of the Philippines without approval from the Department of Health Authorities and must be transported only on a cargo aircraft. Infectious substances are not allowed in airmail. |  |  |  |  |
| (g) | An operator who is involved in a dangerous goods incident and/or accident in the Republic of the Philippines must provide the Authority all the necessary information to allow the Authority take necessary accident mitigation action…. |  |  |  |  |
| (g) | … A written report must be prepared and sent by the operator (or his authorized representative) to the Authority within 72 hours of the occurrence. |  |  |  |  |
| (h) | No person may offer for transport aboard a passenger aircraft, a package or an over-pack with an activity greater than 3.0. |  |  |  |  |
| (g)(1) | No package may be offered for transport aboard a passenger aircraft, a package or an overpack with an activity greater than 3,000 x A1 or 3,000 x A2 1,000 TBq (27,000 Ci), whichever is less. |  |  |  |  |
| (g)(2) | All type B (U), type B (M), type H (U) type H (M) and fissile package design must be certified by the Philippine Nuclear Research Institute (PNRI). Request for a package design certification and approval should be directed to the appropriate authority of the Philippine (PNRI). |  |  |  |  |
| **8.5.1.27.2** | **STATE RESPONSIBILITIES** |  |  |  |  |
| (a) | The Authority shall indicate in the operations specification if an operator is approved or is not approved to transport dangerous goods as cargo. When an operator is approved to transport dangerous goods as cargo any limitations should be included. |  |  |  |  |
| (b) | An operational approval may be granted for the transport of specific types of dangerous goods only (e.g. dry ice, biological substance, Category B, and dangerous goods in excepted quantities) or COMAT. |  |  |  |  |
| (c) | The Supplement to the Technical Instructions contains guidance on a State’s responsibilities with respect to operators. This includes additional information to Part 7 of the Technical Instructions on storage and loading, provision of information, inspections, enforcement and CAR Parts 8, 9 and 18 information relevant to the  State’s responsibilities for dangerous goods. |  |  |  |  |
| (d) | Carriage of dangerous goods other than as cargo (e.g. medical flights, search and rescue) are addressed in Part 1, Chapter 1, of the Technical Instructions. The exceptions for the carriage of dangerous goods that are either equipment or for use on board the aircraft during flight are detailed in Part 1, 2.2.1, of the Technical Instructions. |  |  |  |  |
| **8.5.1.27.3** | **OPERATOR RESPONSIBILITES** |  |  |  |  |
| (a) | An operator's training programme should cover, as a minimum, the aspects of the transport of dangerous goods listed in the Technical Instructions in Table 1-4 for operators holding an approval or Table 1-5 for operators without an approval. Recurrent training must be provided within 24 months of previous training, except as otherwise provided by the Technical Instructions. |  |  |  |  |
| (b) | Details of the dangerous goods training programme including the policies and procedures regarding third-party personnel involved in the acceptance, handling, loading and unloading of dangerous goods cargo should be included in the operations manual. |  |  |  |  |
| (c) | The Authority requires that operators provide information in the operations manual and/or other appropriate manuals that will enable flight crews, other employees and ground handling agents to carry out their responsibilities with regard to the transport of dangerous goods and that initial training be conducted prior to performing a job function involving dangerous goods as provided in the Technical Instructions. |  |  |  |  |
| (d) | Operators should meet and maintain requirements established by the States in which operations are conducted. |  |  |  |  |
| (e) | Operators may seek approval to transport, as cargo, specific dangerous goods only, such as dry ice, biological substance, Category B, COMAT and dangerous goods in excepted quantities. |  |  |  |  |
| (f) | Attachment 1 to Part S-7, Chapter 7, of the Supplement to the Technical Instructions contains additional guidance and information on requirements regarding operators not approved to transport dangerous goods as cargo and for operators that are approved to transport dangerous goods as cargo. |  |  |  |  |
| (g) | All operators should develop and implement a system that ensures they will remain current with regulatory changes and updates. The Technical Instructions contain detailed instructions necessary for the safe transport of dangerous goods by air. These Instructions are issued biennially, becoming effective on 1 January of an odd-numbered year. |  |  |  |  |
| **8.5.1.27.3.1** | **OPERATORS WITH NO OPERATIONAL APPROVAL TO TRANSPORT DANGEROUS GOODS AS CARGO ( NO DG CARRY OPERATOR)** |  |  |  |  |
|  | The Authority shall ensure that operators not approved to transport dangerous goods have: |  |  |  |  |
| (a) | established a dangerous goods training programme that meets the applicable requirements of the Technical Instructions, Part 1, Chapter 4 and Part 18, as appropriate. Details of the dangerous goods training programme shall be included in the operator’s operations manuals; |  |  |  |  |
| (b) | established dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of the Technical Instructions and Part 18 to allow operator personnel to: |  |  |  |  |
| (b)(1) | identify and reject undeclared dangerous goods, including COMAT classified as dangerous goods; and |  |  |  |  |
| (b)(2) | report to the appropriate authorities of the State of the Operator and the State in which it occurred any; |  |  |  |  |
| (b)(2)(i) | occasions when undeclared dangerous goods are discovered in cargo or mail; and |  |  |  |  |
| (b)(2)(ii) | dangerous goods accidents and incidents. |  |  |  |  |
| **8.5.1.27.3.2** | **OPERATORS TRANSPORTING DANGEROUS GOODS AS CARGO (DG CARRY OPERATORS)** |  |  |  |  |
|  | The Authority shall approve the transport of dangerous goods and ensure that the operator: |  |  |  |  |
| (a) | establishes a dangerous goods training programme that meets the requirements in the Technical Instructions, Part 1, Chapter 4, Table 1-4 and the requirements of Part 18, as appropriate. Details of the dangerous goods training programme operator’s shall be included in the operations manuals. |  |  |  |  |
| (b) | established dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of the Technical Instructions and Part 18 to enable operator personnel to: |  |  |  |  |
| (b)(1) | identify and reject undeclared or misdeclared dangerous goods, including COMAT classified as dangerous goods; |  |  |  |  |
| (b)(2) | report to the appropriate authorities of the State of the Operator and the State in which it occurred any; |  |  |  |  |
| (b)(2)(i) | occasions when undeclared or misdeclared dangerous goods are discovered in cargo or mail; and |  |  |  |  |
| (b)(2)(ii) | dangerous goods accidents and incidents; |  |  |  |  |
| (b)(3) | 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; |  |  |  |  |
| (b)(3)(i) | when not loaded, segregated, separated or secured in accordance with the Technical Instructions Part 7, Chapter 2; and |  |  |  |  |
| (b)(3)(ii) | without information having been provided to the pilot-in-command( NOTOC); |  |  |  |  |
| (4) | accept, handle, store, transport, load and unload dangerous goods, including COMAT classified as dangerous goods as cargo on board an aircraft; and |  |  |  |  |
| (5) | provide the pilot-in-command with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo. |  |  |  |  |
| **8.5.1.28** | **MICROPHONES** |  |  |  |  |
| (a) | For AOC holders operating aircraft, a required flight crew member shall use a boom or throat microphone to communicate with another flight crewmember and air traffic service below the transition level or altitude. |  |  |  |  |
| (b) | For general aviation operations in an airplane, helicopter or powered lift aircraft, a required flight crew member should use a boom or throat microphone to communicate with another flight crew member and air traffic service below the transition level or altitude. |  |  |  |  |
| (c) | For aerial work operations, a required flight crew member should use a boom or throat microphone to communicate with another flight crewmember and air traffic service below the transition level or altitude, as applicable to the mission. |  |  |  |  |
| **8.5.1.29** | **LASER ILLUMINATION AGAINST CIVIL AIRCRAFT** |  |  |  |  |
| (a) | No person shall intentionally project a laser beam or direct by a high intensity light at an aircraft which can result in distraction, disruption, disorientation and, in extreme cases, incapacitation, adversely affect the ability of the flight crew to carry out their responsibilities, especially during take-off and landing; |  |  |  |  |
| (b) | A person using or planning to use lasers or other directed high intensity lights outdoors that may enter navigable airspace with sufficient power to cause an aviation hazard shall secure the written approval of the Authority within five (5) days from the intended date of use or plan to use laser beam illumination; |  |  |  |  |
| (c) | The PIC shall not deliberately operate an aircraft into a laser beam or other high-intensity light unless flight safety is ensured; and |  |  |  |  |
| (d) | No laser beam illumination is allowed within ten (10) nautical miles from the center of aerodrome. |  |  |  |  |
| **8.6** | **FLIGHT PLANNING AND SUPERVISION** |  |  |  |  |
| **8.6.1** | **FLIGHT PLANS** |  |  |  |  |
| **8.6.1.1** | **SUBMISSION OF A FLIGHT PLAN** |  |  |  |  |
| (a) | Prior to operating one of the following, a pilot shall file a VFR or IFR flight plan, as applicable, for |  |  |  |  |
| (a)(1) | Any flight (or portion thereof) to be provided with air traffic control service; |  |  |  |  |
| (a)(2) | Any IFR flight within advisory airspace; |  |  |  |  |
| (a)(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; |  |  |  |  |
| (a)(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 |  |  |  |  |
| (a)(5) | Any flight across international borders. |  |  |  |  |
| (b) | 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. |  |  |  |  |
| (c) | Unless otherwise prescribed by the appropriate ATC authority, a pilot should submit a flight plan to the appropriate ATC facility |  |  |  |  |
| (c)(1) | At least sixty (60) minutes before departure; or |  |  |  |  |
| (c)(2) | If submitted during flight, at a time which will ensure its receipt by the appropriate ATC facility at least ten (10) minutes before the aircraft is estimated to reach- |  |  |  |  |
| (c)(2)(i) | The intended point of entry into a control area or advisory area; or |  |  |  |  |
| (c)(2)(ii) | The point of crossing an airway or advisory route. |  |  |  |  |
| **8.6.1.2** | **AIR TRAFFIC CONTROL FLIGHT PLAN: COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| (a) | No person may take-off 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 |  |  |  |  |
| (a)(1) | Aircraft identification; |  |  |  |  |
| (a)(2) | Flight rules and type of flight; |  |  |  |  |
| (a)(3) | Number and type(s) of aircraft and wake turbulence category; |  |  |  |  |
| (a)(4) | Equipment; |  |  |  |  |
| (a)(5) | Departure airport and alternate (if required); |  |  |  |  |
| (a)(6) | Estimated off-block time; |  |  |  |  |
| (a)(7) | Cruising speed(s); |  |  |  |  |
| (a)(8) | Cruising level(s); |  |  |  |  |
| (a)(9) | Route to be followed; |  |  |  |  |
| (a)(10) | Destination airport and alternate (if required); |  |  |  |  |
| (a)(11) | Fuel endurance; |  |  |  |  |
| (a)(12) | Total number of persons on board; |  |  |  |  |
| (a)(13) | Emergency and survival equipment; and |  |  |  |  |
| (a)(14) | Other information. |  |  |  |  |
| (b) | Whatever the purpose for which it is submitted, a flight plan shall contain information, as applicable, on relevant items up to and including “alternate airport(s)" regarding the whole route or the portion thereof for which the flight plan is submitted…. |  |  |  |  |
| (b) | …. It shall, in addition, contain information, as applicable, on all other items when so prescribed by the appropriate ATS authority or when otherwise deemed necessary by the person submitting the flight plan. |  |  |  |  |
| **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 airport.* |  |  |  |  |
| **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 airport, 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 en route with the appropriate ATC facility. |  |  |  |  |
| (c) | When no ATC facility exists at the arrival airport, 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 |  |  |  |  |
| (d)(1) | Aircraft identification; |  |  |  |  |
| (d)(2) | Departure airport; |  |  |  |  |
| (d)(3) | Destination airport (only in the case of a diversionary landing); |  |  |  |  |
| (d)(4) | Arrival airport; and |  |  |  |  |
| (d)(5) | Time of arrival. |  |  |  |  |
| **8.6.2** | **FLIGHT PLANNING AND PREPARATION** |  |  |  |  |
| **8.6.2.1** | **AIRCRAFT AIRWORTHINESS AND SAFETY PRECAUTIONS** |  |  |  |  |
| (a) | A flight, or series of flights, shall not be commenced until flight preparation forms have been completed certifying that the PIC is satisfied that: |  |  |  |  |
| (a)(1) | the aircraft is airworthy, duly registered and that appropriate certificates with respect thereto are aboard the aircraft; |  |  |  |  |
| (a)(2) | the instruments and equipment prescribed in Part 7 for the particular type of operation to be undertaken, are appropriate, taking in account the expected flight conditions, installed and  sufficient for the flight; |  |  |  |  |
| (a)(3) | any necessary maintenance has been performed and a maintenance release, if applicable, has been issued in respect to the aircraft; |  |  |  |  |
| (a)(4) | the mass of the aircraft and center of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected; |  |  |  |  |
| (a)(5) | any load carried is properly distributed and safely secured; |  |  |  |  |
| (a)(6) | a check has been completed indicating that the operating limitations, contained in the flight manual or its equivalent, can be complied with for the flight to be undertaken; and |  |  |  |  |
| (a)(7) | the Standards of Subpart 8.6.2.16 relating to the operational flight planning have been complied with. |  |  |  |  |
| (b) | The PIC shall have sufficient information on climb performance with all engines operating to enable determination of the climb gradient that can be achieved during the departure phase for  the existing take-off conditions and intended take-off technique. |  |  |  |  |
| (c) | 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) | An operator shall ensure that a flight will not be commenced unless it has been ascertained by every reasonable means available that the ground and/or water facilities available and directly required on such flight, for the safe operation of the airplane or helicopter and the protection of the passengers, are adequate for the type of operation under which the flight is to be conducted  and are adequately operated for this purpose. |  |  |  |  |
| (b) | An operator shall ensure that any inadequacy of facilities observed in the course of operations is reported to the authority responsible for them, without undue delay. |  |  |  |  |
| (c) | The PIC shall not commence a flight unless it has been ascertained 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. |  |  |  |  |
| (d) | Subject to their published conditions of use, aerodromes and their facilities shall be kept continuously available for flight operations during their published hours of operations, irrespective of meteorological conditions. |  |  |  |  |
| (e) | An operator shall, as part of its safety management system, assess the level of rescue and fire fighting service (RFFS) protection available at any aerodrome intended to be specified in the operational flight plan in order to ensure that an acceptable level of protection is available for the airplane intended to be used. |  |  |  |  |
| (f) | Information related to the level of RFFS protection that is deemed acceptable by the operator shall be contained in the operations manual. |  |  |  |  |
|  | *Note:1 “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.* |  |  |  |  |
|  | *Note 2: ICAO Annex 6, Part 1, Attachment I, contains guidance on assessing an acceptable level of RFFS protection at aerodromes.* |  |  |  |  |
|  | *Note 3: It is not intended that this guidance limit or regulate the operation of an aerodrome. The assessment performed by the operator does not in any way affect the RFFS requirements of ICAO Annex 14, Volume I, for aerodromes.* |  |  |  |  |
| **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 IFR: |  |  |  |  |
| (b)(1) | A study of available current weather reports and forecasts; and |  |  |  |  |
| (b)(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.  Note 1. – It is the practice in some States to declare, for flight planning purposes, higher minima for an aerodrome when nominated as an alternate, than for the same aerodrome when planned as that of intended landing.  Note 2. – The requirements for flight plans are contained in Annex 2 – Rules of the Air and the procedures relating to flight plans and associated services are contained in the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444).  Note 3. – Detailed guidance on the use of the FF-ICE services, including the use of a preliminary flight plan, can be found in the Manual on Flight and Flow – Information for a Collaborative Environment (FF-ICE) (Doc 9965). |  |  |  |  |
| **8.6.2.4** | **METEOROLOGICAL LIMITATIONS FOR VFR FLIGHTS** |  |  |  |  |
| (a) | No person will commence a flight to be conducted in accordance with the 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 the VFR, will, at the appropriate time, allow VFR operations. |  |  |  |  |
| **8.6.2.5** | **IFR DESTINATION AIRPORT/HELIPORT** |  |  |  |  |
| (a) | When No person may conduct an IFR flight unless— |  |  |  |  |
| (a)(1) | At the time of take-off, the meteorological conditions at the departure aerodrome are at or above the operator’s established aerodrome operating minima for that operation; and |  |  |  |  |
| (a)(2) | At the time of take-off or point of in-flight re-planning, current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use, at or above the operator’s established aerodrome operating minima for that operation. |  |  |  |  |
| **8.6.2.6** | **DESTINATION ALTERNATE AIRPORT/HELIPORT** |  |  |  |  |
| **8.6.2.6.1** | **IFR DESTINATION ALTERNATE AIRPORT/HELIPORT** |  |  |  |  |
|  | For a flight to be conducted in accordance with the IFR, at least one destination alternate airport/heliport shall be selected and specified in the operational and filed flight plans, and, if applicable, in the preliminary flight plan, unless: |  |  |  |  |
| (a) | 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: |  |  |  |  |
| (a)(1) | The approach and landing may be made under VMC, (for helicopters: the weather conditions in Subpart 8.6.2.6.2 prevails); and |  |  |  |  |
| (a)(2) | 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, in case of helicopter operations, a point of no return (PNR) shall be determined; or |  |  |  |  |
| (b) | the aerodrome is isolated. Operations into isolated aerodromes do not require the selection of a destination alternate aerodrome(s) and shall be planned in accordance with 8.6.2.15.1(c) (4) (D); |  |  |  |  |
| (b)(1) | For each flight into an isolated aerodrome a point of no return shall be determined; and |  |  |  |  |
| (b)(2) | 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. |  |  |  |  |
|  | *Note 1: Separate runways are two or more runways at the same aerodrome configured such that if one runway is closed, operations to the other runway(s) can be conducted.* |  |  |  |  |
|  | *Note 2: Guidance on planning operations to isolated aerodromes is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| (c) | Two destination alternate aerodromes shall be selected and specified in the operational and filed flight plans and, if applicable, in the preliminary flight plan, when, for the destination aerodrome: |  |  |  |  |
| (c)(1) | meteorological conditions at the estimated time of use will be below the operator’s established aerodrome operating minima for that operation; or meteorological information is not available. |  |  |  |  |
| (d) | 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. |  |  |  |  |
| (e) | For helicopters: *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.* |  |  |  |  |
| **8.6.2.6.2** | **WHEN NO DESTINATION ALTERNATE AIRPORT/HELIPORT IS REQUIRED** |  |  |  |  |
|  | When no destination alternate airport/heliport is required. A flight to be conducted in accordance with the IFR to an airport/heliport when no alternate airport/heliport is required shall not be commenced unless: |  |  |  |  |
| (a) | a standard instrument approach procedure prescribed for the airport/heliport of intended landing by the jurisdictional authorities: |  |  |  |  |
| (a)(1) | For airplanes: 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- |  |  |  |  |
| (a)(1)(i) | A cloud base of at least 300 m (1,000 ft) above the minimum associated with the instrument approach procedure; and |  |  |  |  |
| (a)(1)(ii) | Visibility of at least 5.5 km or of 4 km more than the minimum associated with the procedure. |  |  |  |  |
| (a)(2) | For helicopters: 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: |  |  |  |  |
| (a)(2)(i) | a cloud base of at least 120 m (400 ft) above the minimum associated with the instrument approach procedure; and |  |  |  |  |
| (a)(2)(ii) | visibility of at least 1.5 km more than the minimum associated with the procedure. |  |  |  |  |
| (b) | The ceiling and visibility requirements of paragraph (a) may be reduced upon approval of the Authority for |  |  |  |  |
| (b)(1) | Helicopters; or |  |  |  |  |
| (b)(2) | Commercial air transport where no suitable destination alternate exists. |  |  |  |  |
| **8.6.2.6.3** | **IFR DESTINATION ALTERNATE REQUIREMENT** |  |  |  |  |
| (a) | 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, which contains the following: |  |  |  |  |
| (a)(1) | Capabilities of the operator; |  |  |  |  |
| (a)(2) | Overall capability of the airplane and its systems; |  |  |  |  |
| (a)(3) | Available aerodrome technologies, capabilities and infrastructure ; |  |  |  |  |
| (a)(4) | Quality and reliability of meteorological information; |  |  |  |  |
| (a)(5) | Identified hazards and safety risks associated with each alternate aerodrome variation; |  |  |  |  |
| (a)(6) | Specific mitigation measures. |  |  |  |  |
|  | *Note: ICAO Doc 9859, Safety Management Manual, and ICAO Doc 9976, Flight Planning and Fuel Management Manual, contain guidance on performing a safety risk assessment and on determining variations, including examples of variations.* |  |  |  |  |
| (b) | 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, acceptable to the Authority, for height of cloud base and visibility to be added to the operator’s established aerodrome operating minima. |  |  |  |  |
|  | *Note: Guidance on the selection of these incremental values is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| (c) | The Authority shall approve a margin of time established by the operator for the estimated time of use of an aerodrome. |  |  |  |  |
|  | *Note: Guidance on establishing an appropriate margin of time for the estimated time of use of an aerodrome is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| **8.6.2.7** | **IFR ALTERNATE AIRPORT/HELIPORT SELECTION CRITERIA** |  |  |  |  |
| (a) | If alternate minima are published, no PIC may designate an alternate airport/heliport 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 minima for that operation. |  |  |  |  |
| (b) | If alternate minima are not published, and if there is no prohibition against using the airport as an IFR planning alternate, each PIC shall ensure that the meteorological conditions at that alternate at the ETA will be at or above: |  |  |  |  |
| (b)(1) | For a precision approach procedure, a ceiling of at least 180 m (600 feet) and visibility of not less than 3 km; or |  |  |  |  |
| (b)(2) | For a non-precision approach procedure, a ceiling of at least 240 m (800 feet) and visibility of not less than 5 km. |  |  |  |  |
| **8.6.2.8** | **OFF-SHORE ALTERNATES FOR HELICOPTER OPERATIONS** |  |  |  |  |
| (a) | No person may designate an offshore alternate landing site when it is possible to carry enough fuel to have an on-shore alternate landing site. |  |  |  |  |
|  | *Note: The selection of offshore alternates should be exceptional cases, the details of which have been approved by the Authority, and should not include payload enhancement in IMC.* |  |  |  |  |
| (b) | Suitable offshore alternates shall be specified subject to the following: |  |  |  |  |
| (b)(1) | The offshore alternates shall be used only after a point of no return (PNR). Prior to PNR onshore alternates shall be used; |  |  |  |  |
| (b)(2) | Mechanical reliability of critical control systems and critical components shall be considered and taken into account when determining the suitability of the alternates; |  |  |  |  |
| (b)(3) | One engine inoperative performance capability shall be attainable prior to arrival at the alternate; |  |  |  |  |
| (b)(4) | To the extent possible, deck availability shall be guaranteed; and |  |  |  |  |
| (b)(5) | Weather information must be reliable and accurate. |  |  |  |  |
| (b)(6) | For IFR operations, an instrument approach procedure shall be prescribed and available. |  |  |  |  |
|  | *Note 1: 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.* |  |  |  |  |
|  | *Note 2: The landing technique specified in the flight manual following control system failure may preclude the selection of certain heli-decks as alternate heliports. 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** | **TAKE-OFF ALTERNATE AIRPORTS/HELIPORTS: COMMERCIAL AIR TRANSPORT OPERATIONS** |  |  |  |  |
| (a) | No person may release or take-off an aircraft without a suitable take-off alternate specified in the flight release if the weather conditions at the airport/heliport of departure are at or below the applicable airport/heliport operating minima or it would not be possible to return to the airport/heliport of departure for other reasons. |  |  |  |  |
| (b) | Each operator shall ensure that each take-off alternate specified shall be located within the following distance from the airport of departure: |  |  |  |  |
| (b)(1) | For aircraft with two engines, one hour of flight time at a one-engine-inoperative cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass; or |  |  |  |  |
| (b)(2) | For aircraft with three or four power-unit, two hours of flight time at an all-engine operating cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass; or |  |  |  |  |
| (b)(3) | For aircraft engaged in extended diversion time operations (EDTO) where an alternate aerodrome meeting the distance criteria of a) or b) is not available, the first available alternate aerodrome located within the distance of the operator’s approved maximum diversion time considering the actual take-off mass. |  |  |  |  |
| (b)(4) | 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.. |  |  |  |  |
|  | *Note: All calculations are based on the one-engine-inoperative cruising speed according to the AFM in still air conditions based on the actual take-off mass.* |  |  |  |  |
| (c) | 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, which contains the following: |  |  |  |  |
| (c)(1) | Capabilities of the operator; |  |  |  |  |
| (c)(2) | Overall capability of the airplane and its systems; |  |  |  |  |
| (c)(3) | Available aerodrome technologies, capabilities and infrastructure ; |  |  |  |  |
| (c)(4) | Quality and reliability of meteorological information; |  |  |  |  |
| (c)(5) | Identified hazards and safety risks associated with each alternate aerodrome variation; |  |  |  |  |
| (c)(6) | Specific mitigation measures. |  |  |  |  |
|  | *Note: ICAO Doc 9859, Safety Management Manual, and ICAO Doc 9976, Flight Planning and Fuel Management Manual, contain guidance on performing a safety risk assessment and on determining variations, including examples of variations.* |  |  |  |  |
| **8.6.2.10** | **MAXIMUM DISTANCE FROM AN ADEQUATE AIRPORT FOR TWIN ENGINED AIRPLANES WITHOUT AN EDTO APPROVAL** |  |  |  |  |
| (a) | Unless specifically approved by the Authority (EDTO Approval), an Operator shall not operate a two power-units airplane over a route which contains a point further from an adequate airport  than, in the case of: |  |  |  |  |
| (a)(1) | Large, turbine engine powered airplanes the distance flown in 60 minutes at the one power-unit inoperative cruise speed determined in accordance with paragraph (b) with either: |  |  |  |  |
| (a)(1)(i) | A maximum approved passenger seating configuration *of* 20 or more; or |  |  |  |  |
| (a)(1)(ii) | A maximum take-off mass of 45,360 kg or more, |  |  |  |  |
| (a)(2) | Reciprocating engine powered airplanes: |  |  |  |  |
| (a)(2)(i) | The distance flown in 120 minutes at the one power-unit inoperative cruise speed determined in accordance with paragraph (b); or |  |  |  |  |
| (a)(2)(ii) | 300 nautical miles, whichever is less. |  |  |  |  |
| (b) | An Operator shall determine a speed for the calculation of the maximum distance to an adequate airport for each two power-unit airplane type or variant operated, not exceeding Vmo based upon  the true airspeed that the airplane can maintain with one power-unit inoperative under the following conditions: |  |  |  |  |
| (b)(1) | International Standard Atmosphere; |  |  |  |  |
| (b)(2) | Level flight: |  |  |  |  |
| (b)(2)(i) | For turbine engine powered airplanes: |  |  |  |  |
| (b)(2)(i)(A) | At FL 170; or |  |  |  |  |
| (b)(2)(i)(B) | At the maximum flight level to which the airplane, with one power-unit inoperative, can climb, and maintain, using the gross rate of climb specified in the AFM, whichever is less. |  |  |  |  |
| (b)(2)(ii) | For propeller driven airplanes: |  |  |  |  |
| (b)(2)(ii)(A) | At FL 80; or |  |  |  |  |
| (b)(2)(ii)(B) | At the maximum flight level to which the airplane, with one power-unit inoperative, can climb, and maintain, using the gross rate of climb specified in the AFM, whichever is less. |  |  |  |  |
| (b)(3) | Maximum continuous thrust or power on the remaining operating power-unit: |  |  |  |  |
| (b)(4) | An airplane mass not less than that resulting from: |  |  |  |  |
| (b)(4)(i) | Take-off at sea-level at maximum take-off mass until the time elapsed since take-off is equal to the applicable threshold prescribed in paragraph (a); |  |  |  |  |
| (b)(4)(ii) | 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 subparagraph (a); and |  |  |  |  |
| (b)(4)(iii) | 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 (a). |  |  |  |  |
| (c) | An Operator shall ensure that the following data, specific to each type or variant, is included in the Operations Manual: |  |  |  |  |
| (c)(1) | The one power-unit inoperative cruise speed determined in accordance with paragraph (b): and |  |  |  |  |
| (c)(2) | The maximum distance from an adequate airport determined in accordance with paragraphs (a) and (b). |  |  |  |  |
|  | *Note: The speeds and altitudes (flight levels) specified above are only intended to be used for establishing the maximum distance from an adequate airport.* |  |  |  |  |
| **8.6.2.11** | **REQUIREMENTS FOR EXTENDED DIVERSION TIME OPERATINS – AIRPLANES (AOC)** |  |  |  |  |
| (a) | An AOC holder shall not conduct operations beyond the threshold distance determined in accordance with 8.6.2.10 unless approved to do so by the Authority. |  |  |  |  |
| (b) | In requesting EDTO approval, each AOC holder shall show to the satisfaction of the Authority that: |  |  |  |  |
| (b)(1) | For airplanes: |  |  |  |  |
| (b)(1)(i) | For all airplanes, |  |  |  |  |
| (b)(1)(i)(A) | the operator has in place procedures to prevent the aeroplane being dispatched on a route with diversion times beyond the capability of EDTO significant system time limitation, if any indicated in the Airplane Flight Manual (directly or by reference); and |  |  |  |  |
| (b)(1)(i)(B) | the additional fuel required by Subpart 8.6.2.15 shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by the Authority.  *Note. - Guidance on compliance with the requirements of this provision is the Extended Diversion Time Operations Manual (Doc 10085)* |  |  |  |  |
| (b)(1)(ii) | For airplanes with two or more turbine engines, the airplanes EDTO certified and has verified the- |  |  |  |  |
| (b)(1)(ii)(A) | Reliability of the propulsion system; |  |  |  |  |
| (b)(1)(ii)(B) | Airworthiness certification for EDTO of the airplane type; and |  |  |  |  |
| (b)(1)(ii)(C) | EDTO maintenance program. |  |  |  |  |
| (b)(1)(ii)(D) | Crew training programs; for two power-unit airplanes are consistent with the level of safety required for current extended range of operations with the three and four unit turbine-powered airplanes.  *Note. - Guidance on the conditions to be used when converting EDTO significant system time limitations to distances and on the consideration of the EDTO system time limitations at dispatch the Extended Diversion Time Operations Manual (Doc 10085).* |  |  |  |  |
| (b)(2) | It has conducted a safety risk assessment which demonstrates how an equivalent level of safety will be maintained, taking into account the following: |  |  |  |  |
| (b)(2)(i) | Capabilities of the operator; |  |  |  |  |
| (b)(2)(ii) | Overall reliability of the airplane; |  |  |  |  |
| (b)(2)(iii) | Reliability of each time limited system; |  |  |  |  |
| (b)(2)(iv) | Relevant information from the airplane manufacturer; and |  |  |  |  |
| (b)(2)(v) | Specific mitigation measures.  *Note.- Guidance on the specific safety risk assessment is contained in the Extended Diversion Time Operations Manual (Doc 10085).* |  |  |  |  |
| (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 airplane 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: |  |  |  |  |
| (e)(1) | For all airplanes; |  |  |  |  |
| (e)(1)(i) | En-route alternate aerodromes are identified; and |  |  |  |  |
| (e)(1)(ii) | The most up-to-date information is provided to the flight crew on identified en-route alternate aerodromes, including operational status and meteorological conditions;  *Note. - Guidance on compliance with the requirements of these provisions is contained in the Extended Diversion Time Operations Manual (Doc 10085).* |  |  |  |  |
| (e)(2) | For airplanes 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. |  |  |  |  |
| (e)(3) | These requirements are incorporated into the operators: |  |  |  |  |
| (e)(3)(i) | operational control and flight dispatch procedures; |  |  |  |  |
| (e)(3)(ii) | operating procedures; and |  |  |  |  |
| (e)(3)(iii) | Training programs. |  |  |  |  |
| (f) | No AOC Holder shall proceed beyond the threshold time approved by the Authority unless: |  |  |  |  |
| (f)(1) | the identified en-route alternate aerodromes have been re-evaluated for availability; and |  |  |  |  |
| (f)(2) | 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. |  |  |  |  |
| (f)(3) | 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. |  |  |  |  |
|  | Note 1: ICAO Annex 6, Part I, Attachment D contains guidance on the requirements of this provision. |  |  |  |  |
|  | *Note 2: FAA AC 120-42B (as amended), Extended Operations (EDTO and Polar Operations), provides additional guidance.* |  |  |  |  |
|  | *Note 3: Guidance on the establishment of an appropriate threshold time and on specific approval of extended diversion time operations is contained in the Extended Division Time Operations Manual (Doc 10085).* |  |  |  |  |
|  | *Note 4: Guidance on the conditions to be used when converting EDTO maximum diversion to distances is contained in the Extended Diversion Time Operations Manual (Doc 10085).* |  |  |  |  |
| (g) | 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, which contains the following: |  |  |  |  |
| (g)(1) | Capabilities of the operator; |  |  |  |  |
| (g)(2) | Overall capability of the airplane and its systems; |  |  |  |  |
| (g)(3) | Available aerodrome technologies, capabilities and infrastructure ; |  |  |  |  |
| (g)(4) | Quality and reliability of meteorological information; |  |  |  |  |
| (g)(5) | Identified hazards and safety risks associated with each alternate aerodrome variation; |  |  |  |  |
| (g)(6) | Specific mitigation measures. |  |  |  |  |
|  | *Note: ICAO Doc 9859, Safety Management Manual, and ICAO Doc 9976, Flight Planning and Fuel Management Manual, contain guidance on performing a safety risk assessment and on determining variations, including examples of variations.* |  |  |  |  |
| **8.6.2.12** | **EN ROUTE ALTERNATE AIRPORTS: EDTO OPERATIONS** |  |  |  |  |
| (a) | The PIC shall ensure that the required en route alternates for EDTO are selected and specified in filed flight plans, and, if applicable, in the preliminary flight plan in accordance with the EDTO diversion time approved by the Authority. |  |  |  |  |
| (b) | No person shall select an airport as an EDTO en-route alternate airport 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 airport, 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. |  |  |  |  |
| (c) | The ceiling and visibility requirements for operations conducted in accordance with paragraphs (a) and (b) may be reduced upon approval of the Authority for- |  |  |  |  |
| (d) | 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, which contains the following: |  |  |  |  |
| (d)(1) | Capabilities of the operator; |  |  |  |  |
| (d)(2) | Overall capability of the airplane and its systems; |  |  |  |  |
| (d)(3) | Available aerodrome technologies, capabilities and infrastructure ; |  |  |  |  |
| (d)(4) | Quality and reliability of meteorological information; |  |  |  |  |
| (d)(5) | Identified hazards and safety risks associated with each alternate aerodrome variation; |  |  |  |  |
| (d)(6) | Specific mitigation measures. |  |  |  |  |
|  | *Note 1: ICAO Doc 9859, Safety Management Manual, and ICAO Doc 9976, Flight Planning and Fuel Management 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.* |  |  |  |  |
|  | *Note 3: The forecast weather criteria used in the selection of alternate airports for IFR flight will also be used for the selection of EDTO alternates.* |  |  |  |  |
|  |  |  |  |  |  |
|  | *Note 1: Runways on the same airport are considered to be separate runways when they are separate landing surfaces which may overlay or cross such that if one of the runways is blocked, it will not prevent the planned type of operations on the other runway and each of the landing surfaces ha s a separate approach based on a separate aid.* |  |  |  |  |
| **8.6.2.13** | **FUEL, OIL, AND OXYGEN PLANNING AND CONTINGENCY FACTORS** |  |  |  |  |
| **8.6.2.13.1** | **FUEL AND OIL PLANNING AND CONTINGENCY FACTORS** |  |  |  |  |
| (a) | A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the aircraft carries sufficient fuel and oil to ensure that it can safely complete the flight, and, applicable special provisions are complied with, as stated in Subpart 8.6.2.14 or 8.6.2.15. …. |  |  |  |  |
| (a) | …. In addition, a reserve shall be carried to provide for contingencies. |  |  |  |  |
| (b) | In computing the fuel and oil required in paragraph (a) at least the following shall be considered: |  |  |  |  |
| (b)(1) | meteorological conditions forecast; |  |  |  |  |
| (b)(2) | expected ATC routings; |  |  |  |  |
| (b)(3) | anticipated traffic delays; |  |  |  |  |
| (b)(4) | for IFR flights, one instrument approach at the destination, including a missed approach; |  |  |  |  |
| (b)(5) | procedures prescribed in the operations manual for loss of pressurization en route, where applicable; |  |  |  |  |
| (b)(6) | failure of one power-unit en route; and |  |  |  |  |
| (b)(7) | Any other conditions that may delay landing of the aircraft or increase fuel and/or oil consumption. |  |  |  |  |
| (c) | Each person computing the required minimum fuel and oil supply shall ensure that the minimum fuel supply calculation includes an additional amount of fuel and oil to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator, equal to that necessary to fly a percentage of the total time for the flight from take-off to destination, as approved by the Authority. |  |  |  |  |
| (d) | No PIC may commence a flight to an airport/heliport where no suitable alternate airport/heliport is available because the destination airport/heliport is isolated, without enough reserve fuel for two additional hours’ flight at normal cruise consumption, at 1,500 feet above the airport/heliport. |  |  |  |  |
| (e) | The Authority may grant specific approval for commercial air transport operations to isolated airports/heliport without regard to consumption requirement of paragraph (d). |  |  |  |  |
| (f) | Each operator shall maintain fuel records to enable the Authority to ascertain that, for each flight, the requirements of Subparts 8.6.2.14 and 8.6.2.15 have been complied with. Fuel records shall be retained by the operator for a period of three (3) months. |  |  |  |  |
| (g) | Each operator shall maintain oil records to enable the Authority to ascertain that trends for oil consumption are such that an airplane has sufficient oil to complete each flight. |  |  |  |  |
| (h) | Fuel and oil records shall be retained by the operator for a period of three months. |  |  |  |  |
| (i) | 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. |  |  |  |  |
| (j) | For airplanes in AOC operations, the amount of usable fuel to be carried shall, as a minimum, be based on: |  |  |  |  |
| (j)(1) | The following data - |  |  |  |  |
| (j)(1)(i) | Current airplane-specific data derived from a fuel consumption monitoring system, if available; or |  |  |  |  |
| (j)(1)(ii) | If current airplane-specific data are not available, data provided by the airplane manufacturer, an |  |  |  |  |
| (j)(2) | The operating conditions for the planned flight including: |  |  |  |  |
| (j)(2)(i) | Anticipated airplane mass; |  |  |  |  |
| (j)(2)(ii) | Notices to Airmen; |  |  |  |  |
| (j)(2)(iii) | Current meteorological reports or a combination of current reports and forecasts; |  |  |  |  |
| (j)(2)(iv) | ATS procedures, restrictions and anticipated delays; and |  |  |  |  |
| (j)(2)(v) | The effects of deferred maintenance items and/or configuration deviations. |  |  |  |  |
| (j)(2)(vi) | Any other conditions that may delay the landing of the airplane or increase fuel, oil and/or oxygen consumption. |  |  |  |  |
| **8.6.2.13.2** | **OXYGEN PLANNING AND CONTINGENCY FACTORS** |  |  |  |  |
| (a) | A flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments will be less than 700 hPa shall not be commenced unless sufficient stored breathing oxygen is carried to supply: |  |  |  |  |
| (a)(1) | all crew members and 10 per cent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hPa and 620 hPa; and |  |  |  |  |
| (a)(2) | the crew and passengers for any period that the atmospheric pressure in compartments occupied by them will be less than 620 hPa. |  |  |  |  |
| (b) | A flight to be operated with a pressurized airplane shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 hPa….. |  |  |  |  |
| (b) | … In addition, when an airplane is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa and cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, there shall be no less than a 10-minute supply for the occupants of the passenger compartment. |  |  |  |  |
| (c) | The PIC shall ensure that breathing oxygen is available to crew members and passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crew members or harmfully affect passengers. |  |  |  |  |
|  | *Implementing Standards: also refer to IS: 7.8.12 Oxygen Storage and Dispensing Aparatus.* |  |  |  |  |
|  | *Note.- Approximate altitudes in the Standard Atmosphere corresponding to the values of absolute pressure used in the text are as follows:* |  |  |  |  |
|  | *Absolute Pressure. Meters Feet*  *700 hPa 10000 3000*  *620 hPa 13000 4000*  *376 hPa 25000 7600* |  |  |  |  |
| **8.6.2.14** | **MINIMUM FUEL AND OIL SUPPLY FOR VFR FLIGHTS** |  |  |  |  |
| (a) | For airplanes: No person may commence a flight in an airplane 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 |  |  |  |  |
| (a)(1) | For turbo-jet aircraft: flights during the day, for at least 30 minutes thereafter; or |  |  |  |  |
| (a)(2) | For Propeller-driven aircraft: flights at night, for at least 45 minutes thereafter; and |  |  |  |  |
| (a)(3) | For international flights, for at least an additional 15% of the total flight time calculated for cruise flight. |  |  |  |  |
| (b) | For helicopters: The fuel and oil carried in order to comply with Subpart 8.6.2.13.1 shall, in the case of VFR operations, be at least the amount sufficient (considering the wind and forecast weather conditions) to allow the helicopter: |  |  |  |  |
| (b)(1) | To fly to the heliport to which the flight is planned; |  |  |  |  |
| (b)(2) | To fly thereafter for a period of 20 minutes at best-range speed; and |  |  |  |  |
| (b)(3) | To have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority…. |  |  |  |  |
| (b)(3) | … For international flights, for at least an additional 10% of the total flight time calculated. |  |  |  |  |
| **8.6.2.15** | **MINIMUM FUEL SUPPLY FOR IFR FLIGHTS** |  |  |  |  |
| **8.6.2.15.1** | **COMMERCIAL AIR TRANSPORT: PISTON-ENGINED AIRPLANES** |  |  |  |  |
|  | The fuel and oil carried in order to comply with Subpart 8.6.2.13.1 shall, in the case of propeller driven airplanes, be at least the amount sufficient to allow the airplane: |  |  |  |  |
| (a) | When a destination alternate airport is required, either: |  |  |  |  |
| (a)(1) | to fly to the airport to which the flight is planned thence to the most critical (in terms of fuel consumption) alternate airport specified in the operational and ATS flight plans and thereafter for a period of 45 minutes; or |  |  |  |  |
| (a)(2) | to fly to the airport to which the flight is planned, then 15 minutes of holding at 1,500 feet, thence to the most critical (in terms of fuel consumption) alternate airport specified in the operational and ATS flight plans and thereafter for a period of 30 minutes holding at 1,500 feet; or |  |  |  |  |
| (a)(3) | to fly to the alternate airport via any predetermined point and thereafter for 45 minutes, … |  |  |  |  |
| (a)(3) | …, provided that this shall not be less than the amount required to fly to the airport to which the flight is planned and thereafter for: |  |  |  |  |
| (a)(3)(i) | 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or |  |  |  |  |
| (a)(3)(ii) | two hours, whichever is less. |  |  |  |  |
| (b) | When a destination alternate airport is not required: |  |  |  |  |
| (b)(1) | in terms of Subpart 8.6.2.6.1, to fly to the airport to which the flight is planned and thereafter for a period of 45 minutes; or |  |  |  |  |
| (b)(2) | in terms of Subpart 8.6.2.6.1, to fly to the airport to which the flight is planned and thereafter for: |  |  |  |  |
| (b)(2)(i) | 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or |  |  |  |  |
| (b)(2)(ii) | two hours, whichever is less. |  |  |  |  |
| (c) | [AOC] Airplanes. No person may commence a flight under IFR, or continue past the point of in-flight re-planning, unless there is enough fuel supply, considering meteorological conditions and any delays that are expected in flight, to include the following: |  |  |  |  |
| (c)(1) | 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; |  |  |  |  |
| (c)(2) | Trip fuel – which shall be the amount of fuel required to enable the airplane to fly from take-off, or the point of in-flight re-planning, until landing at the destination aerodrome taking into account the operating conditions in the data provided by the manufacturer; |  |  |  |  |
| (c)(3) | 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 (1500 ft) above the destination aerodrome in standard conditions; |  |  |  |  |
| (c)(4) | Destination alternate fuel – which shall be |  |  |  |  |
| (c)(4)(i) | Where a destination alternate aerodrome is required, the amount of fuel required to enable the airplane to: |  |  |  |  |
| (c)(4)(i)(A) | Perform a missed approach at the destination aerodrome; |  |  |  |  |
| (c)(4)(i)(B) | Climb to the expected cruising altitude; |  |  |  |  |
| (c)(4)(i)(C) | Fly the expecting routing; |  |  |  |  |
| (c)(4)(i)(D) | Descend to the point where the expected approach is initiated; and |  |  |  |  |
| (c)(4)(i)(E) | Conduct the approach and landing at the destination alternate aerodrome; or |  |  |  |  |
| (c)(4)(ii) | Where two destination alternate aerodromes are required, the amount of fuel, as calculated in (4)(i) above, required to enable the airplane to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel; or |  |  |  |  |
| (c)(4)(iii) | Where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the airplane to fly for 15 minutes at holding speed at 450 m (1500 ft) above destination aerodrome elevation in standard conditions; or |  |  |  |  |
| (c)(4)(iv) | Where the aerodrome of intended landing is an isolated aerodrome: |  |  |  |  |
| (c)(4)(iv)(A) | For helicopters, the amount of fuel required to fly for 45 minutes plus 15 percent of the flight time planned to be spend at cruising level, including final reserve fuel, or two hours, whichever is less; or |  |  |  |  |
| (c)(4)(iv)(B) | For a turbine-engined airplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel; |  |  |  |  |
| (c)(5) | 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, or a pre-calculated value for each airplane type and variant in the fleet rounded up to an easily recalled figure: |  |  |  |  |
| (c)(5)(i) | For a helicopters, the amount of fuel required to fly for 45 minutes, under speed and altitude conditions specified by the Authority; or |  |  |  |  |
| (c)(5)(ii) | For a turbine-engined airplane, the amount of fuel required to fly for 30 minutes at holding speed at 450 m (1500 ft) above aerodrome elevation in standard conditions; |  |  |  |  |
| (c)(6) | Additional fuel – which shall be the supplementary amount of fuel required if the minimum fuel calculated in accordance with trip fuel, contingency fuel, destination alternate fuel and final reserve fuel above is not sufficient to: |  |  |  |  |
| (c)(6)(i) | Allow the airplane to descend as necessary and proceed to an alternate aerodrome in the event of engine failure or loss or 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; |  |  |  |  |
| (c)(6)(i)(A) | To fly for 15 minutes at holding speed at 450 m (1500 ft) above the aerodrome elevation in standard conditions; and |  |  |  |  |
| (c)(6)(i)(B) | Make an approach and landing; |  |  |  |  |
| (c)(6)(i)(C) | Allow an airplane engaged in EDTO to comply with the EDTO critical fuel scenario as established by the Authority; |  |  |  |  |
| (c)(6)(i)(D) | Meet additional requirements not covered above. |  |  |  |  |
|  | *Note: Fuel planning for a failure that occurs at the most critical point along a route may place the airplane in a fuel emergency situation.* |  |  |  |  |
| (c)(7) | Discretionary fuel – shall be the extra amount of fuel to be carried at the discretion of the PIC, or |  |  |  |  |
| (d) | An airplane shall not take off or continue from the point of in-flight re-planning unless the usable fuel on board meets the requirements in 8.6.2.15.1(c) (2), (4), (5) and (6) if required. |  |  |  |  |
| (e) | Notwithstanding the provisions in 8.6.2.15.1(c) (1)–(7) above, the Authority may approve a variation to these requirements provided the operator can demonstrate an equivalent level of safety will be maintained through a safety risk assessment that includes at least the following: |  |  |  |  |
| (e)(1) | Flight fuel calculations; |  |  |  |  |
| (e)(2) | Capabilities of the operator to include: |  |  |  |  |
| (e)(2)(i) | A data-driven method that includes a fuel consumption monitoring program; and/or |  |  |  |  |
| (e)(2)(ii) | The advanced use of alternate aerodromes; and |  |  |  |  |
| (e)(3) | Specific mitigation measures. |  |  |  |  |
|  | *Note: ICAO Doc 9976, Flight Planning and Fuel Management Manual, contains guidance on the specific safety risk assessment, fuel consumption monitoring program and the advanced use of alternate aerodromes.* |  |  |  |  |
| (f) | 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. |  |  |  |  |
|  | *Note. – Guidance on procedures for in-flight fuel management including re-analysis, adjustment and/or re-planning considerations when a flight begins to consume contingency fuel before take-offs is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| **8.6.2.15.2** | **COMMERCIAL AIR TRANSPORT: TURBINE-ENGINED AIRPLANES** |  |  |  |  |
|  | The fuel and oil carried in order to comply with Subpart 8.6.2.13.1 shall, in the case of turbo-engined airplanes, be at least the amount sufficient to allow the airplane: |  |  |  |  |
| (a) | When a destination alternate airport is required, either: |  |  |  |  |
| (a)(1) | to fly to and execute an instrument approach, and a missed approach, at the airport to which the flight is planned, and thereafter: |  |  |  |  |
| (a)(1)(i) | to fly to the alternate airport specified in the operational and ATS flight plan; and then |  |  |  |  |
| (a)(1)(ii) | to fly for 30 minutes at holding speed at 450 m (1,500 ft) above the alternate airport under standard temperature conditions, and approach and land; and |  |  |  |  |
| (a)(1)(iii) | to have an additional amount of fuel and oil sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator as approved by the Authority, which shall be at least 5% of the total time for the flight from take-off to destination; or |  |  |  |  |
| (a)(2) | to fly to the alternate airport via any predetermined point and thereafter for 30 minutes at 450 m (1,500 ft) above the alternate airport …. |  |  |  |  |
| (a)(2) | …. due provision having been made for an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator as approved by the Authority…. |  |  |  |  |
| (a)(2) | …. provided that fuel shall not be less than the amount of fuel required to fly to the airport to which the flight is planned and thereafter for two hours at normal cruise consumption. |  |  |  |  |
| (b) | When a destination alternate airport is not required: |  |  |  |  |
| (b)(1) | in terms of Subpart 8.6.2.6.2, to fly to the airport to which the flight is planned and additionally to have an additional amount of fuel and oil, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator as approved by the Authority, which shall be at least 5% of the total time for the flight from take-off to destination; and |  |  |  |  |
| (b)(2) | in terms of Subpart 8.6.2.6.2, to fly to the airport to which the flight is planned and thereafter for a period of two hours at normal cruise consumption. |  |  |  |  |
| **8.6.2.15.3** | **GENERAL AVIATION AIRPLANES: IFR FLIGHTS** |  |  |  |  |
|  | At least one destination alternate is available: For a flight to be conducted in accordance with the IFR, at least one destination alternate airport shall be selected and specified in the flight plan, unless: |  |  |  |  |
| (a) | 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 airport of intended landing, and for a reasonable period before and after such time, the approach and landing may be made under VMC; or |  |  |  |  |
| (b) | the airport of intended landing is isolated and there is no suitable destination alternate airport. |  |  |  |  |
| **8.6.2.15.4** | **HELICOPTERS: IFR FLIGHTS** |  |  |  |  |
|  | The fuel and oil carried in order to comply with Subpart 8.6.2.13 shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter: |  |  |  |  |
| (a) | When a destination alternate airport is not required in terms of Subpart 8.6.2.6 (a), to fly to the heliport to which the flight is planned, and thereafter: |  |  |  |  |
| (a)(1) | to fly 30 minutes at holding speed at 450 m (1,500 ft) above the destination heliport under standard temperature conditions and approach and land; and |  |  |  |  |
| (a)(2) | to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority. |  |  |  |  |
| (b) | When a destination alternate airport is required, to fly to and execute an instrument approach, and a missed approach, at the heliport to which the flight is planned, and thereafter: |  |  |  |  |
| (b)(1) | to fly to the alternate specified in the flight plan; and then |  |  |  |  |
| (b)(2) | to fly 30 minutes at holding speed at 450 m (1,500 ft) above the destination heliport under standard temperature conditions, and approach and land; and |  |  |  |  |
| (b)(3) | to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority. |  |  |  |  |
| (c) | When no suitable alternate is available, in terms of Subpart 8.6.2.6 (a)(e.g. the destination is isolated), sufficient fuel shall be carried to enable the helicopter to fly to the destination to which the flight is planned … |  |  |  |  |
| (c) | …. and thereafter for a period that will, based on geographic and environmental considerations, enable a safe landing to be made. |  |  |  |  |
| **8.6.2.15.5** | **FUEL AND OIL COMPUTATION: ALL OPERATIONS** |  |  |  |  |
|  | For the purpose of this Subpart, the following allowances will be computed when determining fuel and oil requirements: |  |  |  |  |
| (a) | Fuel and oil to destination includes fuel and oil for: taxi, departure via the expected departure route, climb to the flight planned altitude, en-route flight, descent to the expected initial approach point, an approach and a landing at the destination airport; and |  |  |  |  |
| (b) | Fuel and oil to the alternate airport (if required) includes fuel and oil for: a complete missed approach procedure from the MDA/DA(H), climb to a safe altitude, en-route flight, descent, approach and landing at the alternate airport. |  |  |  |  |
| **8.6.2.15.6** | **IN-FLIGHT FUEL MANAGEMENT** |  |  |  |  |
| (a) | An operator shall establish policies and procedures, approved by the Authority, to ensure that in-flight fuel checks and fuel management are performed. |  |  |  |  |
| (b) | 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. |  |  |  |  |
|  | *Note. The protection of final reserve fuel is intended to ensure a safe landing at any aerodrome when unforeseen occurrences may not permit safe completion of an operation as originally planned. Guidance on flight planning including the circumstances that may require re-analysis, adjustment and/or re-planning of the planned operation before take-off or en-route, is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| (c) | 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. |  |  |  |  |
| (d) | 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 planned final reserve fuel. |  |  |  |  |
|  | *Note 1: 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 planned final reserve fuel. This is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.* |  |  |  |  |
|  | *Note 2: Guidance on declaring minimum fuel is contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976)* |  |  |  |  |
| (e) | The pilot-in-command shall declare a situation of fuel emergency by broadcasting MAYDAY MAYDAYMAYDAY*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 1: The planned final reserve fuel refers to the value calculated in 8.6.2.15.1(c) (5) (i) or (ii) and is the minimum amount of fuel required upon landing at any aerodrome.* |  |  |  |  |
|  | *Note 2: The words “MAYDAY FUEL” describe the nature of the distress conditions as required in ICAO Annex 10, Volume II, 5.3.2.1, b) 3.* |  |  |  |  |
|  | *Note 3: Guidance on procedures for in-flight fuel management are contained in the* Flight Planning and Fuel Management Manual *(ICAO Doc 9976).* |  |  |  |  |
| **8.6.2.16** | **FLIGHT PLANNING DOCUMENT DISTRIBUTION AND RETENTION: COMMERCIALAIR TRANSPORT** |  |  |  |  |
| (a) | An operational flight plan shall be completed for every intended flight or series of flights. The operational flight plan shall be approved and signed by the PIC and, where applicable, signed by the flight operations officer/flight dispatcher, and a copy shall be lodged with the appropriate authority. The operator shall determine the most efficient means of lodging the operational flight plan. For commercial air transport operations, the PIC shall complete and sign the following flight preparation documents prior to departure: |  |  |  |  |
| (a)(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 airports. |  |  |  |  |
| (a)(2) | A load manifest; showing the distribution of the load, center of gravity, take-off and landing mass and compliance with maximum operating mass limitations, and performance analysis. |  |  |  |  |
| (a)(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 airport/heliport. |  |  |  |  |
| (b) | No person may take-off 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 airport/heliport. |  |  |  |  |
| (d) | Completed flight preparation documents shall be kept by the Operator for a period of three (3) months. |  |  |  |  |
|  | Note 1. - These documents are in addition to those specified in Subpart 8.2 for all aircraft operations.  Note 2. - The Authority may approve a different retention location where all documents can be available for subsequent review.  Note 3. – The requirements for flight plans are contained in Annex 2 – Rules of the Air and the procedures relating to flight plans and associated services are contained in the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444).  Note 4. – Detailed guidance on the use of the FF-ICE services, including the use of a preliminary flight plan, can be found in the Manual on Flight and Flow – Information for a Collaborative Environment. |  |  |  |  |
|  | Note 1. - These documents are in addition to those specified in Subpart 8.2 for all aircraft operations. Note 2. - The Authority may approve a different retention location where all documents can be available for subsequent review. Note 3. – The requirements for flight plans are contained in Annex 2 – Rules of the Air and the procedures relating to flight plans and associated services are contained in the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444). Note 4. – Detailed guidance on the use of the FF-ICE services, including the use of a preliminary flight plan, can be found in the Manual on Flight and Flow – Information for a Collaborative Environment. |  |  |  |  |
| **8.6.2.17** | **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 airplane 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. |  |  |  |  |
| **8.6.2.18** | **MAXIMUM ALLOWABLE MASS TO BE CONSIDERED ON ALL LOAD MANIFESTS** |  |  |  |  |
| (a) | The PIC shall ensure that the maximum allowable mass for a flight does not exceed the maximum allowable take-off mass: |  |  |  |  |
| (a)(1) | For the specific runway and conditions existing at the take-off time, and |  |  |  |  |
| (a)(2) | Considering anticipated fuel and oil consumption that allows compliance with applicable enroute performance, landing mass, and landing distance limitations for destination and alternate airports. |  |  |  |  |
| **8.6.2.19** | **FLIGHT RELEASE REQUIRED: COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| (a) | No person may start a flight under a flight following system without specific authority from the person authorized by the Operator 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 authorized by the Operator to perform operational control functions has issued a flight release for that specific operation or series of operations. |  |  |  |  |
| **8.6.2.20** | **OPERATIONAL FLIGHT PLAN: COMMERCIAL 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 authorized 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 airports, weather reports and forecasts and NOTAMs for the  routing and airport. |  |  |  |  |
| (d) | No person may continue a flight from an intermediate airport without a new operational flight plan if the aircraft has been on the ground more than six (6) hours. |  |  |  |  |
| **8.6.2.21** | **TIME CAPABILITY OF CARGO COMPARTMENT FIRE SUPPRESSION SYSTEM** |  |  |  |  |
| (a) | No person may plan a flight if the diversion time to an aerodrome where a safe landing could be made exceeds the cargo compartment fire suppression time capability of the airplane, when one is identified in the relevant airplane documentation, unless the Authority specifies a reduction of the operational safety margin. |  |  |  |  |
|  | *Note 1.- Cargo compartment fire suppression time capabilities will be identified in the relevant airplane documentation when they are to be considered for the operation.* |  |  |  |  |
|  | *Note 2.- Fifteen minutes is an operational safety margin commonly retained for that purpose.* |  |  |  |  |
|  | *Note 3.- Refer to ICAO Annex 6 Part 1 Chapter 4, 4.7 and Attachment B for considerations of time capability of cargo compartment fire suppression systems for airplanes engaged in EDTO.* |  |  |  |  |
| **8.6.3** | **OPERATIONAL INFORMATION** |  |  |  |  |
| **8.6.3.1** | **AIP, AIRAC and AIC** |  |  |  |  |
|  | No operators shall dispatch a flight unless information continued in the current Aeronautical Information Publication (AIP), Aeronautical Information Regulation and Control (AIRAC) and Aeronautical Information Circular (AIC) has been prepared and disseminated to flight crews and relevant operations personnel. |  |  |  |  |
| **8.6.3.2** | **CREW BRIEFINGS** |  |  |  |  |
| (a) | Operator shall ensure that crew briefings are established in their standard operating procedures. |  |  |  |  |
| **8.7** | **AIRCRAFT OPERATING AND PERFORMANCE LIMITATIONS** |  |  |  |  |
| **8.7.1** | **All Aircraft** |  |  |  |  |
| **8.7.1.1** | **APPLICABILITY** |  |  |  |  |
| (a) | Each civil aircraft shall be operated in accordance with the comprehensive code of performance established by the Authority and in compliance with the acceptable standards, as prescribed in CAR Part 5, Subpart 5.4.1.2 and this Subpart. |  |  |  |  |
| **8.7.1.2** | **GENERAL** |  |  |  |  |
| (a) | No person may operate an aircraft that: |  |  |  |  |
| (a)(1) | Exceeds its designed performance limitations for any operation, as established by the State of Registry; |  |  |  |  |
| (a)(2) | Exceeds the operating limitations contained in the aircraft flight manual, or its equivalent; or |  |  |  |  |
| (a)(3) | Exceeds the terms of its certificate of airworthiness. |  |  |  |  |
| (a)(4) | Exceeds the mass limitations, if applicable, imposed by the terms of its noise certification standards, as contained in the applicable part of ICAO Annex 16, Volume I, unless otherwise approved by the Authority. |  |  |  |  |
| (b) | The Authority shall ensure that the level of performance specified in 8.7.1.5 shall be met as far as practicable for aeroplanes below 5700 kgs because of the exemption provided for in Article 41 of the Convention. |  |  |  |  |
| **8.7.1.3** | **AIRCRAFT PERFORMANCE CALCULATIONS** |  |  |  |  |
| (a) | Each operator shall ensure that the performance data contained in the AFM/RFM, or other authorized source is used to determine compliance with the appropriate requirements of Subpart 8.7…. |  |  |  |  |
| (a) | … A flight shall not be commenced unless the performance information provided in the flight manual indicates that the Standards of Subpart 8.7 can be complied with for the flight to be undertaken. |  |  |  |  |
| (b) | In applying the Standards of this Subpart, account shall be taken of all factors that significantly affect the performance of the airplane (such as: mass, operating procedures, the pressure altitude  appropriate to the elevation of the airport, temperature, wind, runway gradient and condition of runway, i.e. presence of slush, water and/or ice, for landplanes, water surface condition for seaplanes…. |  |  |  |  |
| (b) | … Such factors shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the comprehensive and detailed code of performance in accordance with which the airplane is being operated. |  |  |  |  |
|  | *Note.- Guidelines for using runway surface condition information on board aircraft in accordance with 2.2.4.4 are contained in the PANS-Aerodromes (ICAO Doc 9981) and in the* Aeroplane Performance Manual *(ICAO Doc 10064).* |  |  |  |  |
| **8.7.1.4** | **GENERAL MASS AND OBSTRUCTION CLEARANCE LIMITATIONS** |  |  |  |  |
| (a) | No person may take-off an aircraft without ensuring that the maximum allowable mass for a flight does not exceed the maximum allowable take-off or landing mass, or any applicable en route performance or landing distance limitations considering the: |  |  |  |  |
| (a)(1) | Condition of the take-off and landing areas to be used; |  |  |  |  |
| (a)(2) | Gradient of runway to be used (landplanes only); |  |  |  |  |
| (a)(3) | Pressure altitude; |  |  |  |  |
| (a)(4) | Ambient temperature, |  |  |  |  |
| (a)(5) | Current and forecast winds; and |  |  |  |  |
| (a)(6) | Any known conditions (e.g., atmospheric and aircraft configuration) which may adversely affect aircraft performance, or compliance with noise certification standards. |  |  |  |  |
| (b) | No person may take-off an aircraft at a mass that, assuming normal engine operation, cannot safely clear all obstacles during all phases of flight, including all points along the intended enroute path or any planned diversions. |  |  |  |  |
| (c) | In no case shall the mass at the start of take-off, or at the expected time of landing at the airport of intended landing and at any destination alternate airport, 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 airport or a runway where there is no noise disturbance problem, by the competent authority of the State in which the airport is situated. |  |  |  |  |
| (d) | In no case shall the estimated mass for the expected time of landing at the airport of intended landing and at any destination alternate airport, exceed the maximum landing mass specified in the flight manual for the pressure-altitude appropriate to the elevation of those airports, and if used as a parameter to determine the maximum landing mass, any other local atmospheric condition. |  |  |  |  |
| **8.7.1.5** | **APPLICABLE TO AEROPLANES CERTIFICATED IN ACCORDANCE WITH PARTS IIIA AND IIIB OF ICAO ANNEX 8** |  |  |  |  |
| (a) | The Standards contained in paragraph (b) to paragraph (l) inclusive are applicable to the large aeroplanes to which Parts IIIA and IIIB of Annex 8 are applicable. |  |  |  |  |
|  | *Note.- The following Standards do not include quantitative specifications comparable to those found in national airworthiness codes. In accordance with 8.7.1.1, they are to be supplemented by national requirements prepared by Contracting States.* |  |  |  |  |
| (b) | The level of performance defined by the appropriate parts of the comprehensive and detailed national code referred to in 8.7.1.1 for the aeroplanes designated in paragraph (a) shall be at least substantially equivalent to the overall level embodied in the Standards of this chapter. |  |  |  |  |
|  | *Note.- ICAO Annex 6, Part I, Attachment B contains guidance material which indicates the level of performance intended by the Standards and Recommended Practices of this subpart.* |  |  |  |  |
| (c) | An aeroplane shall be operated in compliance with the terms of its certificate of airworthiness and within the approved operating limitations contained in its flight manual. |  |  |  |  |
| (d) | The Authority shall take such precautions as are reasonably possible to ensure that the general level of safety contemplated by these provisions is maintained under all expected operating conditions, including those not covered specifically by the provisions of this subpart. |  |  |  |  |
| (e) | A flight shall not be commenced unless the performance information provided in the flight manual, supplemented as necessary with other data acceptable to the State of the Operator, indicates that the Standards of paragraphs (f) to (l) can be complied with for the flight to be undertaken. |  |  |  |  |
| (f) | Until 3 November 2021, in applying the Standards of this subpart, account shall be taken of all factors that significantly affect the performance of the aeroplane, including but not limited to: the mass of the aeroplane, the operating procedures, the pressure-altitude appropriate to the elevation of the aerodrome, the ambient temperature, the wind, the runway slope, and surface conditions of the runway i.e., presence of snow, slush, water, and/or ice for landplanes, water surface condition for seaplanes. Such factors shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the comprehensive and detailed code of performance in accordance with which the aeroplane is being operated. |  |  |  |  |
| (g) | As of 4 November 2021, in applying the Standards of this subpart, account shall be taken of all factors that significantly affect the performance of the aeroplane, including but not limited to: the mass of the aeroplane, the operating procedures, the pressure-altitude appropriate to the elevation of the aerodrome, the runway slope, the ambient temperature, the wind, and surface conditions of the runway at the expected time of use, i.e. presence of snow, slush, water, and/or ice for landplanes, water surface condition for seaplanes. Such factors shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the comprehensive and detailed code of performance in accordance with which the aeroplane is being operated. |  |  |  |  |
|  | *Note.- Guidelines for using runway surface condition information on board aircraft in accordance with 8.8.1.33 are contained in the Aeroplane Performance Manual (ICAO Doc 10064).* |  |  |  |  |
| (h) | Mass Limitations |  |  |  |  |
| (h)(1) | The mass of the aeroplane at the start of take-off shall not exceed the mass a which paragraph (i) is complied with, or the mass at which paragraphs (j), (k) and (l) are complied with, allowing for expected reductions in mass as the flight proceeds, and for such fuel jettisoning as is envisaged in applying paragraphs (j) and (k) and, in respect of alternate aerodromes, paragraphs (h)(3) and (l). |  |  |  |  |
| (h)(2) | 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. |  |  |  |  |
| (h)(3) | 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. |  |  |  |  |
| (h)(4) | 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 ICAO 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. |  |  |  |  |
| (i) | Take-off |  |  |  |  |
| (i)(1) | The aeroplane shall be able, in the event of a critical engine failing, or for other reasons, at any point in the take-off, either to discontinue the take-off and stop within the accelerate-stop distance available, or to continue the takeoff and clear all obstacles along the flight path by an adequate vertical or horizontal distance until the aeroplane is in a position to comply with the paragraph (j). When determining the resulting take-off obstacle accountability area, the operating conditions, such as the crosswind component and navigation accuracy, must be taken into account. |  |  |  |  |
|  | *Note.- ICAO Annex 6, Part 1, Attachment B contains guidance on the vertical and horizontal distances that are considered adequate to show compliance with this Standard.* |  |  |  |  |
| (i)(2) | In determining the length of the runway available, account shall be taken of the loss, if any, of runway length due to alignment of the aeroplane prior to take-off. |  |  |  |  |
| (j) | En route – one engine inoperative. The aeroplane shall be able, in the event of the critical engine becoming inoperative at any point along the route or planned diversions therefrom, to continue the flight to an aerodrome at which the Standard of paragraph (l) can be met, without flying below the minimum flight altitude at any point |  |  |  |  |
| (k) | En route- two engines inoperative. In the case of aeroplanes having three or more engines, on any part of a route where the location of en-route alternate aerodromes and the total duration of the flight are such that the probability of a second engine becoming inoperative must be allowed for if the general level of safety implied by the Standards of this subpart is to be maintained, the aeroplane shall be able, in the event of any two engines becoming inoperative, to continue the flight to an en-route alternate aerodrome and land. |  |  |  |  |
| (l) | Landing. The aeroplane shall, at the aerodrome of intended landing and at any alternate aerdrome, after clearing all obstacles in the approach path by a safe margin, be able to land, with assurance that it can come to a stop or, for a seaplane, to a satisfactorily low speed, within the landing distance available. Allowance shall be made for expected variations in the approach and landing techniques, if such allowance has not been made in the scheduling of performance data. |  |  |  |  |
|  | *Note.- As of 4 November 2021, guidelines on appropriate margins for the “at time of landing distance assessment is contained in the Aeroplane Performance Manual (ICAO Doc 10064).* |  |  |  |  |
| **8.7.1.6** | **OBSTACLE DATA** |  |  |  |  |
| (a) | Obstacle data shall be provided to enable the operator to develop procedures to comply with 8.7.1.5 (j). |  |  |  |  |
|  | *Note.- See ICAO Annex 4 and Annex 15, Chapter 5 and Appendix 1 and the ICAO Procedures for Air Navigation Services-Aeronautical Information Management (PANS-AIM), Chapter 5 for methods of presentation of certain obstacle data.* |  |  |  |  |
| (b) | The operator shall take account of charting accuracy when assessing compliance with 8.7.1.5 (i). |  |  |  |  |
| **8.7.2** | **AIRCRAFT USED IN COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| **8.7.2.1** | **APPLICABILITY** |  |  |  |  |
| (a) | 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 Subpart 8.7.2. |  |  |  |  |
| (b) | The Authority may authorize, exemptions in accordance with Part 1 of there regulations, from the requirements of Subpart 8.7.2 if special circumstances make a literal observance of a  requirement unnecessary for safety. |  |  |  |  |
| (c) | Where full compliance with the requirements of Subpart 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 Subpart. |  |  |  |  |
| (d) | Except as provided in Subpart 8.8.4.21, 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, and over routes and diversions there-from, that do not permit a safe forced landing to be executed in the event of a power-unit failure. |  |  |  |  |
| (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 Subparts 8.7.2.4 through 8.7.2.8 unless that aircraft is continually operated |  |  |  |  |
| (e)(1) | In daylight, |  |  |  |  |
| (e)(2) | In VFR, excluding over the top operations; and |  |  |  |  |
| (e)(3) | At a mass 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 5000 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** |  |  |  |  |
| **8.7.2.3.1** | **AIRCRAFT PERFORMANCE CALCULATIONS: GENERAL** |  |  |  |  |
| (a) | No person may take-off 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 AMF, 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- |  |  |  |  |
| (b)(1) | Any reasonably expected adverse operating conditions that may affect aircraft performance; |  |  |  |  |
| (b)(2) | One engine failure for aircraft having two engines, if applicable; and |  |  |  |  |
| (b)(3) | Two engine failure for aircraft having three or more engines. if applicable. |  |  |  |  |
| (c) | When calculating the performance and limitation requirements of Subparts 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: |  |  |  |  |
| (c)(1) | In all phases of flight- |  |  |  |  |
| (c)(1)(i) | The effect of fuel and oil consumption on aircraft mass; |  |  |  |  |
| (c)(1)(ii) | The effect of fuel consumption on fuel reserves resulting from changes in flight paths, winds, and aircraft configuration; |  |  |  |  |
| (c)(1)(iii) | The effect of fuel jettisoning on aircraft mass and fuel reserves, if applicable and approved; |  |  |  |  |
| (c)(1)(iv) | The effect of any ice protection system, if applicable and weather conditions require its use; |  |  |  |  |
| (c)(1)(v) | Ambient temperatures and winds along intended route and any planned diversion; |  |  |  |  |
| (c)(1)(vi) | Flight paths and minimum altitudes required to remain clear of obstacles. |  |  |  |  |
| (c)(2) | During take-off and landing- |  |  |  |  |
| (c)(2)(i) | The condition of the take-off runway or area to be used. including any contaminates (e.g., water, slush, snow, ice); |  |  |  |  |
| (c)(2)(ii) | The gradient of runway to be used; |  |  |  |  |
| (c)(2)(iii) | The runway length including clearways and stopways, if applicable; |  |  |  |  |
| (c)(2)(iv) | Pressure altitudes at take-off and landing sites; |  |  |  |  |
| (c)(2)(v) | Current ambient temperatures and winds at take-off; |  |  |  |  |
| (c)(2)(vi) | Forecast ambient temperatures and winds at each destination and planned alternate landing site; |  |  |  |  |
| (c)(2)(vii) | The ground handling characteristics (e.g., braking action) of the type of aircraft; and |  |  |  |  |
| (c)(2)(viii) | Landing aids and terrain that may affect the take-off path, landing path, and landing roll. |  |  |  |  |
| (c)(2)(ix) | In determining the length of the runway available, account shall be taken of the loss, if any, of runway length due to alignment of the airplane prior to take-off. |  |  |  |  |
|  | *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, take-off 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.* |  |  |  |  |
| **8.7.2.3.2** | **AIRCRAFT PERFORMANCE: HELICOPTERS** |  |  |  |  |
| (a) | In conditions where the safe continuation of flight is not ensured in the event of a critical power unit failure, helicopter operations shall be conducted in a manner that gives appropriate consideration for achieving a safe forced landing. |  |  |  |  |
| (b) | Where the State of the Operator permits IMC operations in performance Class 3, such operations shall be conducted in accordance with the provisions of Subpart 8.8.4.22. |  |  |  |  |
| (c) | For helicopters for which Part IV of Annex 8 is not applicable because of the exemption provided for in Article 41 of the Convention, the level of performance specified in Subpart 8.7.2.3.3 should be met as far as practicable. |  |  |  |  |
| (d) | Where helicopters are operated to or from heliports in a congested hostile environment, the competent authority of the State in which the heliport is situated shall specify the requirements to enable these operations to be conducted in a manner that gives appropriate consideration for the risk associated with a power-unit failure. |  |  |  |  |
| **8.7.2.3.3** | **AIRCRAFT PERFORMANCE: HELICOPTERS CERTIFICATED IN ACCORDANCE WITH PART IV OF ANNEX 8** |  |  |  |  |
| (a) | The Standards contained in paragraphs (b) to (f) inclusive below and Subpart 8.7.2.4.2 (a) are applicable to the helicopters to which Part IV of Annex 8 is applicable. |  |  |  |  |
| (b) | The level of performance defined by the appropriate parts of the code of performance referred to in Subpart 8.7.1.1 for the helicopters designated in paragraph (a) above shall be consistent with to the overall level embodied in the Standards of this chapter. |  |  |  |  |
| (c) | A helicopter shall be operated in compliance with the terms of its certificate of airworthiness and within the approved operating limitations contained in its flight manual. |  |  |  |  |
| (d) | The State of the Operator shall take such precautions as are reasonably possible to ensure that the general level of safety contemplated by these provisions is maintained under all expected operating conditions, including those not covered specifically by the provisions of this chapter. |  |  |  |  |
| (e) | A flight shall not be commenced unless the performance information provided in the flight manual indicates that the Standards of paragraph (f) below and Subpart 8.7.2.4.2 (a) can be complied with for the flight to be undertaken. |  |  |  |  |
| (f) | In applying the Standards of this chapter, account shall be taken of all factors that significantly affect the performance of the helicopter (such as: mass, operating procedures, the pressure altitude appropriate to the elevation of the operating site, temperature, wind and condition of the surface). …. |  |  |  |  |
| (f) | … Such factors shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the code of performance in accordance with which the helicopter is being operated. |  |  |  |  |
| **8.7.2.4** | **TAKE-OFF LIMITATIONS** |  |  |  |  |
| **8.7.2.4.1** | **TAKE-OFF LIMITATIONS: AIRPLANES** |  |  |  |  |
| (a) | The mass of the airplane at the start of take-off shall not exceed the mass at which paragraph (5) below is complied with, nor the mass at which Subparts 8.7.2.6, 8.7.2.7 and 8.7.2.8 are complied with, allowing for expected reductions in mass as the flight proceeds… |  |  |  |  |
| (a) | …. and for such fuel jettisoning as is envisaged in applying Subparts 8.7.2.6 and 8.7.2.7 and, in respect of alternate airports,  Subparts 8.7.1.4 (d) and 8.7.2.8. |  |  |  |  |
| (a) | ….No person may take-off an airplane used in commercial air transport, unless the following requirements are met when determining the maximum permitted take-off mass: |  |  |  |  |
| (a)(1) | 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 airport, and, if used as a parameter to determine the maximum take-off mass, any other local atmospheric condition. |  |  |  |  |
| (a)(2) | The take-off run shall not be greater than the length of the runway. |  |  |  |  |
| (a)(3) | For turbine engine powered airplanes |  |  |  |  |
| (a)(3)(i) | The take-off distance shall not exceed the length of the runway plus the length of any |  |  |  |  |
| (a)(3)(ii) | …clearway, except that the length of any clearway included in the calculation shall not be greater than 1½ the length of the runway; and |  |  |  |  |
| (a)(3)(iii) | …The accelerate-stop distance shall not exceed the length of the runway, plus the length of any stopway, at any time during take-off until reaching V1. |  |  |  |  |
| (a)(4) | For reciprocating engine powered airplanes- |  |  |  |  |
| (a)(4)(i) | The accelerate-stop distance shall not exceed the length of the runway at any time during take-off until reaching V1. |  |  |  |  |
| (a)(5) | The airplane shall be able, in the event of a critical power-unit failing at any point in the takeoff, either to discontinue the take-off and stop within the accelerate-stop distance available, or to continue the take-off and clear all obstacles along the flight path by an adequate margine, described in paragraph (6), until the airplane is in a position to comply with Subpart 8.7.2.6. When determining the resulting take-off obstacle accountability area, the operating conditions, such as crosswind component and navigation accuracy, must be taken into account. |  |  |  |  |
|  | *Note. ICAO Annex 6 Part 1, Attachment C contains guidance on the vertical and horizontal distances that are considered adequate to show compliance with this Standard.* |  |  |  |  |
| (a)(6) | If the critical power-unit fails at any time after the airplane reaches V1, to continue the takeoff flight path and clear all obstacles either- |  |  |  |  |
| (a)(6)(i) | by a height of at least 9.1m (35ft) vertically for turbine engine powered airplanes or 15.2m (50ft) for reciprocating engine powered airplanes; and |  |  |  |  |
| (a)(6)(ii) | by at least 60m (200 ft) horizontally within the airport boundaries and by at least 90 meters (300 ft) horizontally after passing the boundaries, without banking more than 15 degrees at any point on the take-off flight path. |  |  |  |  |
| **8.7.2.4.2** | **TAKE-OFF LIMITATIONS: HELICOPTERS** |  |  |  |  |
| (a) | Mass Limitations |  |  |  |  |
| (a)(1) | The mass of the helicopter at the start of take-off shall not exceed the mass at which the code of performance referred to in Subpart 8.7.1.1 is complied with, allowing for expected reductions in mass as the flight proceeds and for such fuel jettisoning as is appropriate. |  |  |  |  |
| (a)(2) | In no case shall the mass at the start of take-off exceed the maximum take-off mass specified in the helicopter flight manual taking into account the factors specified in Subpart 8.7.2.3.3 (f). |  |  |  |  |
| (a)(3) | In no case shall the estimated mass for the expected time of landing at the destination and at any alternate exceed the maximum landing mass specified in the helicopter flight manual taking into account the factors specified in Subpart 8.7.2.3.3 (f). |  |  |  |  |
| (a)(4) | In no case shall the mass at the start of take-off, or at the expected time of landing at the destination and at any alternate, exceed the relevant maximum mass 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 operating site where there is no noise disturbance problem, by the competent authority of the State in which the operating site is situated. |  |  |  |  |
| (b) | In developing a code of performance, a risk assessment methodology in accordance with the guidance in Attachment A to Annex 6 part III shall apply. Where a risk assessment methodology is not applied, the standards of Subparts 8.7.2.4.2 (c) shall apply. |  |  |  |  |
| (c) | Take-off and Initial Climb Phase |  |  |  |  |
| (c)(1) | Operations in performance Class 1. The helicopter shall be able, in the event of the failure of the critical power-unit being recognized at or before the take-off decision point, to discontinue take-off and stop within the rejected take-off area available or, in the event of the failure of the critical power-unit being recognized at or after the take-off decision point, to continue the take-off, clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with Subpart 8.7.2.6 (b)(1). |  |  |  |  |
| (c)(2) | Operations in performance Class 2. The helicopter shall be able, in the event of the failure of the critical power-unit at any time after reaching DPATO, to continue the take-off, clearing all  obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with Subpart 8.7.2.6 (b)(1…. |  |  |  |  |
| (c)(2) | … Before the DPATO, failure of the critical power-unit may cause the helicopter to force-land; therefore the conditions stated in Subpart 8.7.2.3.2 (a) shall apply. |  |  |  |  |
| (c)(3) | Operations in performance Class 3. At any point of the flight path, failure of a power-unit will cause the helicopter to force-land; therefore the conditions stated in Subpart 8.7.2.3.2 (a) shall apply. |  |  |  |  |
| **8.7.2.5** | **EN ROUTE LIMITATIONS: ALL POWER UNITS OPERATING** |  |  |  |  |
| (a) | No person may take off a reciprocating engine powered airplane used in commercial air transport at a mass that does not allow a rate of climb of at least 6.9 VSO (that is, the number of feet per minute…. |  |  |  |  |
| (a) | ….obtained by multiplying the airplane's minimum steady flight speed by 6.9) with all engines operating, at an altitude of at least 300m (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) | Airplane. No person may take off an airplane used in commercial air transport having two power units unless that airplane can, in the event of the critical power unit becoming inoperative at any point along the route, or planned diversion there-from, to continue the flight to a suitable airport or planned diversions therefrom, to continue the flight to an airport, at which the Standard of Subpart 8.7.2.7 can be met, without flying below the minimum flight altitude at any point, where a landing can be made while allowing: |  |  |  |  |
| (a)(1) | For reciprocating engine powered airplanes- |  |  |  |  |
| (a)(1)(i) | At least a rate of climb of 0.079 - (0.106/number of engines installed) VS02 (when VSO is expressed in knots) at an altitude of 300m (1,000ft) above all terrain and obstructions within 9.3 km (5sm), on each side of the intended track; and |  |  |  |  |
| (a)(1)(ii) | A positive slope at an altitude of at least 450m (1,500ft) above the airport where the airplane is assumed to land. |  |  |  |  |
| (a)(2) | For turbine engine powered transport category airplanes- |  |  |  |  |
| (a)(1)(i) | A positive slope at an altitude of at least 300m (1,000ft) above all terrain and obstructions within 9.3km (5sm), on each side of the intended track; |  |  |  |  |
| (a)(1)(ii) | A net flight path from cruising altitude to the intended landing airport that allows at least 600 m (2.000 ft) clearance above all terrain and obstructions within 9.3km (5sm), on each side of the intended track: and |  |  |  |  |
| (a)(1)(iii) | A positive slope at an altitude of at least 450m (1,500 ft) above the airport where the airplane is assumed to land; |  |  |  |  |
|  | *Note: The climb rate specified in paragraph (a)(1)(i) may be amended to 0.026 Vso2 for large transport category aircraft issued a type certificate prior to 1953.* |  |  |  |  |
|  | *Note: The 9.3km (5nm) clearance margin stated in paragraph (a) shall be increased to 18.5 km (10 nm) if navigational accuracy does not meet the 95% containment level.* |  |  |  |  |
| (b) | Helicopters: No person shall take-off the helicopter used in commercial air transport operation having two engines unless: |  |  |  |  |
| (b)(1) | Operations in performance Classes 1 and 2. The helicopter shall be able, in the event of the failure of the critical power-unit at any point in the en-route phase, to continue the flight to a site at which the conditions of Subpart 8.7.2.8 (e)(1) for operations in performance Class 1, or the conditions of Subpart 8.7.2.8 (e)(2) for operations in performance Class 2 can be met, without flying below the appropriate minimum flight altitude at any point. |  |  |  |  |
| (b)(2) | Operations in performance Class 3. The helicopter shall be able, with all power-units 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 a power-unit will cause the helicopter to force-land; therefore the conditions stated in Subpart 8.7.2.3.2 (a) shall apply. |  |  |  |  |
| **8.7.2.7** | **EN ROUTE LIMITATIONS: TWO POWER UNITS INOPERATIVE** |  |  |  |  |
| (a) | Airplane. No person may take-off an airplane used in commercial air transport having three or more power units, on any part of a route where the location of en-route alternate airports and the total duration of the flight are such that the probability of a second power-unit becoming inoperative must be allowed for if the general level of safety implied by the Standards of this chapter is to be maintained, the airplane shall be able, in the event of any two power-units becoming inoperative, to continue the flight to an en-route alternate airport and land while allowing: |  |  |  |  |
| (a)(1) | For turbine engine powered airplanes- |  |  |  |  |
| (a)(1)(i) | A net flight path (considering the ambient temperatures anticipated along the track) clearing vertically by at least 600 m (2,000 feet) all terrain and obstructions within 9.3 km (5 nautical miles) on each side of the intended track; |  |  |  |  |
| (a)(1)(ii) | A positive slope at 450 m (1,500 feet) above the airport of intended landing; and |  |  |  |  |
| (a)(1)(iii) | Enough fuel to continue to the airport of intended landing, to arrive at an altitude of at least 450 m (1,500 feet) directly over the airport, 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.* |  |  |  |  |
| (a)(2) | For reciprocating engine powered airplanes- |  |  |  |  |
| (a)(2)(i) | A rate of climb at 0.013 Vso2 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 300 m (1,000 ft) above the highest ground or obstruction within 18.6 km (10 nm) on each side of the intended track, or at an altitude of 1,500 m (5,000 ft), which ever is higher; and |  |  |  |  |
| (a)(2)(ii) | Enough fuel to continue to the airport of intended landing and to arrive at an altitude of at least 300 m (1.000 ft) directly over that airport. |  |  |  |  |
|  | *Note: When the two engines of the reciprocating airplane 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 Vs02 greater than the rate in the approved performance data.* |  |  |  |  |
|  | *Note: If fuel jettisoning is authorized (or planned), the airplane's mass 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 airport and to arrive at an altitude of at least 300 m (1,000 ft) directly over that airport.* |  |  |  |  |
| (b) | Helicopters. No person shall take-off 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) | Airplane: No person may take off an airplane used in commercial operations unless its mass is such on arrival at the airport of intended landing and at any alternate airport, that after clearing all obstacles in the approach path by a safe margin, be able to land, with assurance that it can come to a stop or; for a seaplane, to a satisfactorily low speed, within the landing distance available (Allowance shall be made for expected variations in the approach and landing techniques, if such allowance has not been made in the scheduling of performance data.), and within: |  |  |  |  |
| (a)(1) | For turbine engine powered airplanes, 60 percent of the effective length of each runway. |  |  |  |  |
| (a)(2) | For reciprocating engine powered airplanes, 70 percent of the effective length of each runway. |  |  |  |  |
| (b) | For the purpose of determining the allowable landing mass at the destination airport, each person determining the landing limit shall ensure that |  |  |  |  |
| (b)(1) | The airplane is landed on the most favorable runway and in the most favorable direction, in still air: or |  |  |  |  |
| (b)(2) | The airplane is landed on the most suitable runway considering the probable wind velocity and direction, runway conditions, the ground handling characteristics of the airplane, 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 airplane and this information is included in the AFM.* |  |  |  |  |
| (c) | A turbine powered transport category airplane that would be prohibited from taking off because it could not meet the requirements of paragraph (a)(1), may take off if an alternate airport 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: |  |  |  |  |
| (e)(1) | Operations in performance Class 1. In the event of the failure of the critical power-unit being recognized at any point during the approach and landing phase, before the landing decision point, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, 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 equivalent to that specified in Subpart 8.7.2.4.2 (c)(1…. |  |  |  |  |
| (e)(1) | …. In case of the failure occurring after the landing decision point, the helicopter shall be able to land and stop within the landing distance available. |  |  |  |  |
| (e)(2) | Operations in performance Class 2. In the event of the failure of the critical power-unit 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 Subpart 8.7.2.3.2 (c)(2….. |  |  |  |  |
| (e)(2) | …. After the DPBL, failure of a power-unit may cause the helicopter to force-land; therefore the conditions stated in Subpart 8.7.2.3.2 (a) shall apply. |  |  |  |  |
| (e)(3) | Operations in performance Class 3. At any point of the flight path, failure of a power-unit will cause the helicopter to force-land; therefore the conditions stated in Subpart 8.7.2.3.2 (a) shall apply. |  |  |  |  |
| **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 airport unless the person at the controls: |  |  |  |  |
| (a)(1) | has been authorized by the owner, the lessee, or a designated agent; |  |  |  |  |
| (a)(2) | is fully competent to taxi the aircraft; |  |  |  |  |
| (a)(3) | is qualified to use the radio if radio communications are required; and |  |  |  |  |
| (a)(4) | has received instruction from a competent person in respect of airport 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 airport. |  |  |  |  |
| (b) | For helicopters: No person shall cause a helicopter rotor to be turned under power for the purpose of flight, unless there is a qualified pilot at the controls…. |  |  |  |  |
| (b) | …. 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** | **TAKE-OFF CONDITIONS** |  |  |  |  |
| (a) | Before commencing take-off, a PIC shall ensure that |  |  |  |  |
| (a)(1) | According to the available information. the weather at the airport and the condition of the runway intended to be used will allow for a safe take-off and departure; and |  |  |  |  |
| (a)(2) | The RVR or visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum. |  |  |  |  |
| **8.8.1.3** | **FLIGHT INTO KNOWN OR EXPECTED ICING** |  |  |  |  |
| (a) | A flight to be operated in known or expected icing conditions shall not be commenced unless the aircraft is certificated and equipped to cope with such conditions. |  |  |  |  |
| (b) | No person may take-off 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) | A flight to be planned or expected to operate in suspected or known ground icing conditions shall not take off unless the aircraft has been inspected for icing and, if necessary, has been given appropriate de-icing/anti-icing treatment. … |  |  |  |  |
| (c) | …. Accumulation of ice or other naturally occurring contaminants shall be removed so that the aeroplane is kept in an airworthy condition prior to take-off. |  |  |  |  |
| (d) | For commercial air transport operations, no person may take-off 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 Operator by the Authority are followed to ensure ground de-icing and anti-icing is accomplished. |  |  |  |  |
| **8.8.1.4** | **ALTIMETER SETTINGS** |  |  |  |  |
| (a) | Each person operating an aircraft, except a balloon or glider, shall maintain the cruising altitude or flight level by reference to an altimeter setting. |  |  |  |  |
| (b) | The lowest usable flight level is determined by the atmospheric pressure in the area of operation. |  |  |  |  |
| (c) | The flight crew shall use the altimeter settings provided by the air traffic control service of State within which the operation is conducted. |  |  |  |  |
| (d) | See IS: 8.8.1.4 for the tables to determine the lowest usable flight level. |  |  |  |  |
|  | *Note: In areas of the world where it may not be possible to get an altimeter setting, reference the State’s procedures in the AIP-Philippines.* |  |  |  |  |
| **8.8.1.5** | **MINIMUM SAFE ALTITUDES: GENERAL** |  |  |  |  |
| (a) | Except when necessary for take-off or landing, no person may operate an aircraft below the following altitudes: |  |  |  |  |
| (a)(1) | Anywhere. 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. |  |  |  |  |
| (a)(2) | Over congested areas. Over any congested area of a city, town, or settlement, or over any open-air assembly of persons, an altitude of 300 m (1000 feet) above the highest obstacle within a horizontal radius of 600 m (2,000 feet) of the aircraft. |  |  |  |  |
| (a)(3) | Over other than congested areas. An altitude of 150 m (500 feet) above the surface, except over open water or sparsely populated areas where the aircraft may not be operated closer than 150 m (500 feet) to any person, vessel, vehicle, or structure. |  |  |  |  |
| (a)(4) | Helicopters. Pilots of helicopters are not subject to the proximity restrictions provided they are operate in a manner that is not hazardous to persons and property on the surface… |  |  |  |  |
| (a)(4) | … The PIC of a helicopter shall comply with any routes or altitudes for the area that are prescribed for helicopters by the Authority. |  |  |  |  |
| (a)(5) | Altitudes prescribed by ICAO Annex 2: 3.1.2, 4.6 and 5.1.2. |  |  |  |  |
|  | **MINIMUM SAFE VFR ALTITUDES** |  |  |  |  |
| (a) | No person may operate an airplane during the day, under VFR, at an altitude less than 300 m (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 airplane at night, under VFR, at an altitude less than 300 m (1,000 feet) above the highest obstacle within a horizontal distance of 8 km (5 nm) from the centre of the intended course…. |  |  |  |  |
| (b) | … or, in designated mountainous areas, less than 600 m (2,000 feet) above the highest obstacle within a horizontal distance of 8 km (5 nm) from the centre of the intended course. |  |  |  |  |
| **8.8.1.7** | **INSTRUMENT APPROACH OPERATING MINIMA** |  |  |  |  |
| (a) | No person may operate to or from an airport/ heliport using operating minima lower than those which may be established for that airport/heliport by the State in which it is located, unless that State specifically approves that operation, in accordance with the provisions of Implementing Standard: IS: 8.8.1.7. |  |  |  |  |
| (b) | An operator shall establish airport/heliport-perating minima for each airport/heliport to be used in operation, and shall approve the method of determination of such minima… |  |  |  |  |
| (b) | ….. That minima shall not be lower than any that may be established for such airports by the State in which the airport is located, except when specifically approved by that State.  *Note: This Standard does not require the State of the Aerodrome to establish aerodrome operating minima.* |  |  |  |  |
| (c) | The Authority may approve operational credit(s) for operations with advanced aircraft. Such approvals shall not affect the classification of the instrument approach procedure. |  |  |  |  |
|  | *Note 1. – Operational credit includes:* |  |  |  |  |
|  | *(1) for the purposes of an approach ban (PCAR Part 8, Subsection 8.8.4.13, paragraph (c) and (d)), or dispatch considerations, a minimum below the aerodrome operating minima;* |  |  |  |  |
|  | *(2)* *reducing or satisfying the visibility requirements; or* |  |  |  |  |
|  | *(3) requiring fewer ground facilities as compensated for by airborne capabilities.* |  |  |  |  |
|  | *Note 2. – Guidance on operational credit and how to express the operational credit in the Operations Specifications is contained in the Manual of All-Weather Operations (ICAO Doc 9365).* |  |  |  |  |
|  | *Note 3. – Information regarding a HUD or equivalent displays, including references to RTCA and EUROCAE documents, is contained in the* Manual of All-Weather Operations *(ICAO Doc 9365).* |  |  |  |  |
| (d) | Threshold crossing height for 3D instrument approaches: An operator shall establish operational procedures designed to ensure that an aircraft being used to conduct 3D instrument approach operations crosses the threshold by a safe margin, with the aircraft in the landing configuration and attitude. |  |  |  |  |
| (e) | See IS 8.8.1.7 for requirements for Instrument Approach Operating Minima. |  |  |  |  |
| (f) | 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: |  |  |  |  |
| (f)(1) | Type A: a minimum descent height or decision height at or above 75 m (250 ft); and |  |  |  |  |
| (f)(2) | Type B: a decision height below 75 m (250 ft). Type B instrument approach operations are categorized as: |  |  |  |  |
| (f)(2)(A) | Category I (CAT I): a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800 m or a runway visual range not less than 550 m; |  |  |  |  |
| (f)(2)(B) | Category II (CAT II): a decision height lower than 60 m (200 ft), but not lower than 30 m (100 ft) and a runway visual range not less than 300 m; |  |  |  |  |
| (f)(2)(C) | Category IIIA (CAT IIIA): a decision height lower than 30 m (100 ft) or no decision height and a runway visual range not less than 175 m |  |  |  |  |
| (f)(2)(D) | Category IIIB (CAT IIIB): a decision height lower than 15 m (50 ft), or no decision height and a runway visual range less than 175 m but not less than 50 m; and |  |  |  |  |
| (f)(2)(E) | Category IIIC (CAT IIIC): no decision height and no runway visual range limitations. |  |  |  |  |
| (g) | The operating minima for 2D instrument approach operations using instrument approach procedures shall be determined by establishing a minimum descent altitude (MDA) or minimum descent height (MDH), minimum visibility and, if necessary, cloud conditions.. |  |  |  |  |
| (h) | The operating minima for 3D instrument approach operations using instrument approach procedures shall be determined by establishing a decision altitude (DA) or decision height (DH) and the minimum visibility or RVR. |  |  |  |  |
|  | *Note 1: Where decision height (DH) and runway visual range (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 IIIA but with an RVR in the range of CAT IIIB would be considered a CAT IIIB 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).* |  |  |  |  |
|  | *Note 2: The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach operation the required visual reference is the runway environment.* |  |  |  |  |
|  | *Note 3: Guidance on approach classification as it relates to instrument approach operations, procedures, runways and navigation systems is contained in the* All Weather Operations Manual *(Doc 9365).* |  |  |  |  |
|  | *Note 4: For guidance on applying a continuous descent final approach (CDFA) flight technique on non-precision approach procedures refers to PANS-OPS (Doc 8168), Volume I, Section 1.7.* |  |  |  |  |
| (i) | When issuing a specific approval for the operational credit, the Authority shall ensure that: |  |  |  |  |
| (i)(1) | the aeroplane meets the appropriate airworthiness certification requirements; |  |  |  |  |
| (i)(2) | 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 operations manual is more than one; |  |  |  |  |
| (i)(3) | the operator has carried out a safety risk assessment of the operations supported by the equipment; |  |  |  |  |
| (i)(4) | the operator has established a training programme for the flight crew members and relevant personnel involved in the flight preparation; |  |  |  |  |
| (i)(5) | the operator has established a training programme for the flight crew members and relevant personnel involved in the flight preparation; |  |  |  |  |
| (i)(6) | the operator has established a system for data collection, evaluation and trend monitoring for low visibility operations for which there is an operational credit; and |  |  |  |  |
| (i)(7) | the operator has instituted appropriate procedures in respect of continuing airworthiness (maintenance and repair) practices and programmes.  *Note 1. - Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).*  *Note 2. Guidance on operational approvals is contained in the Manual of All-Weather Operations (Doc 9365).* |  |  |  |  |
| (j) | For operations with operational credit with minima above those related to low visibility operations, the operator shall establish criteria for the safe operation of the airplane.  Note. Guidance on operational credit for operations with minima above those related to low visibility operations is contained in the Manual of All-Weather Operations (Doc 9365). |  |  |  |  |
| **8.8.1.8** | **CATEGORY II AND III OPERATIONS: GENERAL OPERATING RULES** |  |  |  |  |
| (a) | No person may operate a civil aircraft in a Category II or III operation unless: |  |  |  |  |
| (a)(1) | The PIC and CP of the aircraft hold the appropriate authorizations and ratings prescribed in Subpart 2.2.2. |  |  |  |  |
| (a)(2) | Each flight crew member has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; |  |  |  |  |
| (a)(3) | 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; and |  |  |  |  |
| (a)(4) | RVR information is provided. |  |  |  |  |
| (b) | Unless otherwise authorized by the Authority, no person may operate a civil aircraft in a Category II or Category III operation unless each ground component required for that operation and the related airborne equipment is installed and operating. |  |  |  |  |
| (c) | When the approach procedure being used provides for and requires the use of a DH, the authorized DH is the highest of the following: |  |  |  |  |
| (c)(1) | The DH prescribed by the approach procedure. |  |  |  |  |
| (c)(2) | The DH prescribed for the PIC. |  |  |  |  |
| (c)(3) | The DH for which the aircraft is equipped. |  |  |  |  |
| (d) | Unless otherwise authorized by the Authority, no pilot operating an aircraft in a Category II or Category III approach that provides and requires use of a DH may continue the approach below the authorized decision height unless the following conditions are met: |  |  |  |  |
| (d)(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 maneuvers, and where that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing. |  |  |  |  |
| (d)(2) | At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot: |  |  |  |  |
| (d)(2)(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. |  |  |  |  |
| (d)(2)(ii) | The threshold. |  |  |  |  |
| (d)(2)(iii) | The threshold markings. |  |  |  |  |
| (d)(2)(iv) | The threshold lights. |  |  |  |  |
| (d)(2)(v) | The touchdown zone or touchdown zone markings. |  |  |  |  |
| (d)(2)(vi) | The touchdown zone lights. |  |  |  |  |
| (e) | Unless otherwise authorized by the Authority, each pilot operating an aircraft shall immediately execute an appropriate missed approach whenever, prior to touchdown, the requirements of paragraph (d) of this section are not met. |  |  |  |  |
| (f) | No person operating an aircraft using a Category III approach without DH may land that aircraft except in accordance with the provisions of the letter of authorization issued by the Authority. |  |  |  |  |
| (g) | No person may conduct Category II or III instrument approaches and landing operations below 800 m visibility unless RVR information is provided. |  |  |  |  |
| (h) | Paragraphs (a) through (f) of this section do not apply to operations conducted by Operators issued a certificate under Part 9. …. |  |  |  |  |
| (h) | …. No person may operate a civil aircraft in a Category II or Category III operation conducted by an Operator unless the operation is conducted in accordance with that Operator's approved training program and operations specifications. |  |  |  |  |
| **8.8.1.9** | **CATEGORY II AND CATEGORY III MANUAL** |  |  |  |  |
| (a) | Except as provided in paragraph (c) of this section, no person may operate a civil aircraft in a Category II or a Category III operation unless |  |  |  |  |
| (a)(1) | There is available in the aircraft a current and approved Category II or Category III manual, as appropriate, for that aircraft; |  |  |  |  |
| (a)(2) | The operation is conducted in accordance with the procedures, instructions, and limitations in the appropriate manual; and |  |  |  |  |
| (a)(3) | The instruments and equipment listed in the manual that are required for a particular Category II or Category III operation have been inspected and maintained in accordance with the maintenance program contained in the manual. |  |  |  |  |
| (b)(1) | In seeking authorization for Category II or Category III operations, the air operator shall submit for approval company manual and amendment(s) thereof that include the conditions required for the conduct of such approach, including aircraft and aircraft equipment required, the training and qualifications required of maintenance personnel and flight crew members, any specific airworthiness considerations, and any other information related to the conduct of Category II/II operations. |  |  |  |  |
| (b)(2) | Each operator must keep a current copy of each approved manual at its principal base of operations and must make each manual available for inspection upon request by the Authority. |  |  |  |  |
| (c) | Paragraphs (a) and (b) do not apply to operations conducted by an Operator issued a certificate under Part 9, which will have approved Category II or III operations included as a part of its operations manual. |  |  |  |  |
| (d) | See IS 8.8.1.9 for specific Category II and III manual requirements. |  |  |  |  |
| **8.8.1.10** | **AUTHORIZATION FOR EXEMPTION FROM CERTAIN CATEGORY II OPERATIONS** |  |  |  |  |
| (a) | The Authority may authorize exemptions from the requirements of Subparts 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 authorization 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 airport 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 airplane having three or more engines fails, or its rotation is stopped, the PIC may proceed to an airport if he or she decides that proceeding to that airport is as safe as landing at the nearest suitable airport after considering the: |  |  |  |  |
| (b)(1) | Nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued; |  |  |  |  |
| (b)(2) | Altitude, mass, and usable fuel at the time of engine stoppage; |  |  |  |  |
| (b)(3) | Weather conditions en route and at possible landing points; |  |  |  |  |
| (b)(4) | Air traffic congestion; |  |  |  |  |
| (b)(5) | Kind of terrain; and |  |  |  |  |
| (b)(6) | Familiarity with the airport to be used. |  |  |  |  |
| **8.8.1.12** | **OPERATING NEAR OTHER AIRCRAFT INCLUDING FORMATION FLIGHTS** |  |  |  |  |
| (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: |  |  |  |  |
| (b)(1) | By arrangement with the PIC of each aircraft in the formation, and |  |  |  |  |
| (b)(2) | If in controlled airspace, in accordance with conditions prescribed by the appropriate air traffic authority, which includes that: |  |  |  |  |
| (b)(2)(i) | The formation operates as a single aircraft with regard to navigation and position reporting |  |  |  |  |
| (b)(2)(ii) | Separation between aircraft in the flight shall be the responsibility of the flight leader and the pilots in command of the other aircraft in flight; |  |  |  |  |
| (b)(2)(iii) | Separation between aircraft shall include periods of transition when aircraft are maneuvering to attain their own separation within the formation and during join-up and break-away; and |  |  |  |  |
| (b)(2)(iv) | A distance not exceeding 1 km (0.5 NM) laterally and longitudinally and 30 m (100 ft) vertically from the flight leader shall be maintained by each aircraft. |  |  |  |  |
| (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. |  |  |  |  |
| (a)(1) | Each pilot shall maintain vigilance so as to see and avoid other aircraft; and |  |  |  |  |
| (a)(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 and taking into account the effect of aircraft wake turbulence. |  |  |  |  |
| (a)(3) | Each pilot who has the right-of-way shall maintain his or her heading and speed but is still responsible for taking such action, including collision avoidance maneuvers based on resolution advisories provided by ACAS equipment, as will best avert collision |  |  |  |  |
| (b) | In distress. An aircraft in distress has the right-of-way over all other air traffic. |  |  |  |  |
| (c) | Converging. |  |  |  |  |
| (c)(1) | When aircraft of the same category are converging at approximately the same altitude (except head-on, or nearly so), the aircraft to the other's right has the right-of-way. |  |  |  |  |
| (c)(2) | If the converging aircraft are of different categories- |  |  |  |  |
| (c)(2)(i) | A balloon has the right-of-way over any other category of aircraft; |  |  |  |  |
| (c)(2)(ii) | A glider has the right-of-way over an airship, and power driven heavier than air aircraft; and |  |  |  |  |
| (c)(2)(iii) | An airship has the right-of-way over a power driven heavier than air aircraft. |  |  |  |  |
| (d) | Towing or Refueling. An aircraft towing or refueling 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 apprroach* |  |  |  |  |
| (h) | More than one landing aircraft. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way. |  |  |  |  |
| (i) | The PIC shall not take advantage of the right of way landing rules in items (g) and (h) in this paragraph to cut in front of another aircraft that is on final approach to land or to overtake that aircraft. |  |  |  |  |
| (j) | Emergency landing. Aircraft that are compelled to land have the right-of-way over other aircraft. |  |  |  |  |
| (k) | Taking off. Aircraft taking off have the right-of-way over aircraft taxiing on the maneuvering area of an aerodrome. |  |  |  |  |
| (l) | Surface movement of aircraft. |  |  |  |  |
| (l)(1) | Approaching head-on. When aircraft are approaching each other head-on, or approximately so, each pilot of each aircraft shall stop, or wherever practicable alter course to the right so as to keep well clear. |  |  |  |  |
| (l)(2) | Converging. When aircraft are converging on a course, the aircraft to the other's right has the right-of-way. |  |  |  |  |
| (l)(3) | Overtaking. Each aircraft that is being overtaken has the right-of-way and each pilot of an overtaking aircraft shall keep well clear. |  |  |  |  |
| (m) | Aircraft taxiing on the maneuvering area of an aerodrome. |  |  |  |  |
| (m)(1) | An aircraft taxiing on the maneuvering area shall stop and hold at all runway-holding positions unless otherwise authorized by the aerodrome control tower. |  |  |  |  |
| (m)(2) | An aircraft taxiing on the maneuvering area shall stop and hold at all lighted stop bars and may proceed further when the lights are switched off. |  |  |  |  |
|  | *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) | Converging or 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. |  |  |  |  |
| € | 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. |  |  |  |  |
| (f) | Landing and taking off. When aircraft, on landing or taking off from the water, shall keep well clear of all vessels and avoid impeding their navigation. |  |  |  |  |
| (g) | Helicopters: All helicopters on flights over water in a hostile environment in accordance with Subpart 7.8.18 shall be certificated for ditching… |  |  |  |  |
| (g) | … Sea state shall be an integral part of ditching information. |  |  |  |  |
| **8.8.1.15** | **USE OF AIRCRAFT LIGHTS** |  |  |  |  |
| (a) | If an aircraft has red rotating beacon lights, or other lights installed to show that the engine is running, the pilot shall switch those lights on before 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: |  |  |  |  |
| (b)(1) | It has lighted navigation lights; and |  |  |  |  |
| (b)(2) | If anti-collision lights are installed, those lights are lighted. |  |  |  |  |
| (c) | No person may park or move an aircraft between the period from sunset to sunrise in, or in a dangerous proximity to, a movement area of an aerodrome, unless the aircraft: |  |  |  |  |
| (c)(1) | Is clearly illuminated; |  |  |  |  |
| (c)(2) | Has lighted navigation lights; or |  |  |  |  |
| (c)(3) | Is in an area that is marked by obstruction lights; or |  |  |  |  |
| (c)(4) | Has lights to indicate when the engine is running. |  |  |  |  |
| (d) | No person may anchor an aircraft unless that aircraft: |  |  |  |  |
| (d)(1) | Has lighted anchor lights; or |  |  |  |  |
| (d)(2) | Is in an area where anchor lights are not required on vessels. |  |  |  |  |
| (e) | No person may operate an aircraft on water during the period from sunset to sunrise unless: |  |  |  |  |
| (e)(1) | It displays lights as required by the International Regulations for Preventing Collisions at Sea (most recent edition); or |  |  |  |  |
| (e)(2) | It shall display lights as similar as possible in characteristics and position to those required by the International Regulations for Preventing Collisions at Sea if it is not practical to display the  lights exactly as required. |  |  |  |  |
| (f) | A pilot is permitted to switch off or reduce the intensity of any flashing lights fitted to meet the requirements of this paragraph if they do or are likely to: |  |  |  |  |
| (f)(1) | Adversely affect the satisfactory performance of duties; or |  |  |  |  |
| (f)(2) | Subject an outside observer to harmful dazzle. |  |  |  |  |
| **8.8.1.16** | **SIMULATED INSTRUMENT FLIGHT** |  |  |  |  |
| (a) | No person may operate an aircraft in simulated instrument flight unless |  |  |  |  |
| (a)(1) | That aircraft has fully functioning dual controls, except: |  |  |  |  |
| (a)(1)(i) | In the case of airships, or |  |  |  |  |
| (a)(1)(ii) | In a single engine airplane equipped with a throw-over control wheel in place of fixed, dual controls of the elevator and ailerons. |  |  |  |  |
| (a)(2) | The other control seat is occupied by a safety pilot who holds at least a private pilot license with category and class ratings appropriate to the aircraft being flown, and |  |  |  |  |
| (a)(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** | **IN-FLIGHT SIMULATION OF ABNORMAL SITUATIONS** |  |  |  |  |
| (a) | An operator shall ensure that when passengers or cargo are being carried, no emergency or abnormal situations shall be simulated. |  |  |  |  |
| **8.8.1.18** | **DROPPING, SPRAYING, TOWING** |  |  |  |  |
| (a) | Except under conditions prescribed by the Authority, no pilot may take the following actions |  |  |  |  |
| (a)(1) | Dropping, dusting or spraying from an aircraft, |  |  |  |  |
| (a)(2) | Towing of aircraft or other objects; or |  |  |  |  |
| (a)(3) | Allowing parachute descents. |  |  |  |  |
| **8.8.1.19** | **AEROBATIC FLIGHT** |  |  |  |  |
| (a) | No person may operate an aircraft in aerobatic flight |  |  |  |  |
| (a)(1) | Over any city. town or settlement: |  |  |  |  |
| (a)(2) | Over an open air assembly of persons; |  |  |  |  |
| (a)(3) | Within the lateral boundaries of the surface areas of Class B. C. D or E airspace designated for an airport: |  |  |  |  |
| (a)(4) | Below an altitude of 1,500 feet above the surface: or |  |  |  |  |
| (a)(5) | When the flight visibility is less than 5 km. |  |  |  |  |
| (a)(6) | Unless in compliance with any other conditions prescribed by the Authority. |  |  |  |  |
| (b) | No person may operate an aircraft in maneuvers 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 riggers, licensed in accordance with Part 2 of these regulations, in the past 12 calendar-months. |  |  |  |  |
| **8.8.1.20** | **FLIGHT TEST AREAS** |  |  |  |  |
| (a) | 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** |  |  |  |  |
| (a) | 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 MNPS OR RVSM AIRSPACE** |  |  |  |  |
| (a) | No person may operate a civil aircraft of Republic of the Philippines registry in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance  specifications (MNPS) are prescribed, or in airspace designated as RVSM without a written authorization issued by the Authority. |  |  |  |  |
| (b) | No person may operate an aircraft in MNPS or RVSM airspace, except in accordance with the conditions of the procedures and restrictions required for this airspace. |  |  |  |  |
| (c) | For flights in designated MNPS airspace: an aircraft shall be provided with navigation equipment which: |  |  |  |  |
| (c)(1) | continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track; and |  |  |  |  |
| (c)(2) | has been authorized by the Authority for MNPS operations concerned. |  |  |  |  |
|  | *Note: See CAR Part 7, 7.2.7 for requirements regarding navigation equipment for operations in MNPS airspace.* |  |  |  |  |
| (d) | For flights in designated RVSM airspace: For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1,000 ft) is applied between FL 290 and FL 410 inclusive, an aircraft: |  |  |  |  |
| (d)(1) | shall be provided with equipment which is capable of: |  |  |  |  |
| (d)(1)(i) | indicating to the flight crew the flight level being flown; |  |  |  |  |
| (d)(1)(ii) | automatically maintaining a selected flight level; |  |  |  |  |
| (d)(1)(iii) | providing an alert to the flight crew when a deviation occurs from he selected flight level. he threshold for the alert shall not exceed ± 90 m (300 ft); and |  |  |  |  |
| (d)(1)(iv) | automatically reporting pressure-altitude; and |  |  |  |  |
| (d)(2) | shall be authorized by the Authority for operation in the airspace concerned. |  |  |  |  |
| (e) | Prior to granting the RVSM approval required in accordance with subparagraph (d)(2) above, an operator shall satisfy the Authority that: |  |  |  |  |
| (e)(1) | the vertical navigation performance capability of the aircraft satisfies the requirements specified in Appendix 4 of Annex 6; |  |  |  |  |
| (e)(2) | the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and |  |  |  |  |
| (e)(3) | the operator has instituted appropriate flight crew procedures for operations in RVSM airspace. |  |  |  |  |
| (f) | The operator shall ensure that, in respect of those aircraft mentioned in subparagraph (d) above, adequate provisions exist for: |  |  |  |  |
| (f)(1) | receiving the reports of height-keeping performance issued by the regional monitoring agencies established in accordance with Annex 11: 3.3.4.1; and |  |  |  |  |
| (f)(2) | taking immediate corrective action for individual aircraft, or aircraft type groups, identified in such reports as not complying with the height-keeping requirements for operation in airspace  where RVSM is applied. |  |  |  |  |
| (g) | The aircraft shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the aircraft to navigate in accordance with RVSM airspace requirements. |  |  |  |  |
| (h) | If an aircraft or an operator found to be operating in RVSM airspace without a valid RVSM approval, it shall be liable to penal action. |  |  |  |  |
| **8.8.1.23** | **OPERATIONS ON OR IN THE VICINITY OF A CONTROLLED OR AN**  **UNCONTROLLED AIRPORT** |  |  |  |  |
| (a) | When approaching to land at an airport without an operating control tower, each pilot of |  |  |  |  |
| (a)(1) | An airplane shall make all turns of that airplane to the left; or to the right, if appropriately indicated by the authorities having jurisdiction over that airport; |  |  |  |  |
| (a)(2) | A helicopter shall avoid the flow of airplanes. |  |  |  |  |
| (b) | When departing an airport without an operating control tower, each pilot of an aircraft shall comply with any traffic patterns established by the authorities having jurisdiction over that airport. |  |  |  |  |
| (c) | Each pilot of an aircraft shall land and take-off into the wind unless safety, the runway configurations, or traffic considerations determine that a different direction is preferable. |  |  |  |  |
| (d) | Each pilot operating an aircraft either on or in the vicinity of an airport shall: |  |  |  |  |
| (d)(1) | Observe other airport traffic for the purpose of avoiding collision; and |  |  |  |  |
| (d)(2) | Conform with or avoid the pattern of traffic formed by other aircraft in operation. |  |  |  |  |
| (e) | Each pilot of an aircraft when operating to, from, or through an aerodrome having an operational control tower shall also comply with the requirements at Part 8.8.2.8. |  |  |  |  |
| (f) | See IS: 8.8.2.11 for the appropriate displays of light signals or visual markings. |  |  |  |  |
| **8.8.1.24** | **AIRPORT TRAFFIC PATTERN ALTITUDES: TURBOJET, TURBOFAN, OR LARGE AIRCRAFT** |  |  |  |  |
| (a) | When arriving at an airport, the PIC of a turbojet, turbofan, or large aircraft shall enter the traffic pattern at least 1,500 ft 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 ft AGL as rapidly as practicable. |  |  |  |  |
| **8.8.1.25** | **COMPLIANCE WITH VISUAL AND ELECTRONIC GLIDE SLOPES** |  |  |  |  |
| (a) | The PIC of an airplane 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 airplane approaching to land on a runway served by an ILS shall fly that airplane 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** |  |  |  |  |
| (a) | If a PIC or an Operator knows of conditions, including airport and runway conditions, that are a hazard to safe operations, that person shall restrict or suspend all commercial air transport operations to such airports and runways as necessary until those conditions are corrected. |  |  |  |  |
| **8.8.1.27** | **CONTINUATION OF FLIGHT WHEN DESTINATION AIRPORT IS TEMPORARILY RESTRICTED: COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| (a) | No PIC may allow a flight to continue toward any airport of intended landing where commercial air transport operations have been restricted or suspended, unless |  |  |  |  |
| (a)(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 |  |  |  |  |
| (a)(2) | There is no safer procedure. |  |  |  |  |
| **8.8.1.28** | **INTERCEPTION** |  |  |  |  |
| (a) | When intercepted by a military or government aircraft, each PIC shall comply with the international standards when interpreting and responding to visual signals and communication as specified in IS: 8.8.1.28. |  |  |  |  |
| (b) | No pilot may conduct an international flight unless the procedures and signals relating to interception of aircraft, as specified in IS: 8.8.1.28, are readily available on the flight deck. |  |  |  |  |
| **8.8.1.29** | **NOISE ABATEMENT PROCEDURES** |  |  |  |  |
| (a) | Each AOC holder shall operate its aircraft in accordance with the noise abatement procedures approved by the Authority. |  |  |  |  |
| (b) | Unless otherwise directed by the Authority, the noise abatement procedures specified by an operator for any one aircraft type shall be the same for all airports.  *Note.- A single procedure may not satisfy the requirements at some aerodromes.* |  |  |  |  |
| (c) | Helicopters: An operator shall ensure that take-off and landing procedures take into account the need to minimize the effect of helicopter noise. |  |  |  |  |
| (d) | Airplane operating procedures for noise abatement shall comply with the provisions of ICAO PANS-OPS (Doc 8168), Volume I. |  |  |  |  |
| **8.8.1.30** | **MINIMUM FLIGHT ALTITUDE** |  |  |  |  |
| (a) | An operator shall be permitted to establish minimum flight altitudes for those routes flown for which minimum flight altitudes have not been established by the State flown over or the responsible State, provided they shall not be less than those established by that State, unless specifically approved. |  |  |  |  |
| (b) | An operator shall specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the State flown over or the responsible State, and shall include this method in the operations manual. The minimum flight altitudes determined in accordance with the above method shall not be lower than specified in Subparts 8.8.1.5 and 8.8.4.5. |  |  |  |  |
| (c) | The method for establishing the minimum flight altitudes shall be approved by the Authority. |  |  |  |  |
| (d) | The Authority shall approve such method only after careful consideration of the probable effects of the following factors on the safety of the operation in question: |  |  |  |  |
| (d)(1) | the accuracy and reliability with which the position of the aircraft can be determined; |  |  |  |  |
| (d)(2) | the inaccuracies in the indications of the altimeters used; |  |  |  |  |
| (d)(3) | the characteristics of the terrain (e.g. sudden changes in the elevation); |  |  |  |  |
| (d)(4) | the probability of encountering unfavorable meteorological conditions (e.g. severe turbulence and descending air currents); |  |  |  |  |
| (d)(5) | possible inaccuracies in aeronautical charts; and |  |  |  |  |
| (d)(6) | airspace restrictions. |  |  |  |  |
| **8.8.1.31** | **OPERATIONS IN PERFORMANCE-BASED NAVIGAION (PBN) AIRSPACE** |  |  |  |  |
| (a) | No operator shall permit, and no pilot shall conduct operations in airspace designated as Performance-based Navigation (PBN) airspace, unless so approved in the operator’s Operations Specifications. |  |  |  |  |
| (b) | For flights in defined portions of airspace or on routes where an PBN type has been prescribed, an aircraft shall be provided with navigation equipment which will enable it to operate in accordance with the prescribed RNP type(s) and the ATS requirements as specified in Subparts 7.2.7, 7.2.8, 7.2.9 and 7.2.10. |  |  |  |  |
| (c) | An operator shall equip the aircraft as prescribed in subparagraph (b) above by incorporating the necessary airworthiness requirements, and submit to the Authority for approval the company manuals and amendments thereof, including the pre-flight and en-route procedures to be followed for such flights, the training and qualifications required of maintenance personnel, flight operations officers/flight dispatchers, and flight crew members; and such other information necessary in the conduct of operations in PBN designated airspace. On successful demonstration of competency of operations in PBN designated airspace by an operator, the Authority shall authorize such operations. |  |  |  |  |
|  | *Note: See ICAO Doc 9613 for information on the approval process for operations in PBN airspace.* |  |  |  |  |
| **8.8.1.32** | **AIRPLANE 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 airplane 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 1500 ft/min (depending on the instrumentation available) throughout the last 300 m (1000 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. |  |  |  |  |
|  | *Note: Material concerning the development of these procedures is contained in the PANS-OPS (ICAO Doc 8168) Volume I, Part III, Section 3, Chapter.* |  |  |  |  |
| **8.8.1.33** | **AEROPLANE OPERATING PROCEDURES FOR LANDING PERFORMANCE** |  |  |  |  |
| (a) | As of 4 November 2021, an approach to land shall not be continued below 300 m (1000 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. |  |  |  |  |
|  | *Note 1.- The procedures used by aerodromes to assess and report runway surface conditions are contained in the PANS-Aerodromes (Doc 9981) and those for using runway surface condition information on board aircraft are in the Aeroplane Performance Manual (Doc 10064).*  *Note 2.- Guidance on development of aeroplane performance information is contained in the Aeroplane Performance Manual (Doc 10064).* |  |  |  |  |
| **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, including potential re-clearance in flight. |  |  |  |  |
| (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 airport may taxi on the maneuvering area or any runway without clearance from the airport 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 maneuvers 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 maneuvers such as taxiing, landing or taking off* |  |  |  |  |
|  | *Note: Paragraph 8.8.2.2(a) does not prohibit a pilot from canceling an 1FR clearance when operating in VMC conditions or canceling 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** |  |  |  |  |
| (a) | 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. |  |  |  |  |
| (b) | Each person operating an aircraft on a controlled flight shall, except when landing at a controlled airport, advise the appropriate ATC facility as soon as it ceases to be subject to ATC service. |  |  |  |  |
|  | *Note: More specific procedures may be prescribed by the appropriate ATC authority in respect of aircraft forming part of airport traffic at a controlled airport.* |  |  |  |  |
|  | *Note: Automatic signaling devices may be used to satisfy the requirement to maintain a continuous listening watch, if authorized by the Authority.* |  |  |  |  |
| (c) | All flight crew members required to be on flight deck duty shall communicate through boom or throat microphones below the transition level/altitude. |  |  |  |  |
| **8.8.2.4** | **ROUTE TO BE FLOWN** |  |  |  |  |
| (a) | Unless otherwise authorized or directed by the appropriate ATC facility, the PIC of a controlled flight shall, in so far as practicable |  |  |  |  |
| (a)(1) | When on an established ATC route. operate along the defined centre line of that route; or |  |  |  |  |
| (a)(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 maneuvering the aircraft to pass well clear of other airtraffic or the maneuvering 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: |  |  |  |  |
| (a)(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. |  |  |  |  |
| (a)(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 by plus or minus Mach 0.02 or more, or plus or minus 19 km/h (10kt) true airspeed or more from the current flight plan. |  |  |  |  |
| (a)(3) | *Change in time estimate.* Except where ADS-C is Activated and serviceable in airspace where ADS-C services are provided, if the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, changes in excess of 2 minutes from that previously notified to air traffic services, or such other period of time as is prescribed by the appropriate ATS authority or on the basis of regional air navigation, the flight crew shall notify the appropriate air traffic services unit as soon as possible. |  |  |  |  |
| (b) | When ADS-C services are provided and ADS-C is activated, the air traffic services unit shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract. |  |  |  |  |
| **8.8.2.6** | **ATC CLEARANCE: INTENDED CHANGES** |  |  |  |  |
| (a) | Requests for flight plan changes shall include the following information: |  |  |  |  |
| (a)(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. |  |  |  |  |
| (a)(2) | *Change of* route- |  |  |  |  |
| (a)(2)(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. |  |  |  |  |
| (a)(2)(ii) | *Destination change.* Aircraft identification; flight rules; description of revised route of flight to revised destination airport including related flight plan data, beginning with the position from which requested change of route is to commence; revised time estimates; alternate airport(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. |  |  |  |  |
| (c) | When operating via data link communications providing position information to the appropriate air traffic services unit, each pilot of a controlled flight shall only provide voice position reports when requested by the appropriate ATC facility. |  |  |  |  |
| **8.8.2.8** | **OPERATIONS ON OR IN THE VICINITY OF A CONTROLLED AIRPORT** |  |  |  |  |
| (a) | No person may operate an aircraft to, from, through, or on an airport 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 airport 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) | Take-off landing, taxi clearance*.* No person may, at any airport with an operating control tower, operate an aircraft on a runway or taxiway or take-off or land an aircraft, unless an appropriate clearance has been received by ATC. |  |  |  |  |
|  | *Note: A clearance to -taxi to" the take-off runway is not a clearance to cross or taxi on to that runway. It does authorize the PIC to cross other runways during the taxi to the assigned runway. A clearance to -taxi to" any other point on the airport 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 |  |  |  |  |
| (e)(1) | The weather conditions are at or above basic VFR minimums; and |  |  |  |  |
| (e)(2) | Clearance to land from the ATC tower is given in accordance with the universal light signals and acknowledged by the PIC as contained in IS: 8.8.2.11 (e) and (f) for light signals and acknowledgement. |  |  |  |  |
|  | *Note: During IFR operations, the two-way communications failure procedures in Subpart 8.8.4.19(a)(3) 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: |  |  |  |  |
| (a)(1) | Any significant circumstances associated with the unlawful interference. And |  |  |  |  |
| (a)(2) | Any deviation from the current flight plan necessitated by the circumstances. |  |  |  |  |
| (b) | If an aircraft is subjected to unlawful interference, the PIC shall attempt to land as soon as practicable at the nearest suitable aerodrome or at a dedicated aerodrome assigned by the appropriate authority unless considerations aboard the aircraft dictate otherwise. |  |  |  |  |
| **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. |  |  |  |  |
| (c) | Whenever time is used in the application of data link communications, it shall be accurate to within one second of UTC. |  |  |  |  |
|  | *Note: The time checks above in 8.8.2.10 (a) and (b) are normally obtained from an air traffic services unit unless other arrangements have been made by the operator or by the appropriate ATC authority.* |  |  |  |  |
| **8.8.2.11** | **UNIVERSAL SIGNALS** |  |  |  |  |
| (a) | Upon observing or receiving any of the designated universal aviation signals as contained in IS: 8.8.2.11 and IS: 8.8.1.28, each person operating an aircraft shall take such action as may be required by the interpretation of the signal. |  |  |  |  |
| (b) | Universal aviation 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. |  |  |  |  |
| **8.8.3** | **VFR FLIGHT RULES AND AIRSPACE DESIGNATION** |  |  |  |  |
| **8.8.3.1** | **VISUAL METEOROLOGICAL CONDITIONS AND AIRSPACE DESIGNATION** |  |  |  |  |
| (a) | 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: |  |  |  |  |
|  |  |  |  |  |  |
|  | \* When the height of the transition altitude is lower than 3,050 in (1,000 ft) AMSL, FL 100 should be used  in lieu of 10,000ft. |  |  |  |  |
|  | \*\* When so prescribed by the appropriate ATC authority: |  |  |  |  |
|  | Lower flight visibilities to 1,500 m may be permitted for flights operating: |  |  |  |  |
|  | - At speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or |  |  |  |  |
|  | - In circumstances in which the probability of encounters with other traffic would normally be low, e.g. in areas of low volume traffic and for aerial work at low levels. |  |  |  |  |
|  | Helicopters may be permitted to operate in less than 1,500 m flight visibility, if maneuvered at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision. |  |  |  |  |
|  | \*\*\* The VMC minima in Class A airspace are included for guidance to pilots and do not imply acceptance of VFR flights in Class A airspace. |  |  |  |  |
| (b) | Airspace Classification - Services Provided and Flight Requirements: |  |  |  |  |
|  |  |  |  |  |  |
| (c) | Airspace designation in Republic of the Philippines: |  |  |  |  |
| (c)(1) | Class A airspace: IFR flights only are permitted. All flights are provided with air traffic control service and are separated from each other. |  |  |  |  |
| (c)(2) | Class B airspace: IFR and VFR flights are permitted. All flights are provided with air traffic control service and are separated from each other. |  |  |  |  |
| (c)(3) | Class C airspace: IFR and VFR flights are permitted. All flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights. |  |  |  |  |
| (c)(4) | Class D airspace: IFR and VFR fights are permitted and all flights are provided with air traffic control service. IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights. VFR flights receive traffic information in respect of all other flights. |  |  |  |  |
| (c)(5) | Class E airspace: IFR and VFR fights are permitted. IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic information as far as is  practicable. |  |  |  |  |
| (c)(6) | Class F airspace: IFR and VFR fights are permitted. All participating IFR flights receive an air traffic advisory service and all flights receive flight information service if requested. |  |  |  |  |
| (c)(7) | Class G airspace: IFR and VFR fights are permitted and receive flight information service if requested. |  |  |  |  |
| (d) | Within the Manila FIR, the airspace is divided and classified as follows: |  |  |  |  |
|  |  |  |  |  |  |
| **8.8.3.2** | **VFR WEATHER MINIMUMS FOR TAKE-OFF AND LANDING** |  |  |  |  |
| (a) | No person may land or takeoff an aircraft under VFR from an aerodrome located within a control zone, or enter the aerodrome traffic zone or traffic pattern airspace unless the: |  |  |  |  |
| (a)(1) | Reported ceiling is at least 450 m (1,500 ft); and |  |  |  |  |
| (a)(2) | Reported ground visibility is at least 5 km; or, except when a clearance is obtained from ATC. |  |  |  |  |
| (b) | No person may land or takeoff an aircraft or enter the traffic pattern under VFR from an airport located outside a control zone, unless VMC conditions are at or above those indicated in Subpart  8.8.3.1. |  |  |  |  |
| (c) | 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 aircraft under Special VFR from an airport located in Class B, Class C, Class D or Class E airspace unless: |  |  |  |  |
| (a)(1) | Authorized by an ATC clearance, under exceptional circumstances; |  |  |  |  |
| (a)(2) | The aircraft remains clear of clouds; and |  |  |  |  |
| (a)(3) | The flight visibility is at least 5 km. |  |  |  |  |
| (b) | No person may conduct a Special VFR flight operation in an aircraft between sunset and sunrise. |  |  |  |  |
| **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 a flight level appropriate to the track as specified in the table of cruising levels in IS: 8.8.3.4. |  |  |  |  |
| (b) | Paragraph (a) does not apply when otherwise authorized by ATC, when operating in a holding pattern, or during maneuvering 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 |  |  |  |  |
| (a)(1) | Within Classes B, C and D airspace: |  |  |  |  |
| (a)(2) | As part of airport traffic at controlled airports; and |  |  |  |  |
| (a)(3) | Under Special VFR. |  |  |  |  |
| **8.8.3.6** | **VFR FLIGHTS REQUIRING ATC AUTHORIZATION** |  |  |  |  |
| (a) | Unless authorized by the appropriate ATC authority, no pilot may operate in VFR flight |  |  |  |  |
| (a)(1) | Above FL 200; or |  |  |  |  |
| (a)(2) | At transonic and supersonic speeds. |  |  |  |  |
| (b) | ATC authorization for VFR flights may not be granted in areas where a VSM of only 300m (1,000 ft) is applied above FL 290. |  |  |  |  |
| (c) | No person may operate in VFR flight between sunset and sunrise unless: |  |  |  |  |
| (c)(1) | Authorized by the appropriate ATC authority, and |  |  |  |  |
| (c)(2) | Operating in accordance with any conditions prescribed by the Authority. |  |  |  |  |
| **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 |  |  |  |  |
| (a)(1) | Request an amended clearance enabling the aircraft to continue in VMC to its destination or to an alternative airport. or to leave the airspace within which an ATC clearance is required; |  |  |  |  |
| (a)(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 airport; |  |  |  |  |
| (a)(3) | Operating within a control zone. request authorization to operate as a special VFR flight; or |  |  |  |  |
| (a)(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 |  |  |  |  |
| (a)(1) | If a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan; or |  |  |  |  |
| (a)(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** |  |  |  |  |
| (b) | If radio failure occurs in VFR while under ATC control, or if VFR conditions are encountered after the failure, each pilot shall: |  |  |  |  |
| (b)(1) | Continue the flight under VFR; |  |  |  |  |
| (b)(2) | Land at the nearest suitable airport: and |  |  |  |  |
| (b)(3) | Report arrival to ATC by the most expeditious means possible. |  |  |  |  |
| **8.8.4** | **IFR FLIGHT RULES** |  |  |  |  |
| **8.8.4.1** | **APPLICABILITY** |  |  |  |  |
| (a) | All aircraft operated in accordance with instrument flight procedures shall comply with the IFR, and the airport/heliport instrument approach procedures approved by the State in which the operation will take place. |  |  |  |  |
|  | *Note 1: Information for pilots on flight procedure parameters and operational procedures is contained in ICAO Doc 8168, PANS-OPS, Volume I. Criteria for the construction of visual and instrument flight procedures are contained in ICAO DOC 8186, PANS-OPS, Volume II. Obstacle clearance criteria and procedures used in certain States may differ from PANS-OPS, and knowledge of these differences is important for safety reasons.*  *Note 2: See ICAO Annex 6, Part 1 4.2.8.3 for instrument approach operation classifications.* |  |  |  |  |
| (b) | Airplanes: One or more instrument approach procedures designed in accordance with the classification of instrument approach and landing operations shall be approved and promulgated by the State in which the airport is located to serve each instrument runway or airport utilized for instrument flight operations. |  |  |  |  |
| (c) | Helicopters: One or more instrument approach procedures to serve each final approach and takeoff 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. |  |  |  |  |
| **8.8.4.2** | **IFR IN CONTROLLED AIRSPACE** |  |  |  |  |
| (a) | No person may operate an aircraft in controlled airspace under IFR unless that person has |  |  |  |  |
| (a)(1) | Filed an IFR flight plan; and |  |  |  |  |
| (b)(2) | Received an appropriate ATC clearance. |  |  |  |  |
| **8.8.4.3** | **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. |  |  |  |  |
| **8.8.4.4** | **IFR TAKE-OFF MINIMUMS FOR COMMERCIAL AIR TRANSPORT** |  |  |  |  |
| (a) | Unless otherwise authorized by the Authority, no pilot operating an aircraft in commercial air transport operations may accept a clearance to take off from a civil airport under IFR unless weather conditions are at or above |  |  |  |  |
| (a)(1) | For aircraft; other than helicopters, having two engines or less: 1,500 m (1 statute mile) visibility. |  |  |  |  |
| (a)(2) | For aircraft having more than two engines: 800 m (1/2 statute mile) visibility. |  |  |  |  |
| (a)(3) | For helicopters: 800 m (1/2 statute mile) visibility. |  |  |  |  |
| **8.8.4.5** | **MINIMUM ALTITUDES FOR IFR OPERATIONS** |  |  |  |  |
| (a) | Operation *of aircraft at minimum altitudes.* Except when necessary for take-off or landing, no person may operate an aircraft under IFR below |  |  |  |  |
| (a)(1) | The applicable minimum altitudes prescribed by the authorities having jurisdiction over the airspace being over-flown; or |  |  |  |  |
| (a)(2) | If no applicable minimum altitude is prescribed by the authorities- |  |  |  |  |
| (a)(2)(i) | Over high terrain or in mountainous areas, at a level which is at least 600m (2,000ft) above the highest obstacle located within 8 km of the estimated position of the aircraft; And |  |  |  |  |
| (a)(2)(ii) | Elsewhere than as specified in paragraph (a), at a level which is at least 300m (1,000ft) above the highest obstacle located within 8 km of the estimated position of the aircraft. |  |  |  |  |
| (a)(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.* |  |  |  |  |
| (b)(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 |  |  |  |  |
| (b)(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. |  |  |  |  |
| **8.8.4.6** | **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 II and III approaches, the Authority may approve the use of a flight control guidance system with automatic capability to touchdown. |  |  |  |  |
|  | *Note: For Category I approaches, see Implementing Standards IS: 8.8.4.6.* |  |  |  |  |
| **8.8.4.7** | **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. |  |  |  |  |
| (c) | Paragraph (b) above does not apply when otherwise authorized by ATC or specified by the appropriate ATC authority in Aeronautical Information Publications. |  |  |  |  |
| (d) | The requirements for VFR cruising altitudes are in Subpart 8.8.3.4. |  |  |  |  |
| **8.8.4.8** | **IFR CRUISING ALTITUDE OR FLIGHT LEVEL IN UNCONTROLLED AIRSPACE** |  |  |  |  |
| (a) | Each person operating an aircraft in level cruising flight under IFR, outside of controlled airspace, shall maintain a flight level appropriate to the track as specified in the table of cruising levels in IS: 8.8.3.4 or according to a modified table of cruising levels when so prescribed in accordance with IS: 8.8.3.4 for flight above FL 410. |  |  |  |  |
| (b) | A person may deviate from the cruising altitudes specified in paragraph (a) only when: |  |  |  |  |
| (b)(1) | Authorized by ATC for flight at or below 900 m (3,000 ft) above MSL; or |  |  |  |  |
| (b)(2) | When otherwise authorized by ATC. |  |  |  |  |
| **8.8.4.9** | **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 |  |  |  |  |
| (a)(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; |  |  |  |  |
| (a)(2) | Any un-forecast weather conditions encountered; and |  |  |  |  |
| (a)(3) | Any other information relating to the safety of flight, such as hazardous weather or abnormal radio station indications. |  |  |  |  |
| **8.8.4.10** | **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 |  |  |  |  |
| (b)(1) | Aircraft identification; |  |  |  |  |
| (b)(2) | Equipment affected, |  |  |  |  |
| (b)(3) | Degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; And |  |  |  |  |
| (b)(4) | Nature and extent of assistance desired from ATC. |  |  |  |  |
| **8.8.4.11** | **CONTINUATION OF IFR FLIGHT TOWARD A DESTINATION** |  |  |  |  |
| (a) | For commercial air transport operations: |  |  |  |  |
|  | A flight shall not be continued towards the airport/heliport of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that airport/heliport or at least one destination alternate airport/heliport, in compliance with the operating minima established in accordance with Subpart 8.8.1.7 (b). |  |  |  |  |
| (b) | For General Aviation operations: |  |  |  |  |
|  | A flight shall not be continued towards the airport/heliport of intended landing unless the latest available meteorological information indicates that conditions at that airport/heliport, or at least one destination alternate airport/heliport, will, at the estimated time of arrival, be at or above the specified airport/heliport operating minima in accordance with Subpart 8.8.1.7(b) |  |  |  |  |
| **8.8.4.12** | **INSTRUMENT APPROACH PROCEDURES AND IFR LANDING MINIMUMS** |  |  |  |  |
| (a) | No person may make an instrument approach at an airport/heliport except in accordance with IFR weather minimums and instrument approach procedures established for that airport/heliport set forth by the Authority. |  |  |  |  |
| (b) | No AOC holder may make an instrument approach at an airport/heliport except as set forth in the AOC holder's operations specifications. |  |  |  |  |
| **8.8.4.13** | **CONTINUATION OF AN INSTRUMENT APPROACH** |  |  |  |  |
| (a) | In commercial air transport operations, no pilot may continue an approach past the final approach fix (FAF), or where a FAF is not used, begin the final approach segment of an instrument approach procedure, at any airport/heliport unless: |  |  |  |  |
| (a)(1) | A source approved by the Authority isues a weather report for that airport/heliport; and |  |  |  |  |
| (a)(2) | The latest weather report for that airport/heliport reports the visibility or controlling RVR to be equal to or more that the 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 airport on the final approach course within the distance prescribed in the procedure.* |  |  |  |  |
| (c) | 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 unless visibility or controlling RVR is at or above the aerodrome operating minima. |  |  |  |  |
|  | *Note: Criteria for the Final Approach Segment is contained in PANS-OPS (Doc 8168), Volume II.* |  |  |  |  |
| (d) | 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 airplane shall not continue approach-to-land any aerodrome beyond a point at which the limits of the operating minima specified for that aerodrome would be infringed. |  |  |  |  |
|  | *Note: Controlling RVR means the reported values of one or more RVR reporting locations (touchdown, mid-point and stop-end) used to determine whether operating minima are or are not met. Where RVR is used, the controlling RVR is the touchdown RVR, unless otherwise specified by the Authority.* |  |  |  |  |
| (e) | An approach to land shall not be continued below 300 m (1000 ft) above aerodrome elevation unless the pilot-in-command is satisfied that, with the runway surface condition information available, the airplane performance information indicates that a safe landing can be made. |  |  |  |  |
|  | *Note 1. – The procedures used by aerodromes to assess and report runway surface conditions are contained in the PANS-Aerodromes (Doc 9981) and those for using runway surface condition information on board aircraft in the* Aeroplane Performance Manual *(ICAO Doc 10064).*  *Note 2. – Guidance on development of aeroplane performance information is contained in the* Aeroplane Performance Manual *(ICAO Doc 10064).* |  |  |  |  |
| **8.8.4.14** | **INSTRUMENT APPROACHES TO CIVIL AIRPORTS** |  |  |  |  |
| (a) | Each person operating a civil aircraft shall use a standard instrument approach procedure prescribed by the authorities having jurisdiction over the airport, unless otherwise authorized by the Authority. |  |  |  |  |
| (b) | Authorized 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 authorized DH or MDA is the highest of the following: |  |  |  |  |
| (b)(1) | The DH or MDA prescribed by the approach procedure. |  |  |  |  |
| (b)(2) | The DH or MDA prescribed for the PIC. |  |  |  |  |
| (b)(3) | The DH or MDA for which the aircraft is equipped. |  |  |  |  |
| **8.8.4.15** | **OPERATION BELOW DH OR MDA** |  |  |  |  |
| (a) | Where a DH or MDA is applicable, no pilot may operate a civil aircraft at any airport or heliport below the authorized MDA, or continue an approach below the authorized DH unless: |  |  |  |  |
| (a)(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 maneuvers; |  |  |  |  |
| (a)(2) | For commercial air transport operations, a descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing; |  |  |  |  |
| (a)(3) | The reported flight visibility is not less than the visibility prescribed in the standard instrument approach being used or the controlling RVR is above the specified minimum; and |  |  |  |  |
| (a)(4) | At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot- |  |  |  |  |
| (a)(4)(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. |  |  |  |  |
| (a)(4)(ii) | The threshold; |  |  |  |  |
| (a)(4)(iii) | The threshold markings; |  |  |  |  |
| (a)(4)(iv) | Threshold lights; |  |  |  |  |
| (a)(4)(v) | The runway end identifier lights; |  |  |  |  |
| (a)(4)(vi) | The visual approach slope indicator; |  |  |  |  |
| (a)(4)(vii) | The touchdown zone or touchdown zone markings; |  |  |  |  |
| (a)(4)(viii) | The touchdown zone lights; |  |  |  |  |
| (a)(4)(ix) | The runway or runway markings; or |  |  |  |  |
| (a)(4)(x) | The runway lights. |  |  |  |  |
|  | *Note 1: Controlling RVR means the reported values of* one *or more RVR reporting locations (touchdown, mid-point and stop-end) used to determine whether operating minima are or are not met. Where RVR is used, the controlling RVR is the touchdown RVR, unless otherwise specified by Republic of the Philippines criteria.* |  |  |  |  |
|  | *Note 2: The visual references above do not apply to Category II and Ill operations. The required visual references under Category II and III operations are stated in the Operator's approved operations specifications or in a special authorization prescribed by the Authority.* |  |  |  |  |
| **8.8.4.16** | **LANDING DURING INSTRUMENT METEOROLOGICAL CONDITIONS** |  |  |  |  |
| (a) | 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. |  |  |  |  |
| **8.8.4.17** | **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: |  |  |  |  |
| (a)(1) | Whenever the required visual reference criteria is not met **in** the following situations: |  |  |  |  |
| (a)(1)(i) | When the aircraft is being operated below MDA; or |  |  |  |  |
| (a)(1)(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. |  |  |  |  |
| (a)(2) | Whenever an identifiable part of the airport is not distinctly visible to the pilot during a circling maneuver at or above MDA, unless the inability to see an identifiable part of the airport results only from a normal bank of the aircraft during the circling approach. |  |  |  |  |
| **8.8.4.18** | **CHANGE FROM IFR FLIGHT TO VFR FLIGHT** |  |  |  |  |
| (a) | A 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. |  |  |  |  |
| **8.8.4.19** | **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: |  |  |  |  |
| (a)(1) | Route- |  |  |  |  |
| (a)(1)(i) | By the route assigned in the last ATC clearance received, |  |  |  |  |
| (a)(1)(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, |  |  |  |  |
| (a)(1)(iii) | In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or |  |  |  |  |
| (a)(1)(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. |  |  |  |  |
| (a)(2) | Altitude. At the highest of the following altitudes or flight levels for the route segment being flown- |  |  |  |  |
| (a)(2)(i) | The altitude or flight level assigned in the last ATC clearance received; |  |  |  |  |
| (a)(2)(ii) | The minimum altitude (converted, if appropriate, to minimum flight level for IFR operations); or |  |  |  |  |
| (a)(2)(iii) | The altitude or flight level ATC advised may be expected in a further clearance. |  |  |  |  |
| (a)(3) | Leave clearance limit: |  |  |  |  |
| (a)(3)(i) | When the clearance limit is at a fix from which an approach begins, commence descent or descent and approach: |  |  |  |  |
| (a)(3)(i)(A) | As close as possible to the expect-further-clearance time if one has been received; or |  |  |  |  |
| (a)(3)(i)(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. |  |  |  |  |
| (a)(3)(ii) | If the clearance limit is not a fix from which an approach begins: |  |  |  |  |
| (a)(3)(ii)(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; |  |  |  |  |
| (a)(3)(ii)(B) | Proceed to a fix from which an approach begins; and |  |  |  |  |
| (a)(3)(ii)(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. |  |  |  |  |
| **8.8.4.20** | **THRESHOLD CROSSING HEIGHT FOR PRECISION APPROACHES** |  |  |  |  |
| (a) | An operator shall establish operational procedures designed to ensure that an airplane being used to conduct precision approaches crosses the threshold by a safe margin with the airplane in the landing configuration and attitude. |  |  |  |  |
| **8.8.4.21** | **ADDITIONAL 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 operator shall ensure that the helicopter is certificated for flight under IFR and that the overall level of safety intended by the provisions of CAR Parts 5, 8 and 9 is provided by: |  |  |  |  |
| (b)(1) | the reliability of the engines; |  |  |  |  |
| (b)(2) | the operator's maintenance procedures, operating practices and crew training programmes; and |  |  |  |  |
| (b)(3) | equipment and other requirements provided in accordance with Appendix 2 to Annex 6 Part III. |  |  |  |  |
| (c) | Operations of helicopters operating in performance Class 3 in IMC shall have a program 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.* |  |  |  |  |
| **8.8.4.22** | **ADDITIONAL REQUIREMENTS FOR SINGLE PILOT OPERATIONS UNDER THE INSTRUMENT FLIGHT RULES (IFR) OR AT NIGHT** |  |  |  |  |
| (a) | An airplane shall not be operated under the IFR or at night by a single pilot unless approved by the Authority. |  |  |  |  |
| (b) | An airplane shall not be operated under the IFR or at night by a single pilot unless: |  |  |  |  |
| (b)(1) | the flight manual does not require a flight crew of more than one; |  |  |  |  |
| (b)(2) | the airplane is propeller-driven; |  |  |  |  |
| (b)(3) | the maximum approved passenger seating configuration is not more than nine; |  |  |  |  |
| (b)(4) | the maximum certificated take-off mass does not exceed 5,700 kg; |  |  |  |  |
| (b)(5) | the airplane is equipped as described in part 7, Subpart 7.8.11; and |  |  |  |  |
| (b)(6) | the pilot-in-command has satisfied requirements of experience, training, checking and recency described in Subpart 8.10.1.50. |  |  |  |  |
| **8.8.4.23** | **ADDITIONAL REQUIREMENTS FOR SINGLE-ENGINE TURBINE POWERED AIRPLANES AT NIGHT AND/OR IN INSTRUMENT FLIGHT RULES (IFR) CONDITIONS** |  |  |  |  |
| (a) | In approving operations by single-engine turbine-powered airplanes at night and/or in IMC the Authority shall ensure that the airworthiness certification of the airplane is appropriate and that the overall level of safety intended by the provisions of Annexes 6 and 8 is provided by: |  |  |  |  |
| (a)(1) | the reliability of the turbine engine; |  |  |  |  |
| (a)(2) | the operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programs; and |  |  |  |  |
| (a)(3) | equipment and other requirements provided in accordance with with ICAO Annex 6 Part 1, Appendix 3. |  |  |  |  |
| (b) | All single-engine turbine-powered airplanes operated at night and/or in IMC shall have an engine trend monitoring system, and those airplanes for which the individual Certificate of Airworthiness is first issued on or after 1 January 2005 shall have an automatic trend monitoring system. |  |  |  |  |
| **8.8.4.24** | **RESTRICTED AND PROHIBITED AREAS** |  |  |  |  |
| (a) | No person may operate an aircraft within a restricted area as published in the AIP contrary to the restrictions imposed, or within a prohibited area as published in the AIP, unless that person has the permission of the using or controlling agency, as appropriate. |  |  |  |  |
| (b) | Each person conducting, an aircraft operation within a restricted area (approved by the using agency) that creates the same hazards as the operations for which the restricted area was designated may  deviate from the rules of this subpart that are not compatible with the operation of the aircraft |  |  |  |  |
| **8.8.4.25** | **FLIGHT INTO RESTRICTED AIRSPACE (RP-P1)** |  |  |  |  |
| (a) | The rule on this section should be strictly adhered to before a flight could commence within the Malacañang (RP-P1). |  |  |  |  |
| (b) | Helicopter pilots/operators should first request in writing a PSG clearance addressed to the Commanding, PSG (Attn: OG3) with the following information: |  |  |  |  |
| (b)(1) | Time and date of actual flight; |  |  |  |  |
| (b)(2) | Registration number of aircraft; |  |  |  |  |
| (b)(3) | Type and capacity of aircraft; |  |  |  |  |
| (b)(4) | Name of pilots and crew; |  |  |  |  |
| (b)(5) | Name of all VIP/ passenger(s) on board; and |  |  |  |  |
| (b)(6) | Proposed Flight Plan. |  |  |  |  |
| (c) | The PSG clearance shall be submitted to Domestic Flight Operations Briefing Station (DFOBS) as an attachment to the Flight Plan; |  |  |  |  |
| (d) | The Flight Plan, together with the PSG clearance, will be presented to the 250th Presidential Airlift Wing Operation Center for RP-P1 airspace limits flight briefing; |  |  |  |  |
| (e) | Upon airborne, the pilot shall contact call sign “PAPA ONE” of the Group Operations Center, PSG at 11.5 MHz (primary) or 133.0 MHz (secondary) before entering RP-P1 airspace and observe designated gates of entry within the 2 nautical miles (3.71 km) radius; |  |  |  |  |
| (f) | In situations where a VIP passenger has to immediately proceed to Malacañang Park. The pilot should at once contact “PAPA ONE” for clearance informing of a VIP passenger on board and the reason for urgency to proceed to Malacañang Park. The aircraft shall hold on a designated holding area until a clearance is given to proceed. The pilot shall then inform MNL TWR at 118.1 MHz informing that he is flying into RP-P1 and that a clearance has been granted by the PSG before entering RP-P1 airspace. The time of granting such clearance should be specified. |  |  |  |  |
| (g) | Accidental intrusions are strictly unauthorized and the pilot should coordinate with “PAPA ONE” at frequency 119.5 MHz for proper instructions: |  |  |  |  |
| (g)(1) | Two (2) days for overfly; |  |  |  |  |
| (g)(2) | Three (3) days for landing at Area III; and |  |  |  |  |
| (g)(3) | Ten (10) days for aerial flights. |  |  |  |  |
| (h) | In operation like paradrop, aerial photography, and request for clearance to operate a helipad, strict adherence to PSG SOP 9-99 dated June 12, 1999 is enjoined. |  |  |  |  |
| **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 performance 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 himself 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 airplane lavatory. |  |  |  |  |
| (g) | No person may tamper with, disable or destroy any smoke detector installed in any airplane lavatory. |  |  |  |  |
| **8.9.1.2** | **REFUELING WITH PASSENGERS ON BOARD** |  |  |  |  |
| (a) | Airplanes: No PIC may allow an airplane to be refueled when passengers are embarking, on board or disembarking unless: |  |  |  |  |
| (a)(1) | the airplane is properly attended by qualified personnel ready to initiate and direct an evacuation of the airplane by the most practical and expeditious means available; and |  |  |  |  |
| (a)(2) | two-way communication is maintained by the aircraft’s intercommunication system or other suitable means between the ground crew supervising the refueling and the qualified personnel on board the aircraft. |  |  |  |  |
|  | *Note 1.- The provisions of 3.4.3.5.1 do not necessarily require the deployment of integral aeroplane stairs or the opening of emergency exits as a prerequisite to refuelling.*  *Note 2.- Provisions concerning aircraft refuelling are contained in Annex 14, Volume I, and guidance on safe refuelling practices is contained in the Airport Services Manual (Doc 9137), Parts 1 and 8.*  *Note 3.- Additional precautions are required when refuelling with fuels other than aviation kerosene or when refuelling results in a mixture of aviation kerosene with other aviation turbine fuels, or when an open line is used.* |  |  |  |  |
| (b) | Helicopters: No PIC may allow a helicopter to be refueled when passengers are embarking, on board, disembarking or when the rotor is turning unless: |  |  |  |  |
| (b)(1) | the helicopter is properly attended by qualified personnel ready to initiate and direct an evacuation of the helicopter by the most practical and expeditious means available; and |  |  |  |  |
| (b)(2) | two-way communication is maintained by the helicopter’s intercommunication system or other suitable means between the ground crew supervising the refueling and the qualified personnel on board the helicopter. |  |  |  |  |
| (b)(3) | the operator is granted specific authorization by the Authority setting forth the conditions under which such fueling may be carried out. |  |  |  |  |
| **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 take-off 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 take-off 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 take-off.* |  |  |  |  |
| (d) | No operator may prohibit a child, if required by the child’s parent, guardian, or designated attendant, from occupying a child restraint system furnished by the child’s parent, guardian, or designated attendant, provided the child holds a ticket for an approved seat or berth, or such seat or berth is otherwise made available by the operator for the child’s use, and the requirements contained in paragraph (e) below are met. This section does not prohibit the operator from providing the child restraint system, or consistent with safe operating practices, determining the most appropriate passenger seat location for the child restraint system. |  |  |  |  |
| (e) | Notwithstanding any other requirements of this Part, a child may occupy an approved child restraint system furnished by the operator or one of the persons described in sub-paragraph (1)  below, provided: |  |  |  |  |
| (e)(1) | The child is accompanied by the child’s parent or guardian to attend to the safety of the child during the flight. |  |  |  |  |
| (e)(2) | The operator complies with the following requirements: |  |  |  |  |
| (e)(2)(i) | The restraint system must be properly secured to an approved forward facing seat or berth. |  |  |  |  |
| (e)(2)(ii) | The child must be properly secured in the restraint system and must not exceed the specified weight limit for the restraint system; and |  |  |  |  |
| (e)(2)(iii) | The restraint system must bear the appropriate label(s). |  |  |  |  |
| **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: |  |  |  |  |
| (a)(1) | Seat belts or harnesses, as appropriate; |  |  |  |  |
| (a)(2) | Emergency exits; |  |  |  |  |
| (a)(3) | Life jackets, if carriage of life jackets is prescribed; |  |  |  |  |
| (a)(4) | Oxygen dispensing equipment, if provision of oxygen for the passengers is prescribed; and |  |  |  |  |
| (a)(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 take-off.* |  |  |  |  |
| (c) | The PIC shall ensure that, during take-off and landing and whenever by reason of turbulence or any emergency occurring during flight, the precaution is considered necessary, all passengers aboard the aircraft shall be secured in their seats by means of the seat belts or harnesses provided. |  |  |  |  |
|  | *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.* |  |  |  |  |
| **8.9.1.5** | **IN-FLIGHT EMERGENCY INSTRUCTION** |  |  |  |  |
| (a) | 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 affect 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) |  |  |  |  |
| (c) | The PIC shall require all passengers to use oxygen continuously at cabin pressure altitudes above 13,000 feet. |  |  |  |  |
| **8.9.1.7** | **ALCOHOL OR DRUGS** |  |  |  |  |
| (a) | 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). |  |  |  |  |
| **8.9.1.8** | **RESTRICTION ON SMOKING ON BOARD AIRCRAFT** |  |  |  |  |
| (a) | No operator may permit smoking nor may any person smoke on board any part of an aircraft involved in scheduled and non-scheduled international or domestic flights. |  |  |  |  |
| **8.9.2** | **COMMERCIAL AIR TRANSPORT PASSENGER CARRYING OPERATIONS** |  |  |  |  |
| **8.9.2.1** | **PASSENGER COMPLIANCE WITH INSTRUCTIONS** |  |  |  |  |
| (a) | 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 Operator may deny transportation because a passenger |  |  |  |  |
| (a)(1) | Refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority; or |  |  |  |  |
| (a)(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 PASSENGERCARRYING REQUIREMENTS** |  |  |  |  |
| (a) | The passenger-carrying requirements of paragraph (b) do not apply when carrying |  |  |  |  |
| (a)(1) | A crew member not required for the flight; |  |  |  |  |
| (a)(2) | A representative of the Authority on official duty; |  |  |  |  |
| (a)(3) | A person necessary to the safety or security of cargo or animals; or |  |  |  |  |
| (a)(4) | Any person authorized by the Operator's Operation Manual procedures, as approved by the Authority. |  |  |  |  |
| (b) | No person may be carried without compliance to the passenger carrying requirements unless |  |  |  |  |
| (b)(1) | There is an approved seat with an approved seat belt for that person; |  |  |  |  |
| (b)(2) | That seat is located so that the occupant is not in any position to interfere with the flight crew members performing their duties; |  |  |  |  |
| (b)(3) | There is unobstructed access from their seat to the flight deck or a regular or emergency exit; |  |  |  |  |
| (b)(4) | There is a means for notifying that person when smoking is prohibited and when seat belts shall be fastened; and |  |  |  |  |
| (b)(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) | Each cabin crew member assigned to emergency evacuation duties shall occupy a seat provided in accordance with Subpart 7.9.1 during take-off and landing and whenever the PIC so directs, with seat belt or, when provided, safety harness fastened. |  |  |  |  |
| (c) | During take-off 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. |  |  |  |  |
| (d) | 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: |  |  |  |  |
| (d)(1) | If only one qualified person is required, that person shall be located in accordance with the Operator's Operations Manual procedures. |  |  |  |  |
| (d)(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. |  |  |  |  |
| **8.9.2.5** | **EVACUATION CAPABILITY** |  |  |  |  |
| (a) | The PIC, SCC and other person assigned by the Operator 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** |  |  |  |  |
| (a) | No person may cause an airplane carrying passengers to be moved on the surface, take-off 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** |  |  |  |  |
| (a) | 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 take-off 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 co-pilot, or both shall ensure that |  |  |  |  |
| (a)(1) | All engines are shut down; |  |  |  |  |
| (a)(2) | At least one floor level exit remains open to provide for the deplaning of passengers; and |  |  |  |  |
| (a)(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 Refueling with passengers on board, the PIC or a designated company representative shall ensure that the operator's Operations Manual procedures are followed. |  |  |  |  |
| **8.9.2.9** | **PASSENGERS LOADING AND UNLOADING** |  |  |  |  |
| (a) | No person may allow passenger loading or unloading of a propeller driven aircraft unless all engines are shut down, unless the aircraft is using a passenger jet-way to load and unload. |  |  |  |  |
| **8.9.2.10** | **CARRIAGE OF PERSONS WITH REDUCED MOBILITY** |  |  |  |  |
| (a) | No person may allow a person of reduced mobility to occupy seats where their presence could |  |  |  |  |
| (a)(1) | Impede the crew in their duties, |  |  |  |  |
| (a)(2) | Obstruct access to emergency equipment; or |  |  |  |  |
| (a)(3) | Impede the emergency evacuation of the aircraft. |  |  |  |  |
| **8.9.2.11** | **EXIT ROW SEATING** |  |  |  |  |
| (a) | No operator shall allow a passenger to sit in an emergency exit row if the PIC or SCC determines 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. |  |  |  |  |
| (b) | 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: |  |  |  |  |
| (b)(1) | The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs: |  |  |  |  |
| (b)(1)(i) | To reach upward, sideways, and downward to the location of emergency exit and exit slide operating mechanisms; |  |  |  |  |
| (b)(1)(ii) | To grasp and push, pull, turn, or otherwise manipulate those mechanisms; |  |  |  |  |
| (b)(1)(iii) | To push, shove, pull, or otherwise open emergency exits; |  |  |  |  |
| (b)(1)(iv) | To lift out, hold, deposit on nearby seats, or maneuver over the seatbacks to the next row objects the size and mass of over-wing window exit doors; |  |  |  |  |
| (b)(1)(v) | To remove obstructions of size and mass similar to over-wing exit doors; |  |  |  |  |
| (b)(1)(vi) | To reach the emergency exit expeditiously; |  |  |  |  |
| (b)(1)(vii) | To maintain balance while removing obstructions; |  |  |  |  |
| (b)(1)(viii) | To exit expeditiously; |  |  |  |  |
| (b)(1)(ix) | To stabilize an escape slide after deployment; or |  |  |  |  |
| (b)(1)(x) | To assist others in getting off an escape slide. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (b)(5) | The person lacks sufficient aural capacity to hear and understand instructions shouted by cabin crew members, without assistance beyond a hearing aid. |  |  |  |  |
| (b)(6) | The person lacks the ability to adequately impart information orally to other passengers. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (c) | Determinations as to the suitability of each person permitted to occupy an exit seat shall be made by the cabin crewmembers or other persons designated in the AOC holder's Operations Manual. |  |  |  |  |
| (d) | In the event a cabin crewmember 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. |  |  |  |  |
| (e) | 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. |  |  |  |  |
| (f) | Each AOC ticket agent shall, before boarding, assign seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible. |  |  |  |  |
| (g) | Each AOC ticket agent shall make available for inspection by the public at all passenger loading gates and ticket counters at each aerodrome where the AOC holder conducts passenger operations, written procedures established for making determinations in regard to exit row seating. |  |  |  |  |
| (h) | Each cabin crew member shall include in his or her passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she: |  |  |  |  |
| (h)(1) | Cannot meet the selection criteria; |  |  |  |  |
| (h)(2) | Has a non-discernible condition that will prevent him or her from performing the evacuation functions; |  |  |  |  |
| (h)(3) | May suffer bodily harm as the result of performing one or more of those functions; or |  |  |  |  |
| (h)(4) | Does not wish to perform emergency exit functions. |  |  |  |  |
| (i) | Each cabin crew member shall include in his or her passenger briefings a reference to the passenger information cards and the functions to be performed in an emergency exit. |  |  |  |  |
| (j) | Each passenger shall comply with instructions given by a crewmember or other authorized employee of the AOC holder implementing exit seating restrictions. |  |  |  |  |
| (k) | No PIC may allow taxi or pushback unless at least one required crewmember 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. |  |  |  |  |
| (l) | The procedures required by this standard will not become effective until final approval isgranted 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: |  |  |  |  |
| (l)(1) | Establish procedures that address the requirements of this standard; and |  |  |  |  |
| (l)(2) | Submit their procedures for preliminary review and approval to the Authority. |  |  |  |  |
| **8.9.2.12** | **PROHIBITION AGAINST CARRIAGE OF WEAPONS** |  |  |  |  |
| (a) | 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. |  |  |  |  |
| (a)(1) | An AOC holder may permit a person to transport a weapon, in accordance with the AOC holder’s approved security program, if the weapon is unloaded and both the weapon and ammunition are securely stowed in a place inaccessible to any person during the flight. |  |  |  |  |
| (b) | Officials or employees of the State, or crew members, who are authorized to carry weapons on board the aircraft on domestic flights, shall do so in accordance with the AOC holder’s approved security program. |  |  |  |  |
| (b)(1) | The PIC shall be notified by the AOC holder as to the number of armed persons and the location of their seats. |  |  |  |  |
| (c) | The persons identified in paragraph (b) above, may not carry weapons aboard an international flight unless there is a prior agreement between Republic of the Philippines and the State in which the operation will be either conducted or overflown. |  |  |  |  |
| **8.9.2.13** | **OXYGEN FOR MEDICAL USE BY PASSENGERS** |  |  |  |  |
| (a) | An Operator 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 an oxygen cylinder while any other passenger is aboard the aircraft. |  |  |  |  |
| **8.9.2.14** | **CARRY-ON BAGGAGE** |  |  |  |  |
| (a) | No person may allow the boarding of carry-on baggage in to the passenger cabin unless it is adequately and securely stowed in accordance with the operator's approved 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 mass 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.* |  |  |  |  |
| **8.9.2.15** | **CARRIAGE OF CARGO IN PASSENGER COMPARTMENTS** |  |  |  |  |
| (a) | No person may allow the carriage of cargo in the passenger compartment of an airplane except as prescribed by the Authority. |  |  |  |  |
| (b) | Cargo may be carried anywhere in the passenger compartment if it is carried in an approved cargo bin that meets the following requirements: |  |  |  |  |
| (b)(1) | The bin must withstand the load factors and emergency landing conditions applicable to the passenger seats of the airplane in which the bin is installed, multiplied by a factor of 1.15, using the combined mass of the bin and the maximum mass of cargo that may be carried in the bin. |  |  |  |  |
| (b)(2) | The maximum mass of cargo that the bin is approved to carry and any instructions necessary to insure proper mass distribution within the bin must be conspicuously marked on the bin. |  |  |  |  |
| (b)(3) | The bin may not impose any load on the floor or other structure of the airplane that exceeds the load limitations of that structure. |  |  |  |  |
| (b)(4) | The bin must be attached to the seat tracks or to the floor structure of the airplane, and its attachment must withstand the load factors and emergency landing conditions applicable to  the passenger seats of the airplane in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the airplane, whichever is greater, using the combined mass of the bin and the maximum mass of cargo that may be carried in the bin. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (b)(6) | The bin must be fully enclosed and made of material that is at least flame resistant. |  |  |  |  |
| (b)(7) | Suitable safeguards must be provided within the bin to prevent the cargo from shifting under emergency landing conditions. |  |  |  |  |
| (b)(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. |  |  |  |  |
| (c) | Cargo, including carry-on baggage, must not be towed in toilets. |  |  |  |  |
| (d) | Cargo, including carry-on baggage must not be stowed against bulkheads or dividers in passenger compartments that are incapable of restraining articles against movement forwards, sideways or upwards and unless the bulkheads or dividers carry a placard specifying the greatest mass that may be placed there, provided that: |  |  |  |  |
| (d)(1) | 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. |  |  |  |  |
| (d)(2) | It is packaged or covered to avoid possible injury to occupants. |  |  |  |  |
| (d)(3) | It does not impose any load on seats or in the floor structure that exceeds the load limitation for those components. |  |  |  |  |
| (d)(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. |  |  |  |  |
| (e) | Cargo, including carry-on baggage, may be carried anywhere in the passenger compartment of a small aircraft if it is carried in an approved cargo rack, bin, or compartment installed in or on the aircraft, if it is secured by an approved means, or if it is carried in accordance with each of the following: |  |  |  |  |
| (e)(1) | For cargo, it is properly secured by a safety belt or other tie-down having enough strengthtoeliminate 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. |  |  |  |  |
| (e)(2) | It is packaged or covered to avoid possible injury to occupants. |  |  |  |  |
| (e)(3) | It does not impose any load on seats or in the floor structure that exceeds the load limitation for those components. |  |  |  |  |
| (e)(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. |  |  |  |  |
| (e)(5) | It is not carried directly above seated occupants. |  |  |  |  |
| (e)(6) | It is stowed in compliance with these restrictions during takeoff and landing. |  |  |  |  |
| (e)(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 aircraft a means of unobstructed exit from the airplane if an emergency occurs. |  |  |  |  |
| **8.9.2.16** | **PASSENGER INFORMATION SIGNS** |  |  |  |  |
| (a) | The PIC shall turn on required passenger information signs during any movement on the surface, for each take-off and each landing, and when otherwise considered to be necessary. |  |  |  |  |
| **8.9.2.17** | **REQUIRED PASSENGER BRIEFINGS** |  |  |  |  |
| (a) | No person may commence a take-off unless the passengers are briefed prior to take-off in accordance with the Operator's Operation Manual procedures on |  |  |  |  |
| (a)(1) | Smoking limitations and prohibitions; |  |  |  |  |
| (a)(2) | Emergency exit location and use; |  |  |  |  |
| (a)(3) | Use of safety belts; |  |  |  |  |
| (a)(4) | Emergency floatation means location and use; |  |  |  |  |
| (a)(5) | Fire extinguisher location and operation; |  |  |  |  |
| (a)(6) | Placement of seat backs; |  |  |  |  |
| (a)(7) | If flight is above 10,000 feet MSL, the normal and emergency use of oxygen; and |  |  |  |  |
| (a)(8) | The passenger briefing card. |  |  |  |  |
| (b) | Immediately before or immediately after turning the seat belt sign off, the PIC or co-pilot 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 take-off, the PIC or co-pilot shall ensure that any persons of reduced mobility are personally briefed on |  |  |  |  |
| (c)(1) | The route to the most appropriate exit; and |  |  |  |  |
| (c)(2) | The time to begin moving to the exit in event of an emergency. |  |  |  |  |
| **8.9.2.18** | **PASSENGER BRIEFING: EXTENDED OVERWATER OPERATIONS** |  |  |  |  |
| (c) | No person may commence extended over-water operations unless all passengers have been orally briefed on the location and operations of life preservers, life-rafts 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 take-off 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** |  |  |  |  |
| (a) | No PIC or co-pilot may allow the take-off 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 Operator'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 SCC may allow the movement of an aircraft on the surface, take-off or land |  |  |  |  |
| (a)(1) | When any food, beverage **or** tableware furnished by the Operator is located at any passenger seat; and |  |  |  |  |
| (a)(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 take-off 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, take-off and landing and during turbulent weather conditions. |  |  |  |  |
| (b) | No person may allow an aircraft to move on the surface, take-off or land unless each passenger serving cart is secured in its stowed position. |  |  |  |  |