Statutory Instrument No. 31 of 2013

CIVIL AVIATION ACT
(Cap. 71:01)

CIVIL AVIATION AUTHORITY (AIRCRAFT OPERATIONS) REGULATIONS, 2013

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IN EXERCISE of the powers conferred on the Minister of Transport and Communications by section 89 of the Civil Aviation Act and on the recommendation of the Civil Aviation Authority, the following regulations are hereby made —

PART I — *Preliminary*

Citation

1. These Regulations may be cited as the Civil Aviation Authority (Aircraft Operations) Regulations, 2013.

Interpretation

2. In these Regulations, unless the context otherwise requires —

"aerodrome traffic zone" means an airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic;

"aeronautical product" means any aircraft, aircraft engine, propeller, or subassembly, appliance, material, part, or component to be installed thereon;

"aeroplane" means a power-driven heavier-than-air aircraft, deriving its lift in flight mainly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

"air traffic control service" means a service provided for the purpose of —

(*a*) preventing collisions —

(i) between aircraft, or

(ii) on a manoeuvring area between aircraft and an obstructions; and

(*b*) expediting and maintaining an orderly flow of air traffic;

"air traffic control unit" means —

(*a*) an area control centre;

(*b*) an approach control unit; or

(*c*) an aerodrome control tower;

"air traffic service" means —

(*a*) a flight information service;

(*b*) an alerting service;

(*c*) an air traffic advisory service; or

(*d*) an air traffic control service;

"alternate aerodrome" means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing, and includes the following —

(*a*) take-off alternate – an alternate aerodrome at which an aircraft can land shortly after take-off when it is not possible to use the aerodrome of departure;

(*b*) en-route alternate - an alternate aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en-route;

(*c*) extended range operations by turbine-engined aeroplanes en route alternate a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an extended range operations by turbine-engined aeroplanes operation; and

(*d*) destination alternate- an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing;

"appliance" means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, powerplant, or propeller;

"Category II operations" means a precision instrument approach and landing with —

(*a*) a decision height lower than 30 meteres (100 feet) or no decision; and

(*b*) a runway visual range of not less than 200 meteres;

"Category III operations" means a precision instrument approach and landing with —

(*a*) a decision height lower than 30 metres (100 feet) or no decision; and

(*b*) a runway visual range of not less than 200 metres;

"check pilot" means a pilot approved by the Authority who has the appropriate training, experience, and demonstrated ability to evaluate and certify the knowledge and skills of other pilots;

"co-pilot" means a licensed pilot serving in any piloting capacity other than as pilot-in-command, but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instructions;

"crew resource management " means a program designed to improve the safety of flight operations by optimising the safe, efficient and effective use of human resources, hardware and information through improved crew communication and co-ordination;

"critical engine" means an engine whose failure would most adversely affect the performance or handling qualities of an aircraft;

"critical phases of flight" means those portions of operations involving taxiing, take-off and landing, and all flight operations below 10 000 feet, except a cruise flight;

"examiner" means any person authorised by the Authority to conduct a proficiency test, a practical test for a licence or rating, or a knowledge test under these Regulations;

"flight plan" means specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft;

"flight time" —

(*a*) for aeroplanes and gliders means the total time from the moment an aeroplane or a glider moves for the purpose of taking off to the moment it finally comes to rest at the end of the flight and it is synonymous with the term "block to block" or "chock to chock" time in general usage which is measured from the time an aeroplane first moves for the purpose of taking off to the moment it finally stops at the end of the flight;

(*b*) for a helicopter means the total time from the moment a helicopter rotor blades start turning until the moment a helicopter comes to rest at the end of the flight and the rotor blades are stopped; and

(*c*) for airships or free balloons means the total time from the moment an airship or free balloon first becomes detached from the surface to the moment when it next becomes attached thereto or comes to rest thereon;

"general aviation operation" means an aircraft operation other than a commercial air transport services or an aerial work operation;

"helicopter" means a heavier-than-air aircraft supported in flight mainly by the reactions of the air on one or more power-driven rotors on a substantially vertical axis;

"helideck" means a heliport located on a floating or fixed offshore structure;

"heliport" means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters;

"IFR" means Instrument Flight Rules;

"inspection" means the examination of an aircraft or aeronautical product to establish conformity with a standard approved by the Authority;

"instrument approach procedure" means a series of pre-determined manoeuvers by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply;

"operational control" means the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of an aircraft and the regularity and efficiency of the flight;

"operational flight plan" means an operator's plan for the safe conduct of a flight based on considerations of aircraft performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes or landing area concerned;

"operations manual" means a manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties;

"operations specifications" means a document that contains terms, authorisations, conditions and limitations that facilitate the Authority's administration of the air operator certificate by ensuring that the authority and the certificate holder have a mutual and clear understanding of how the certificate holder will conduct its operations;

"overhaul" means the restoration of an aircraft or aeronautical product using methods, techniques, and practices acceptable to the Authority, including disassembly, cleaning, and inspection as permitted, repair as necessary, and reassembly; and tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Authority, which have been developed and documented by the State of Design, holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance approval under parts manufacturing authorisation or technical standard order;

"performance class 1 helicopter" means a helicopter with performance such that, in case of critical engine failure, is able to land on a rejected take-off area or safely continue the flight to an appropriate heliport, depending on when the failure occurs;

"performance class 2 helicopter" means a helicopter with performance such that, in case of critical engine failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which case a forced landing may be required;

"performance class 3 helicopter" means a helicopter with performance such that, in case of engine failure at any point in the flight profile, a forced landing must be performed;

"pilot-in-command " means a pilot designated by the operator, or in the case of general aviation, the owner as being in command and charged with the safe conduct of a flight;

"practical test" means a competency test on the areas of operations for a licence, certificate, rating or authorisation that is conducted by having the applicant respond to questions and demonstrate manoeuvres in flight or in an approved synthetic flight trainer;

"propeller" means a device for propelling an aircraft that has blades on an engine driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation and includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines;

"rating" means an authorisation entered on or associated with a licence or certificate and forming part thereof, stating special conditions, privileges or limitations pertaining to such licence or certificate;

"runway visual range" means a range over which thepilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;

"state of registry" means a contracting state on whoseregistry an aircraft is placed;

"substances" means alcohol, sedatives, hypnotics, anxiolytics, hallucinogens, opioids, cannabis, inhalants, central nervous system stimulants such as cocaine, amphetamines, and similarly acting sympathomimetics, phencyclidine or similarly acting arylcyclohexylamines, and other psychoactive drugs and chemicals;

"flight simulation training device" means any one of the following three types of apparatus in which flight conditions are simulated on the ground —

(*a*) a flight simulator, which provides an accurate representation of the cockpit of a particular aircraft type to the extent that the mechanical, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated;

(*b*) a flight procedures trainer, which provides a realistic cockpit environment, and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, etc. aircraft systems, and the performance and flight characteristics of aircraft of a particular class; or

(*c*) a basic instrument flight trainer, which is equipped with appropriate instruments, and which simulates the cockpit environment of an aircraft in flight in instrument flight conditions;

"take-off decision point" means a point used in determining take-off performance of a Class 1 helicopter from which, either a rejected take-off may be made or a take-off safely continued;

"training programme" means a program that consists of courses, courseware, facilities, flight training equipment, and the personnel necessary to accomplish a specific training objective and may include a core curriculum and a specialty curriculum;

"V1" means a take-off decision speed;
"VFR" means Visual Flight Rules;
"Vmo" means a maximum operating speed; and
"Vso" means a stalling speed or the minimum steady flight speed in landing configuration.

PART II — *General operations requirements for aircraft operations*

Aircraft markings

3. A person shall not operate an aircraft registered in Botswana or a foreign-registered aircraft unless the aircraft displays proper markings prescribed in the Civil Aviation (Aircraft Registration and Markings) Regulations.

Aircraft airworthiness

4. (1) A person shall not operate an aircraft unless the aircraft is airworthy.

(2) Subject to subregulation (1), a pilot-in-command shall —

(*a*) determine whether an aircraft is in a condition for safe flight; and

(*b*) discontinue a flight when a mechanical, electrical, or structural defect occurs which makes it unairworthy.

Special certificate of airworthiness

5. A person shall not operate an aircraft with a special certificate of airworthiness except as provided in the conditions issued with the certificate in accordance with the Civil Aviation (Airworthiness) Regulations.

Aircraft instrument and equipment

6. A person shall not operate an aircraft unless it is equipped with instruments and equipment appropriate to the type of flight operation conducted and the route being flown and in any case in compliance with the requirements of Civil Aviation (Equipment and Instruments) Regulations.

Inoperative instruments and equipment

7. (1) Subject to this regulation a person shall not commence an aircraft flight with inoperative instruments.

(2) A person shall not operate a multi-engine aircraft used to provide air transport service with inoperative instruments and equipment installed unless the following conditions are met —

(*a*) an approved minimum equipment list for the aircraft is available;

(*b*) the Authority has issued operations specifications authorising operations in accordance with an approved minimum equipment list;

(*c*) the flight crew has 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 operations specifications;

(*d*) records identifying the inoperative instruments and equipment are available to the pilot; and

(*e*) the aircraft is operated under all applicable conditions and limitations contained in the minimum equipment list and the operations specifications authorising use of the minimum equipment list.

(3) The Authority may authorise flight operations with inoperative instruments and equipment installed in situations where no approved minimum equipment list is available and no minimum equipment list is required for the specific aircraft operation under these Regulations.

(4) The inoperative instruments and equipment referred to in subregulation (2) shall not be —

(*a*) part of the visual flight rules day instruments and equipment prescribed in the Civil Aviation (Equipment and Instruments) Regulations;

(*b*) required on the aircraft's equipment list or the operations equipment list for the kind of flight operation being conducted;

(*c*) required by the Civil Aviation (Equipment and Instrument) Regulations for the specific kind of flight operation being conducted; or

(*d*) required to be operational by an Airworthiness Directive.

(5) The Authority may authorise a person to operate an aircraft with inoperative instruments and equipment where such instruments and equipment are —

(*a*) determined by the pilot-in-command not to be a hazard to safe operation;

(*b*) deactivated and placarded "inoperative"; or

(*c*) removed from the aircraft, the cockpit control placarded and the maintenance recorded in accordance with the Civil Aviation (Airworthiness) Regulations.

(6) Where deactivation of the inoperative instrument or equipment involves maintenance, it shall be accomplished and recorded in accordance with the Civil Aviation (Airworthiness) Regulations.

(7) The following instruments and equipment shall not be included in the minimum equipment list referred to in subregulation (2) (*a*) —

(*a*) instruments and equipment that are either specifically or otherwise required by the certification airworthiness requirements and which are essential for safe operations under all operating conditions;

(*b*) instruments and equipment required for operable condition by an Airworthiness Directive, unless the airworthiness directive provides otherwise; and

(*c*) instruments and equipment required for specific operations.

(8) Notwithstanding subregulation (7), an aircraft with inoperative instruments or equipment may be operated under a special flight permit issued under the Civil Aviation (Airworthiness) Regulations.

Aircraft flight manual, marking and placard requirements

8. (1) A person shall not operate a Botswana aircraft unless there is available in the aircraft —

(*a*) a current, approved aeroplane flight manual or rotorcraft flight manual;

(*b*) the operator's operations manual approved by the Authority; and

(*c*) markings and placards, or any combination which provide the pilot-in-command with the necessary limitations for safe operation.

(2) A person shall not operate an aircraft within or over Botswana without complying with the operating limitations specified in the approved aircraft flight manual or rotorcraft flight manual, markings and placards, or as otherwise prescribed by the aircraft's state of registry.

(3) A person operating an aircraft under these Regulations shall display in the aircraft all placards, listings, instrument markings or combination thereof, containing those operating limitations prescribed by the aircraft's state of registry for visual
presentation.

(4) An aircraft flight manual or rotorcraft flight manual shall be updated by implementing changes made mandatory by the State of Registry.

Required aircraft and equipment inspections

9. (1) Unless otherwise authorised by the Authority, an operator shall not operate a Botswana aircraft unless the following inspections have been performed —

(*a*) an annual inspection within the preceding 12 months;

(*b*) a 100 hour inspection;

(*c*) an altimeter and pitot-static system inspection within the preceding 12 months;

(*d*) a transponder check within the preceding 12 months for transponder equipped aircraft; and

(*e*) an emergency locator transmitter check within the preceding 12 months for emergency locator transmitter-equipped aircraft,.

(2) An aircraft used to provide air transport service maintained under a maintenance and inspection programme approved by the Authority is not required to have a current annual or a 100 hour inspection in its maintenance records.

Documents to be carried on aircraft

10. (1) A pilot shall not fly an aircraft unless the aircraft carries aircraft documents which are required to be carried on board an aircraft under the law of the State of Registry.

(2) The documents to be carried in an aircraft are —

(*a*) on a flight, for the purpose of an air transport service —

(i) the licence in force in respect of the aircraft radio station installed in the aircraft,

(ii) the certificate of airworthiness in force in respect of the aircraft,

(iii) the licences and certificates of members of the flight crew of the aircraft,

(iv) one copy of mass and balance documentation, if any, required with respect to the flight,

(v) one copy of the certificate of release to service, if any, in force with respect to the aircraft,

(vi) the technical logbook required by these Regulations,

(vii) the operations manual, if any, required by these Regulations to be carried on the flight,

(viii) the aircraft certificate of registration,

(ix) the aircraft journey logbook,

(x) a list of passenger names and points of embarkation and disembarkation,

(xi) the cargo manifest, including special loads information,

(xii) a copy of the air operator certificate,

(xiii) a noise certificate, if required,

(xiv) an aeroplane flight manual or rotorcraft flight manual,

(xv) a minimum equipment list,

(xvi) a category II or III Manual, as applicable,

(xvii) an operational flight plan,

(xviii) a filed notice to air men's briefing documentation,

(xix) meteorological information,

(xx) the maps and charts required for the flight and possible diversions,

(xxi) the forms for complying with the reporting requirements of the Authority and the air operator certificate holder,

(xxii) a list of special situation passengers,

(xxiii) a filed air traffic control flight plan,

(xxiv) search and rescue information, and

(xxv) any other document which may be required by the Authority or states concerned with a flight;

(*b*) on a flight which includes passage over a territory of any country other than Botswana for the purpose of commercial air transport —
  (i) the documents specified in paragraph (*a*),
  (ii) a copy of notified procedure to be followed by pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft, and
  (iii) a general declaration;

(*c*) on a flight for the purpose of aerial work —
  (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  (ii) the certificate of airworthiness in force in respect of the aircraft,
  (iii) the licences and certificates of members of the flight crew of the aircraft,
  (iv) the technical logbook required by these Regulations,
  (v) one copy of the certificate of release to service, if any, in force with respect to the aircraft,
  (vi) an aircraft certificate of registration, and
  (vii) any other document required by the Authority;

(*d*) on a flight which includes passage over a territory of any country other than Botswana for the purpose of aerial work —
  (i) the documents specified in paragraph (*a*) and (*c*), and
  (ii) a copy of notified procedure to be followed by pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft;

(*e*) on a flight which includes passage over a territory of any country other than Botswana for the purpose of general aviation —
  (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  (ii) the certificate of airworthiness in force in respect of the aircraft,
  (iii) the licences of members of the flight crew of the aircraft,
  (iv) a certificate of registration,
  (v) a copy of notified procedure to be followed by pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft,
  (vi) a journey logbook,
  (vii) if it carries passengers, a list of names, places of embarkation and destination, and
  (viii) if it carries cargo, a manifest and detailed declarations of the cargo; and

(*f*) for the purpose of a general aviation flight within Botswana —
  (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  (ii) the certificate of airworthiness in force in respect of the aircraft,
  (iii) the licences and certificates of members of the light crew of the aircraft,
  (iv) one copy of the certificate of release to service, if any, in force with respect to the aircraft,
  (v) the aircraft's certificate of registration,
  (vi) a noise certificate, if required,

(vii) the aeroplane's flight manual or rotorcraft flight manual,
(viii) a category II or III Manual, as applicable,
(ix) a filed notice to air men briefing documentation,
(x) the forms for complying with reporting requirements of the Authority,
(xi) the filed air traffic control flight plan, and
(xii) any other document required by the Authority.

Production of documents

11. (1) A pilot-in-command shall, after being requested to do so by the Authority, produce for examination —

(*a*) the certificates of registration and airworthiness in force in respect of the aircraft;
(*b*) the licences and certificates of crew members, as applicable; and
(*c*) such other documents as required by regulation 10 to be on board the aircraft when in flight.

(2) The operator of a Botswana aircraft shall, upon request by the Authority, produce any of the following documents or records —

(*a*) the licence in force in respect of the aircraft radio station installed in the aircraft;
(*b*) the certificate of airworthiness in force in respect of the aircraft;
(*c*) the certificate of registration in force with respect to the aircraft;
(*d*) the aircraft logbook, engine logbooks and variable pitch propeller logbooks required under these Regulations to be kept;
(*e*) the mass and balance documentation, if any, required to be preserved under these Regulations;
(*f*) any records of flight time, duty periods and rest periods which are required to be preserved under these Regulations, and such other documents and information in the possession or control of the operator, as the authorised person may require for the purpose of determining whether the records are complete and accurate;
(*g*) any operations manuals or other data required to be made available under these Regulations; and
(*h*) the record made by any flight recorder installed under the Civil Aviation (Equipment and Instrument) Regulations.

(3) A licensee or person holding a certificate validated or converted under the Civil Aviation (Personnel Licensing) Regulations shall, upon request by the Authority, produce his or her licence or certificate.

(4) Every person required by the Civil Aviation (Personnel Licensing) Regulations to keep a personal flying log-book shall —

(*a*) keep such records for a period of not less than two years after the date of the last entry therein; and
(*b*) produce it to the Authority immediately, and in any case not later than 14 days after being requested to do so.

Preservation of documents

12. (1) Subject to subregulation (2), a person required by these Regulations to preserve any documents or records by reason of his or her being the operator of an aircraft shall, if he or she ceases to be the operator of the aircraft, continue to preserve the documents or records as if he or she has not ceased to be the operator, and in the event of his or her death the duty to preserve the documents or records shall fall upon his or her representative.

(2) If another person becomes the operator of the aircraft, the operator or his or her representative shall deliver to that person upon demand the certificate of release to service, the logbooks and the mass and balance schedule and any record made by a flight recorder and preserved in accordance with these regulations which are in force or required to be preserved in respect of that aircraft.

(3) If an engine or variable pitch propeller is removed from the aircraft and installed in another aircraft operated by another person, the operator or his or her representative shall deliver to that person upon demand the logbook relating to that engine or propeller.

(4) If any person in respect of whom a record has been kept by the operator in accordance with these Regulations becomes a flight crew member of an aircraft registered in Botswana, engaged in air transport services in Botswana and operated by another person, the operator or his or her representative shall deliver the records to that other person upon demand.

(5) It shall be the duty of a person referred to under subregulations (2), (3) and (4) to deal with the documents or records delivered to him or her as if he or she were the operator.

PART III — *Aircraft maintenance and inspection requirements*

Aircraft maintenance requirements

13. (1) An owner or operator of an aircraft shall be responsible for maintaining an aircraft in an airworthy condition.

(2) An owner or operator shall not perform any maintenance, or alterations on an aircraft other than as prescribed in this Part and under the Civil Aviation (Airworthiness) Regulations.

(3) An operator shall not operate an aircraft for which —

(*a*) a manufacturer's maintenance manual; or

(*b*) instructions for continued airworthiness,

has been issued that contains an airworthiness limitations section, unless the mandatory replacement times, inspection intervals and related procedures set out in Operations Specifications approved by the Authority under the Civil Aviation (Air Operators Certificate and Administration) Regulations or in accordance with an inspection programme have been approved under regulation 16.

Maintenance required

14. (1) This regulation and regulations 15, 16 and 17 shall not apply to aircraft maintained in accordance with an approved maintenance programme as required under the Civil Aviation (Airworthiness) Regulations and the Civil Aviation (Air Operators Certificate and Adminstration) Regulations.

(2) An owner or operator of an aircraft shall —

(*a*) have an aircraft inspected as prescribed in these Regulations, and discrepancies noted and the equipment repaired as prescribed under the Civil Aviation (Airworthiness) Regulations;

(*b*) repair, replace, remove, modify, overhaul or inspect any inoperative instruments or equipment at the next required inspection, except when permitted under the provisions of a minimum equipment list or configuration deviation list;

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

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

Inspections of aircraft used in air transport service

15. (1) Except as provided under subregulation (4), a person shall not provide an air transport service unless, within the preceding 12 months, the aircraft has had —

(*a*) an annual inspection in accordance with the Civil Aviation (Airworthiness) Regulations and has been approved for return to service by a person authorised under the Civil Aviation (Airworthiness) Regulations; or

(*b*) an inspection for the issue or renewal of an airworthiness certificate in accordance with the Civil Aviation (Airworthiness) Regulations.

(2) Except as provided under subregulation (4), a person shall not operate an aircraft carrying any person, other than a member of the crew, for hire or reward or give flight instructions for hire unless within the preceding 100 hours of time in service, the aircraft has undergone an —

(*a*) annual or 100 hour inspection and has been approved for return to service in accordance with the Civil Aviation (Airworthiness) Regulations; or

(*b*) inspection for the issue or renewal of an airworthiness certificate in accordance with the Civil Aviation (Airworthiness) Regulations.

(3) The 100 hour limitation referred to in subregulation (2) may be exceeded by not more than 10 hours while en-route to reach a place where the inspection can be done and the excess time taken to reach a place where the inspection is to be done shall be included in computing of the next 100 hours of time in service.

(4) The provisions of subregulations (1) and (2) shall not apply to —

(*a*) an aircraft exempted under section 46 (2) of the Act;

(*b*) an aircraft subject to the requirements of regulation 16 (1) and (6); or

(*c*) a turbine-powered rotorcraft when the operator selects to inspect that rotorcraft in accordance with regulation 16 (6).

Progressive Inspection

16. (1) An owner or operator of an aircraft who intends to use a progressive inspection program shall submit a written request to use the program to the Authority, and shall —

(*a*) identify the following to supervise or conduct the progressive inspection —

(i) a licensed aircraft maintenance engineer with appropriate type ratings in accordance with the Civil Aviation (Personnel Licensing) Regulations,

(ii) an approved maintenance organisation appropriately rated in accordance with the Civil Aviation (Approved Maintenance Organisations) Regulations, or

(iii) the manufacturer of the aircraft;

(*b*) provide a current inspection procedures manual available and readily understandable to the pilot and maintenance personnel containing, in detail —

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

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

(iii) sample routine and detailed inspection forms and instructions for their use, and

(iv) sample reports and records and instructions for their use;

(*c*) provide enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(*d*) provide appropriate current technical information for the aircraft.

(2) The frequency and detail of the progressive inspection referred to in subregulation (1) shall provide for the complete inspection of the aircraft within each 12 months period and be consistent with the current manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged.

(3) The progressive inspection schedule shall ensure that at all times the aircraft remains airworthy, and shall conform to all aircraft specifications, type data sheets, airworthiness directives and other approved data acceptable to the Authority.

(4) Where the progressive inspection is discontinued, an owner or an operator shall immediately notify the Authority in writing, after which the first annual inspection under these Regulations will be due within 12 months after the last complete inspection of the aircraft under the progressive inspection and the 100 hour inspection under regulation 20 (1) (*a*) shall be due within 100 hours after that complete inspection.

(5) A complete inspection of the aircraft, for the prpose of determining when the annual and 100 hour inspections are due, shall be a detailed inspection of the aircraft and all its components in accordance with the progressive inspection and a routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

(6) An owner or operator of a turbojet multi-engine aeroplane, turbo propeller-powered multi-engine aeroplane or turbine powered rotorcraft shall select and use the following programmes for inspection of the aircraft —

(*a*) a current inspection programme recommended by the manufacturer;

(*b*) a maintenance programme for that make and model of aircraft currently approved by the Authority for use by an air operator certificate holder; or

(*c*) any other inspection programme developed by the operator and approved by the Authority.

(7) An owner or operator of an aircraft under subregulation (6) shall include, in the selected programme, the name and address of the person responsible for the scheduling of the inspections required by the programme, and provide a copy of the programme to the person performing inspection on the aeroplane.

(8) The Authority shall not approve an aircraft for return to service unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the aircraft, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with an inspection programme selected.

(9) An owner, operator or any person who wishes to establish or change an approved inspection programme shall submit the programme to the Authority for approval and shall, in writing, include —

(*a*) instructions and procedures for the conduct of inspection for the particular make and model of the aircraft, including necessary tests and checks and these instructions shall set out in detail the parts and areas of the aircraft or aircraft component including survival and emergency equipment required to be inspected; and

(*b*) a schedule for the inspections that shall be performed expressed in terms of time in service, calendar time, cycles of operations or any combination of these.

(10) Where an owner, operator or a person changes an inspection programme, such owner, operator or person shall apply the time in service, calendar times, or cycles of operation accumulated under the previous programme, in determining the time the inspection is due under the new programme.

Changes to aircraft maintenance programmes

17. (1) Where the Authority finds that revisions to an approved inspection programme are necessary for the continued adequacy of the programme, the owner or operator of the aircraft shall, after notification by the Authority, make any changes necessary in the programme.

(2) An owner or operator of an aircraft may petition the Authority to reconsider the requirements contained in the notification, within 30 days after receiving such notification.

(3) Except in the case of an emergency requiring immediate action in the interest of safety, the Authority shall take no action until it is able to make a final decision on the petition to
reconsider the notification as submitted by the operator to the Authority.

Inspection of other aircraft

18. (1) A person shall not operate an aircraft unless, within the preceding 12 months, the aircraft has been —

(*a*) inspected in accordance with the Civil Aviation (Airworthiness) Regulations and approved for return to service by an authorised person; and

(*b*) issued with a certificate of airworthiness by the Authority.

(2) A person shall not use an aircraft to provide air transport service unless within the preceding 100 hours of time in service the aircraft has been inspected in accordance with the performance rules of the Civil Aviation (Airworthiness) Regulations and approved for return to service by an authorised person.

Maintenance records

19. An owner or operator of an aircraft shall keep a maintenance record of —

(*a*) the entire aircraft, which includes —

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

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

(iii) the current empty mass and the location of the centre of gravity when empty,

(iv) any addition or removal of equipment,

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

(vi) when maintenance was performed, and

(vii) a chronological list of compliance with airworthiness directives issued in accordance with the Civil Aviation (Airworthiness) Regulations, including methods of compliance;

(*b*) the life-limited products, which include —
(i) the total time in service,
(ii) the date of the last overhaul,
(iii) the time in service since the last overhaul, and
(iv) the date of the last inspection; and
(*c*) the instruments and equipment, the serviceability and operating life of which are determined by their time in service, which include —
(i) the records of the time in service as are necessary to determine their serviceability or to compute their operating life, and
(ii) the date of last inspection.

Maintenance records retention

20. (1) Except for records maintained by an operator, an owner shall retain the following records until the work is repeated or superseded by other work of equivalent scope and detail, or for two years after the subject to which they refer has been permanently withdrawn from service —
(*a*) 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 which include —
(i) a description or reference to data acceptable to the Authority, of the work performed,
(ii) the date of completion of the work performed, and
(iii) the signature and licence number of the person approving the aircraft for return to service;
(*b*) records containing the following information —
(i) the total time-in-service of the airframe, each engine, each propeller, and each rotor,
(ii) the current status of all life-limited aircraft or aeronautical product,
(iii) the time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis,
(iv) the current inspection status of the aircraft, including the time since the last inspection required by the inspection programme under which the aircraft and its appliances are maintained,
(v) the current status of applicable airworthiness publications including, for each, the method of compliance, the airworthiness directive number, and revision date; and if the airworthiness directive involves recurring action, the time and date when the next action is required,
(vi) copies of the forms for each major modification to the airframe and currently installed engines, rotors, propellers, and appliances.

(2) An owner or operator of an aircraft shall —
(*a*) retain a list of defects on the aircraft until the defects are repaired and the aircraft is approved for return to service; and
(*b*) avail all maintenance records required by this regulation to the Authority for inspection.

Transfer of maintenance records

21. An owner or operator who sells or leases a Botswana aircraft shall transfer to the purchaser or lessor, at the time of sale or lease, the records referred to in regulations 19 and 20 for that aircraft, in plain language form or in coded form at the election of the purchaser or lessor if the coded form provides for the preservation and retrieval of information in a manner acceptable to the Authority.

PART IV – *Flight crew requirements*

Composition of flight crew

22. (1) An aircraft shall not fly unless it carries a flight crew of the number and description required by the law of the State of Registry.

(2) A Botswana aircraft shall carry a flight crew adequate in number and description to ensure the safety of the aircraft which is at least the number and description specified in the aircraft flight manual.

(3) The number and composition of the flight crew of a Botswana aircraft which is to be used for commercial air transport services, shall not be less than the number specified in the operator's operations manual.

(4) The flight crew shall include flight crew members in addition to the minimum number specified in the aircraft 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 crews are changed.

(5) A Botswana aircraft providing air transport, having a maximum mass of 5 700kg or more shall carry not less than two pilots as members of the flight crew.

(6) Without prejudice to the preceding provisions of this regulation, an operator shall ensure that —

(*a*) all flight crew members hold an applicable and valid licence acceptable to the Authority and are suitably qualified and competent to conduct the duties assigned to them;

(*b*) procedures are established, which are acceptable to the Authority, to prevent the crewing together of inexperienced flight crew members; and

(*c*) one pilot amongst the flight crew, qualified as a pilot-in-command is designated as the pilot-in- command who may delegate the conduct of the flight to another suitably qualified pilot.

Flight crew qualifications

23. (1) A pilot-in-command in any general aviation operation shall ensure that the licences of each flight crew member have been issued or rendered valid by the State of Registry, contain the proper ratings, and that all the flight crew members have maintained regency of experience.

(2) A person shall not operate an aircraft in air transport service or aerial work unless the person is qualified for the specific service and in the specific type of aircraft used.

(3) An operator or owner of the aircraft shall ensure that the flight crew engaged in civil aviation operations speak and understand the English language.

Pilot authorisation in lieu of type rating

24. The Authority may authorise a pilot to operate an aircraft requiring a type rating without a type rating for a period not exceeding 60 days:

Provided that —

(i) the pilot has demonstrated to the satisfaction of the Authority that an equivalent level of safety may be achieved through the operating limitations on the authorisation,

(ii) the pilot shows that compliance with these Regulations is impracticable for the flight or series of flights, and

(iii) the operations —

(*aa*) involve only a ferry flight, training to qualify on type or test flight,

(*bb*) are within Botswana, unless, by previous agreement with the Authority, the aircraft is flown to an adjacent contracting state for maintenance,

(*cc*) are not for compensation or hire unless the compensation or hire involves payment for the use of the aircraft for training or taking a skill test, and

(*dd*) involve only the carriage of flight crew members considered essential for the flight.

Licence required

25. (1) A person shall not act as pilot-in-command or in any other capacity as a required flight crew member of a —

(*a*) Botswana aircraft, unless the person carries in his or her personal possession, the appropriate and current licence for the flight crew position for that type of aircraft; or

(*b*) foreign aircraft, unless the person carries in his or her personal possession a valid and current licence for that type of aircraft issued to them by the state of registry.

(2) The flight crew for domestic international air transport service shall hold a valid radio telephony operator licence or endorsement issued or rendered valid by the state of registry,

authorising operation of the type of radio transmitting equipment to be used.

Rating required for instrument flight rules operations

26. A person shall not act as a pilot-in-command of an aircraft under instrument flight rules or instrument meteorological conditions unless —

(*a*) in the case of an aeroplane, the pilot holds an instrument rating or an airline transport pilot licence with an appropriate aeroplane category, class, and type rating if required, for the aeroplane being flown; or

(*b*) in the case of a helicopter, the pilot holds a helicopter instrument rating or an airline transport pilot licence for helicopters not limited to visual flight rules operations.

Special authorisation required for Category II or III operations

27. (1) A person shall not act as a pilot of an aircraft in a Category II or III operation unless —

(*a*) in the case of a pilot-in-command, the person holds a current Category II or III pilot authorisation for that aircraft type; or

(*b*) in the case of a co-pilot, the person is authorised by the State of Registry to act in that capacity in that aircraft in Category II or III operations.

(2) An authorisation is not required for an individual pilot of an operator who has operations specifications approving Category II or III operations.

Pilot logbooks

28. (1) A pilot shall record and keep details of all flights he or she has flown in a logbook format approved by the Authority.

(2) An operator may record details of flights flown by a pilot in an acceptable computerised format maintained by the operator and shall make the records of all flights operated by the pilot, including differences and familarisation training available on request to the pilot concerned.

Pilot-in-command and co-pilot currency: take-offs, landings and cruise relief

29. (1) A person shall not act as a pilot-in-command or co-pilot of an aircraft unless within the preceding 90 days that person has —

(*a*) 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;

(*b*) made three take-offs and landings in a tailwheel aeroplane with each landing to a full stop; and

(*c*) for night operations, made the three take-offs and landings required by paragraph (*a*) at night.

(2) A pilot who has not met the current experience for take-offs and landings shall satisfactorily complete a requalification curriculum acceptable to the Authority.

(3) The requirements of subregulations (1) and (2) may be satisfied in a flight simulation trainer approved by the Authority.

(4) A person shall not act as a cruise pilot in an aircraft providing air transport service unless he or she has within the preceding 90 days —

(*a*) operated as a pilot-in-command, co-pilot or cruise relief pilot on the same type of aircraft;

(*b*) 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 training device; or

(*c*) where the approach or landing procedure practice is performed by a pilot who is not flying the aircraft, practiced approach and landing procedures.

Pilot currency- instrument flight rules operations

30. (1) A person shall not act as a pilot-in-command under instrument flight rules, or in instrumental meteorological conditions, unless the person has, within the past six months —

(*a*) logged at least six hours of instrument flight time including at least three hours in flight in the category of aircraft; and

(*b*) completed at least six instrument approaches.

(2) A pilot who has completed an instrument competency check with an authorised person shall be considered to be current for instrument flight rules operations for six months following that check.

Pilot currency - general aviation operations

31. (1) A person shall not act as a pilot of an aircraft type certificated —

(*a*) for more than one pilot unless, in the preceding 12 months, the person has passed a proficiency check —

(i) carried out by the Authority in an aircraft requiring more than one pilot, or

(ii) in the type of aircraft to be operated; and

(*b*) for a single pilot unless, in the preceding 24 months, the person has passed a proficiency check carried out by the Authority.

(2) A person conducting the proficiency checks required under subregulation (1) shall ensure that each check duplicates the manoeuvres of the type rating practical test.

(3) A person shall not act as a co-pilot of an aircraft type certificated for more than one pilot unless, in the preceding 12 months, the person has logged three take-offs and landings as the sole manipulator of the controls.

Pilot privileges and limitations

32. A pilot shall not conduct flight operations unless the operations are within the privileges and limitations of each licence he or she holds as specified in the Civil Aviation (Personnel Licensing) Regulations.

PART V — *Crew member duties and responsibilities*

Authority and responsibility of pilot-in-command

33. (1) A pilot-in-command of an aircraft shall —

(*a*) be responsible for the operations and safety of the aircraft and for the safety of all persons on board, during flight;

(*b*) have final authority as to the operation of the aircraft while in command; and

(*c*) whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the Civil Aviation (Rules of the Air) Regulations, except that the pilot-in-command may deviate from the Regulations in emergency circumstances —

(i) to avoid immediate danger or in an emergency situation; or

(ii) to comply with the law of any state other than Botswana within which the aircraft is operating.

(2) If any deviation from the provisions of subregulation (1) (*c*) is made for the purpose of avoiding immediate danger or in an emergency situation, the pilot-in-command shall cause written particulars of the deviation and of the circumstances giving rise to it, to be given without delay, and in any case within 10 days to the competent authority of the State in whose territory the deviation was made with a copy of it to the Authority, and in the case of a Botswana aircraft, the deviation is made over the high seas, to the Authority.

Compliance with local regulations

34. (1) A pilot-in-command shall comply with the relevant laws, regulations and procedures of —

(*a*) the State in which the aircraft is operated; and

(*b*) the Authority in all instances where such laws, regulations and procedures exceed but are not in conflict with those of the state in which the aircraft is operated.

(2) Where an emergency situation which endangers the safety of the aircraft or persons on board the flight necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall —

(*a*) notify the appropriate local authority of the violation without delay;

(*b*) submit a report of the circumstances, if required by the State in which the incident occurs; and

(*c*) submit a copy of the report to the State of Registry.

Negligent or reckless operation of aircraft

35. A person shall not willfully, recklessly or negligently cause or permit an aircraft to endanger any life or property.

Fitness of flight crew members

36. (1)A person shall not act as a flight crew member at any time when the person is aware of any decrease in the medical fitness which might render him or her unable to safely and properly execute the duties of a flight crew member.

(2) An operator and the pilot-in-command shall be responsible for ensuring that a flight is not —

(*a*) commenced if any required crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue or the effects of any substance; or

(*b*) continued beyond the nearest suitable aerodrome 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.

Use of narcotics, drugs, etc.

37. (1) A person shall not act or attempt to act as a flight crew member of an aircraft —

(*a*) within eight hours after the consumption of any alcoholic beverage;

(*b*) while under the influence of alcohol;

(*c*) while using any drug that affects the person's faculties in any way contrary to safety; or

(*d*) while having 0.04 per cent by weight or more alcohol in the blood.

(2) A flight crew member shall, up to eight hours before or immediately after acting or attempting to act as a flight crew member, on the request of the Authority, submit to a test to indicate the presence of any substances in the blood.

(3) Where there is a reasonable basis to believe that a person may not be in compliance with this regulation and upon request by the Authority, the person shall furnish the Authority or authorise any clinic, doctor, or other person to release to the Authority, the results of each blood test taken for presence of any substances up to eight hours before or immediately after acting or attempting to act as a flight crew member.

(4) Any test information provided to the Authority under the provisions of this regulation may be used as evidence in any legal proceedings.

Crew member use of seatbelt and shoulder harness

38. (1) A flight crew member shall, at all times during take-off, landing and while seated at his or her workstation, fasten his or her seat belt.

(2) A flight crew member occupying a station equipped with a shoulder harness shall fasten that harness during take-off and landing, except that the harness may be unfastened if the flight crew member cannot perform the required duties with the harness fastened.

(3) A flight crew member occupying a seat equipped with a combined safety belt and shoulder harness shall have the combined safety belt and shoulder harness properly secured during take-off and landing and be able to properly perform the assigned duties.

(4) Where there is an unoccupied seat, the safety belt and shoulder harness at the seat if installed, shall be secured so as not to interfere with flight crew members in the performance of their duties or with the rapid exit of occupants in an emergency.

Flight crew members at duty stations

39. (1) A flight crew member shall remain in the assigned duty station during take-off and landing and critical phases of flight.

(2) A pilot-in-command shall cause one pilot to remain at the controls of the aircraft at all times while the aircraft is in flight.

(3) A flight crew member shall remain at his or her station during all phases of a flight unless —

(*a*) his or her absence is necessary for the performance of the flight crew members duties in connection with the operation;

(*b*) his or her absence is necessary for physiological needs, provided one qualified pilot remains at the controls at all times; or

(*c*) the flight crew member is taking a rest period and a qualified relief flight crew member replaces the crew member at the duty station.

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

(*a*) for the assigned pilot-in-command during the en route cruise portion of the flight by a pilot who holds an airline transport pilot licence and an appropriate type rating, and who is currently qualified as pilot-in-command or co-pilot, and is qualified as pilot-in-command of that aircraft during the en route cruise portion of the flight; and

(*b*) in the case of the assigned co-pilot, by a pilot qualified to act as pilot-in-command or co-pilot of the aircraft during en route operations.

Required crew member equipment

40. (1) A flight crew member involved in night operations shall have a flash light at his or her station.

(2) A pilot shall have, at his or her station, all normal, abnormal and emergency procedures checklists.

(3) A pilot shall have, at his or her station, current and suitable maps, charts, codes and other documents and navigational equipment necessary to cover the route of the proposed flight and any route along which it is reasonable to expect if the flight is diverted.

(4) A flight crew member who is assessed to be fit to exercise the privileges of a licence subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when performing as a required member of the crew in an air transport service.

(5) A flight crew member shall be required to have an emergency procedures manual for the type of aircraft flown.

Compliance with checklists and production of flight documents

41. A pilot-in-command shall —

(*a*) ensure that the flight crew follows the approved checklist procedures when operating an aircraft; and

(*b*) produce documentation required to be carried in the aircraft within a reasonable time when requested to do so by the Authority.

Search and rescue information

42. An operator shall ensure that essential information pertinent to the intended flight concerning search and rescue services is easily accessible in the cockpit.

Admission to cockpit

43. (1) A pilot-in-command shall not admit any person to the cockpit of an aircraft engaged in commercial air transport services unless the person being admitted is —

(*a*) an operating flight crew member;

(*b*) an authorised person responsible for certification, licensing or inspection;

(*c*) any person authorised by the Authority, with the agreement with the operator; or

(*d*) permitted to do so and carried in accordance with instructions contained in the operations manual.

(2) A pilot-in-command shall ensure that in the interest of safety —

(*a*) admission to the cockpit does not cause distraction to the flight crew or interfere with the flight's operations; and

(*b*) all persons carried in the cockpit are made familiar with the relevant safety procedures.

Duties during critical phases of flight

44. (1) A flight crew member shall not perform any duties during a critical phase of flight except duties required for the safe operation of the aircraft.

(2) A pilot-in-command shall not 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 that flight crew member's assigned duties.

Manipulation of controls

45. A pilot-in-command shall not allow an unqualified person to manipulate the controls of an aircraft during air transport service unless he or she is authorised to do so by the operator.

Simulated abnormal situations in flight

46. A person shall not cause or engage in simulated abnormal or emergency situations or the simulation of instrument meteorological conditions by artificial means during air transport service.

Completion of technical logbook

47. A pilot-in-command shall ensure that all portions of the technical logbook required under the Civil Aviation (Air Operators Certificate and Administration) Regulations are completed at the appropriate points before, during and after flight operations.

Reporting mechanical irregularities

48. A pilot-in-command shall ensure that all mechanical irregularities occurring during flight time are reported to the operator at the termination of the flight and for —

(*a*) general aviation operations, are entered in the aircraft logbook and dealt with in accordance with the minimum equipment list or other approved or prescribed procedure; and

(*b*) air transport services, are entered in the technical log of the aircraft at the end of that flight time.

Reporting of facility and navigation inadequacies

49. A flight crew member shall report, any inadequacy or irregularity of a facility or navigational aid observed in the course of operations to the person responsible for the facility or navigational aid.

Reporting of incidents

50. (1) A pilot-in-command shall, submit to the Authority, an air traffic incident report whenever an aircraft in flight has been endangered by —

(*a*) hazardous flight conditions encountered en route, including those associated with meteorological conditions;

(*b*) a near collision with another aircraft or object;

(*c*) faulty air traffic control procedures or lack of compliance with applicable procedures by an air traffic control unit or by the flight crew; or

(*d*) a failure of an air traffic control unit facilities.

(2) Where a bird constitutes an in-flight hazard or an actual bird strike, a pilot-in-command shall, without delay —

(*a*) inform the appropriate air traffic control unit whenever a potential bird hazard is observed; and

(*b*) submit to the Authority a written bird strike report after landing.

(3) A pilot-in-command shall inform the appropriate air traffic control unit if the situation permits, when an in-flight emergency occurs involving dangerous goods on board.

(4) A pilot-in-command shall, without delay, submit a report to the local authorities and to the Authority, following an act of unlawful interference with the crew members on board an aircraft.

Accident notification

51. (1) A pilot-in-command shall notify the nearest appropriate authority, by the quickest available means, of any accident involving the aircraft that results in serious injury or death of any person, or substantial damage to the aircraft or property.

(2) A pilot-in-command shall submit a report to the Authority of any accident which occurred while the pilot-in-command was responsible for the flight.

Operation of flight recorders

52. (1) A pilot-in-command shall ensure that whenever an aircraft has flight recorders installed, the recorders are operated continuously from the instant —

(*a*) for a flight data recorder, the aircraft begins the flight until it has completed the landing roll; and

(*b*) for a cockpit voice recorder, of the initiation of the pre-flight checklist until the end of the securing aircraft checklist.

(2) A pilot-in-command shall not permit a flight recorder to be disabled, switched off or erased during flight, unless necessary to preserve the data for an accident or incident investigation.

(3) In the event of an aircraft accident or incident, the pilot-in-command shall act to preserve the recorded data for subsequent investigation.

Crew member oxygen supply

53. (1) A pilot-in-command shall not commence a flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments is less than 700 hPa unless sufficient stored breathing oxygen is carried to supply —

(*a*) all crew members and 10 percent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by the crew members and the passengers is between 700 hPa and 620 hPa; and

(*b*) the crew and passengers for any period that the atmospheric pressure in compartments occupied by the crew members and the passengers is less than 620 hPa.

(2) A pilot-in-command shall not commence a flight to be operated with a pressurised aircraft unless a sufficient quantity of stored breathing oxygen is carried to supply the crew, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurisation, for any period that the atmospheric pressure in any compartment occupied by such crew members and passengers is less than 700 hPa.

(3) A pilot-in-command shall ensure that there is, at least, a 10 minute supply of oxygen for the occupants of the passenger compartment, when an aircraft 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.

(4) A pilot-in-command shall ensure that the minimum supply of oxygen on board an aircraft is not less than that prescribed by the Authority under the Civil Aviation (Equipment and Instrument) Regulations.

Carriage of dangerous goods

54. A person shall not carry dangerous goods in an aircraft except with the written permission of the Authority and subject to the Civil Aviation (Transportation of Dangerous Goods) Regulations.

Portable electronic devices

55. (1) A pilot-in-command or any other crew member shall not permit any person to use, nor shall any person use a portable electronic device on board an aircraft that may adversely affect the performance of aircraft systems and equipment unless —

(*a*) for instrument flight rules operations other than air transport, the pilot-in-command allows such a device prior to its use; or

(*b*) for 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

(*c*) the pilot-in-command informs passengers of the permitted use.

(2) Notwithstanding subregulation (1), a flight crew member may use a boom or throat microphone to communicate with another flight crew member and air traffic service below the transition level or altitude —

(*a*) for operations in an aircraft;

(*b*) for general aviation operations in an aeroplane, helicopter or powered lift aircraft; or

(*c*) for aerial work operations.

PART VI – *Flight planning and preparation*

Submission of flight plan

56. (1) A pilot-in-command shall file a flight plan for visual flight rules or instrument flight rules before he or she operates —

(*a*) a flight or a portion thereof that is required to be provided with air traffic control service;

(*b*) an instrument or flight with advisory airspace;

(*c*) a flight within a designated area or along designated routes if required to do so by the Authority for purposes of facilitating coordination with military units or air traffic control facilities in adjacent states to avoid interception for identification; or

(*d*) a flight across international borders.

(2) A pilot-in-command shall submit a flight plan to the Authority, except where arrangements have been made for submission of repetitive flight plans —

(*a*) at least 60 minutes before departure; or

(*b*) if submitted during flight, at a time that will enable the Authority to receive the flight plan 10 minutes before the time the aircraft is estimated to reach —

(i) the intended point of entry into a control area or advisory area; or

(ii) the point of crossing an airway or advisory route.

(3) Notwithstanding subregulation (2), a person shall not take-off an aircraft in air transport service unless the flight plan has been filed with the Authority except where he or she is authorised to do so by the Authority.

Contents of Flight Plan

57. (1) A pilot filing an instrument flight plan or visual flight plan shall include the following information in the flight plan —

(*a*) aircraft identification;

(*b*) flight rules and type of flight;

(*c*) number, type of aircraft and wake turbulence category;

(*d*) equipment;

(*e*) departure aerodrome and alternate, if required;

(*f*) estimated off-block time;

(*g*) cruising level and speed;

(*h*) route to be followed;

(*i*) destination aerodrome and alternate, if required;

(*j*) fuel endurance;

(*k*) total number of persons on board;

(*l*) emergency and survival equipment; and

(*m*) other information as may be required by the Authority.

(2) If during flight planning, a pilot determines that there is possibility, depending on fuel endurance, that a flight may change destinations and still comply with the minimum fuel supply planning requirements, he or she shall notify the Authority of the possibility when submitting the flight plan.

Changes to flight plan

58. (1) When a change occurs to a flight plan submitted for a flight under instrument flight rules or visual flight rules operated as a controlled flight, the pilot-in-command shall report that change as soon as is practicable to the Authority.

(2) For a flight under visual flight rules other than the one operated as a controlled flight, the pilot-in-command shall report significant changes to a flight plan as soon as is practicable to the Authority.

Closing flight plan

59. (1) A pilot-in-command shall make a report on arrival either in person or by radio to the Authority at the earliest time possible after landing at the destination aerodrome unless the Authority automatically closes the flight plan.

(2) Where a flight plan is submitted for a portion of a flight with no arrival destination, the pilot-in-command shall close that flight plan en route with the Authority.

(3) Where no air traffic control facility exists at the arrival aerodrome, the pilot-in-command shall contact the nearest air traffic control facility to close the flight plan as soon as practicable after landing.

(4) A pilot-in-command shall include the following information in the arrival reports —

(*a*) aircraft identification;

(*b*) departure aerodrome;

(*c*) in the case of a diversionary landing, destination aerodrome;

(*d*) arrival aerodrome; and

(*e*) time of arrival.

Aircraft airworthiness and safety precautions

60. (1) A pilot-in-command shall not operate an aircraft unless he or she is satisfied that —

(*a*) the aircraft is airworthy, duly registered and the appropriate certificates are aboard the aircraft;

(*b*) the instruments and equipment installed in the aircraft are appropriate for expected flight conditions; and

(*c*) maintenance to the aircraft, where applicable, has been performed and a maintenance release has been issued in respect of the aircraft.

(2) For air transport services, a pilot-in-command shall, by signing the aircraft technical log, certify that he or she is satisfied that the requirements of subregulation (1) have been met.

Adequacy of operating facilities

61. (1) A pilot-in-command shall not commence a flight unless —

(*a*) it has been determined by every reasonable means available that the ground 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; and

(*b*) the pilot is satisfied that the aerodromes at which the flight is intended to take-off or land and any alternative aerodrome at which a landing may be made are suitable for the purpose and in particular are adequately manned and equipped to ensure the safety of the aircraft and its passengers;

(*c*) subject to the published conditions of use, aerodromes and their facilities are kept continuously available for flight operations during their published hours of operations, irrespective of weather conditions;

(*d*) an operator as part of its safety management access the level of rescue and fire fighting service protection available at any aerodrome intended to be specified in the operation flight plan in order to ensure that an acceptable level of protection is available for the aerodrome intended to be used; and

(*e*) information related to the level of protection that is considered acceptable by the operator is contained in the operations manual.

(2) In this regulation "reasonable means" denotes use, at the point of departure, of information available to the pilot-in-command either through official information published by the aeronautical information services or readily obtainable from other sources.

Weather reports and forecasts

62. (1) A pilot-in-command shall before commencing a flight be familiar with all available meteorological information appropriate to the intended flight.

(2) Pre-flight action by a pilot-in-command for a flight away from the vicinity of the place of departure, and for every flight under instrument flight rules, shall include —

(*a*) a careful study of available current weather reports and forecasts taking into consideration fuel and oil requirements; and

(*b*) an alternative course of action if the flight may not be completed as planned because of weather conditions.

(3) A pilot-in-command who is unable to communicate by a radio with an air traffic control unit at the aerodrome of destination shall not begin a flight to an aerodrome within a control zone if the information which is reasonably practicable for the pilot-in-command to obtain indicates that he or she will arrive at the aerodrome when the ground visibility is less than kilometers or the cloud ceiling is less than 1 500 feet, unless the pilot-in-command has obtained from an air traffic control unit at that aerodrome permission to enter the aerodrome traffic zone.

Weather limitations for visual flight rules flights

63. A pilot-in-command shall not commence a flight to be conducted in accordance with visual flight rules 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 visual flight rules, shall, at the appropriate time, allow visual flight rules operations.

Instrument flight rules destination aerodromes

64. A pilot-in-command shall not commence a flight to be conducted in accordance with instrument flight rules unless the available information indicates that the weather conditions at the aerodrome of intended landing and, if required, at least one suitable alternate at the estimated time of arrival, shall be at or above the —

(*a*) minimum ceiling and visibility values for the standard instrument approach procedure to be used; or

(*b*) minimum operating altitude, if no instrument approach procedure is to be used, that would allow a visual meteorological conditions descent to the aerodrome.

Instrument flight rules destination alternate requirements

65. (1) A pilot -in-command shall not commence a flight to be conducted in accordance with instrument flight rules, in an aeroplane, without at least one destination alternate aerodrome listed in the flight plan unless —

(*a*) there is a standard instrument approach procedure prescribed by the relevant authority for the aerodrome of intended landing; and

(*b*) the following meteorological conditions will exist from two hours before to two hours after estimated time of arrival —

(i) a cloud base of at least 300 metres (1000feet) above the minimum associated with the instrument approach procedure, and

(ii) visibility of at least six kilometers or of four kilometers more than the minimum associated with the instrument approach procedure.

(2) The Authority may approve the reduction of the cloud base and visibility requirements under subregulation (1) for —

(*a*) helicopters, powered-lift and airships; and

(*b*) air transport, where no suitable destination exists.

(3) A pilot-in-command shall not commence a flight to be conducted in accordance with instrument flight rules flight, in a helicopter, where no alternate aerodrome is required unless —

(*a*) its operation is conducted as a general aviation;

(*b*) the following meteorological conditions exist from two hours before to two hours after ETA —

(i) a cloud base of at least 300 metres (1000 feet) above the minimum associated with the instrument approach procedure, and

(ii) visibility of at least six kilometers or of four kilometers more than the minimum associated with the instrument approach procedure; and

(*c*) a point of no return is determined, where the helicopter's intended landing is isolated and there is no suitable alternate aerodrome available.

Instrument flight rules alternate aerodrome selection criteria

66. (1) Where alternate minimums are published, a pilot-in-command shall not designate an alternate aerodrome in an instrument flight rules flight plan unless the current available forecast indicates that the meteorological conditions at that alternate at the estimated time of arrival shall be at or above those published alternate minimums.

(2) Where alternate minimums are not published, and if there is no prohibition against using the aerodrome as an instrument light rules planning alternate, a pilot-in-command shall ensure that the meteorological conditions at the alternate at the estimated time of arrival shall be at or above —

(*a*) for a precision approach procedure, a ceiling of at least 183 metres (600 feet) and visibility of not less than three kilometers; or

(*b*) for a non-precision approach procedure, a ceiling of at least 244 metres (800 feet) and visibility of not less than three kilometers.

Off-shore alternates for helicopter operations

67. (1) A person shall not select an off-shore landing site as an alternate when it is possible to carry enough fuel to have an on-shore alternate landing site.

(2) A person shall select offshore alternates in exceptional cases, the details of which shall be approved by the Authority, and shall not include payload enhancement in instrument meteorological conditions.

(3) A person selecting an off-shore alternate landing site shall consider the following —

(*a*) the point of no return, using an on-shore alternate;

(*b*) the off-shore alternate may be used only after a point of no return;

(*c*) attaining one engine inoperative performance capability prior to arrival at the alternate;

(*d*) guaranteeing helideck availability;

(*e*) the weather information at the helideck shall be available from a source approved by the Authority;

(*f*) for instrument flight rules operations, an instrument approach procedure shall be prescribed and available; and

(*g*) a helideck, where the landing technique specified in the flight manual, following control system failure, preclude the selection of certain helideck as alternate landing site.

(4) The mechanical reliability of critical control systems shall be taken into account when determining the suitability and necessity for an off-shore alternate landing site.

Take-off alternate aerodromes: air transport operations

68. (1) A person shall not release or take-off an aircraft without a suitable take-off alternate specified in the flight plan if it would not be possible to return to the aerodrome of departure.

(2) An operator shall ensure that each take-off alternate landing site specified shall be located within —

(*a*) for two-engine aircraft, one hour flight time at single-engine cruise speed unless the aircraft and crews are authorised for extended range operations by turbine-engined aeroplanes; or

(*b*) for three or four-engine aircraft, two hours flight time at single-engine inoperative cruising speed.

(3) All calculations referred under this regulation shall be based on the one-engine-inoperative cruising speed according to the aeroplane flight manual in still air conditions based on the actual take-off mass.

Maximum distance for twin-engined aeroplanes

69. (1) Unless specifically granted an extended range operations by turbine-engined aeroplanes approval by the Authority, an operator shall not operate a two-engined aeroplane over a route which contains a point further from an adequate aerodrome than, in the case of —

(*a*) large, turbine engine powered aeroplanes the distance flown in 60 minutes at the one-engine-inoperative cruise speed determined in accordance with subregulation (2) with either —

(i) a maximum approved passenger seating configuration of 20 or more persons, or

(ii) a maximum take-off mass of 45 360 kg or more; or

(*b*) reciprocating engine powered aeroplanes —

(i) the distance flown in 120 minutes at the one-engine-inoperative cruise speed determined in accordance with subregulation (2), or

(ii) 300 nautical miles, whichever is less.

(2) An operator shall determine a speed for the calculation of the maximum distance to an adequate aerodrome for each two-engined aeroplane type or variant operated, not exceeding its Vmo based upon the true airspeed that the aeroplane may maintain with one-engine-inoperative under the following conditions —

(*a*) international standard atmosphere; or

(*b*) level flight for turbine powered aeroplanes at —

(i) flight level 170, or

(ii) the maximum flight level to which the aeroplane, with one engine inoperative can climb, and maintain, using the gross rate of climb specified in the aeroplane flight manual, whichever is less,

(iii) for piston powered aeroplanes –

(*aa*) flight level 80, or

(*bb*) at the maximum flight level to which the aeroplane, with one engine inoperative, can climb, and maintain, using the gross rate of climb specified in the aeroplane flight manual, whichever is less,

(iv) maximum continuous thrust or power on the remaining operating engine,

(v) an aeroplane mass not less than that resulting from –

(*aa*) take-off at sea-level at maximum take-off mass until the time elapsed since take-off is equal to the applicable threshold stated in sub-regulation (1),

(*bb*) all engines climb to the optimum long range cruise altitude until the time elapsed since take-off is equal to the applicable threshold stated in subregulation (1), and

(*cc*) 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 stated in subregulation (1).

(3) An operator shall ensure that the following data, specific to each type or variant, is included in the operations manual —

(*a*) the one-engine-inoperative cruise speed determined in accordance with subregulation (2); and

(*b*) the maximum distance from an adequate aerodrome determined in accordance with subregulations (1) and (2).

(4) The speeds and altitudes specified in this regulation shall only be used for establishing the maximum distance from an adequate aerodrome.

Extended range operations with twin-engined aeroplanes

70. (1) An operator shall not conduct operations beyond the threshold distance determined in accordance with regulation 69, unless approved to do so by the Authority.

(2) Prior to conducting an extended range operations by turbine-engined aeroplanes flight, an operator shall ensure that a suitable extended range operations by turbine-engined aeroplanes en route alternate is available, within either the approved diversion time or a diversion time based on minimum equipment list generated serviceability status of the aeroplane, whichever is shorter.

(3) An air operator certificate holder shall, in requesting extended range operations by twin engine aeroplanes approval, show to the satisfaction of the Authority —

(*a*) the airworthiness certification of the aeroplane type;
(*b*) the reliability of the propulsion system;
(*c*) the air operator certificate holders maintenance procedures, operating practices, flight dispatch procedure, and
(*d*) that crew training programmes for two engine aeroplanes are consistent with the level of safety required for current extended range operations with three and four engine turbine powered aeroplanes.

En route aerodrome-extended range operations by twin-engined aeroplanes

71. (1) An operator shall ensure that the required en route alternate aerodromes for extended range operations by turbine-engined aeroplanes are selected and specified in air traffic control flight plans in accordance with the extended range operations by turbine-engined aeroplanes diversion time approved by the Authority.

(2) An operator shall not select an aerodrome as an extended range operations by turbine-engined aeroplanes en route alternate aerodrome unless the appropriate weather reports or forecasts, or any combination, indicate that during a period commencing one hour before and ending one hour after the expected time of arrival at the aerodrome, the weather conditions shall be at or above the planning minima as set out in Schedule 1.

Fuel and oil supply

72. (1) A person shall not commence a flight unless the aircraft carries sufficient fuel and oil including any reserve carried for contingencies to ensure that it shall safely complete the flight, taking into account both the meteorological conditions and any delays that are expected in flight.

(2) A person computing the fuel and oil required under subregulation (1) shall consider the following —

(*a*) expected winds or other meteorological conditions;
(*b*) possible variations in air traffic control routings;
(*c*) anticipated traffic delays;
(*d*) a complete instrument approach procedure and possible missed approach at destination; and
(*e*) loss of pressurisation en route;
(*f*) loss of one power-unit en route, and
(*g*) any other conditions that may delay landing of the aircraft or increase fuel and oil consumption.

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

(4) A pilot in command shall not commence a flight to an aerodrome where no suitable alternate aerodrome is available because the destination aerodrome is isolated without reserve fuel for two additional hour's flight at normal cruise consumption at 1, 500 feet above the aerodrome.

(5) The Authority may grant specific approval for commercial air transport services to isolated aerodromes without regard to consumption requirement under subregulation 4.

(6) A person shall not commence a flight under visual flight rules, unless there is enough fuel to fly to the first point of intended landing and assuming normal cruising speed for —

(*a*) flights during the day or night for atleast 45 minutes; and

(*b*) international flights, for at least an additional 15 percent of the total flight time calculated for cruise flight.

(7) A person shall not commence a flight in a helicopter under visual flight rules, unless there is enough fuel to fly to the first point of intended landing and assuming normal cruising speed for —

(*a*) 20 minutes thereafter; and

(*b*) international flights, atleast an additional 10 percent of the total flight time calculated.

(8) A person shall not commence a flight under instrument flight rules unless, there enough fuel to —

(*a*) fly to the first point of intended landing and execute an instrument approach;

(*b*) execute a missed approach and fly from the aerodrome;

(*c*) fly at normal cruising speed in a piston powered aeroplane for 45 minutes; and

(*d*) in a rotocraft, turbojet or turbofan aeroplane, for 30 minutes at a holding speed at 450 metres (1500 feet) above the aerodrome, plus a reserve for contingencies specified by the operator and approved by the Authority.

Flight planning-documents distribution and retention-Commercial air transport

73. (1) A pilot-in-command operating an aircraft used to provide air transport service shall complete and sign the following flight preparation retention documents prior to departure —

(*a*) an operational flight plan, including NOTAM and weather pertinent to the flight planning decisions regarding minimum fuel supply, en route performance, and destination and alternate aerodromes;

(*b*) a load manifest, showing the distribution of the load, centre of gravity, take-off and landing mass and compliance with maximum operating mass limitations, and performance analysis; and

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

(2) A pilot-in-command shall not commence a flight in air transport service unless all flight release documents, specified in the operations manual and signed by the pilot-in-command, are retained and available at the point of departure.

(3) A pilot-in-command shall carry a copy of the documents specified under subregulation (1) on the aircraft.

(4) An air operator certificate holder shall keep completed flight preparation documents for a period of three months.

Aircraft loading, mass and balance

74. A person shall not operate an aircraft unless —

(*a*) all loads carried are properly distributed and safely secured and comply with the aircraft limitations;

(*b*) the calculations for the mass of the aeroplane and centre of gravity location indicate that the flight can be conducted safely, taking into account the flight conditions expected; and

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

Maximum allowable weights to be considered on all loads manifests

75. A pilot-in-command shall ensure that the maximum allowable mass for a flight does not exceed the maximum allowable take-off mass —

(*a*) for the specific runway and conditions existing at the take-off time; and

(*b*) considering anticipated fuel and oil consumption that allows compliance with applicable en route performance, landing mass, and landing distance limitations for destination and alternate aerodromes.

Flight release required-commercial air transport

76. A pilot-in-command shall not commence —

(*a*) a flight under a flight following system without specific authority from the operator to exercise operational control over the flight; or

(*b*) a passenger carrying flight in air transport service for which there is a published schedule, unless the operator has issued a flight release for that specific operation or series of operations.

Operational flight plan-commercial air transport

77. (1) A pilot-in-command shall not commence a flight unless he or she has signed the operational flight plan.

(2) A pilot-in-command shall sign the operational flight plan only when he or she and the person authorised by the operator to exercise operational control have determined that the flight shall be safely completed.

(3) 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 alternate aerodromes.

(4) A pilot-in-command signing the operational flight plan shall have access to the applicable flight planning information for fuel supply, alternate aerodromes, weather reports and forecasts and NOTAM for the routing and destination aerodrome.

(5) A pilot-in-command shall not continue a flight from an intermediate aerodrome without a new operational flight plan if the aircraft has been on the ground for more than six hours.

PART VII – *Aircraft operating and performance limitations*

All Aircraft performance calculations

78. (1) An operator shall ensure that the aircraft does not exceed —

(*a*) its designated performance limitations for any operation, as established by the State of Registry;

(*b*) the operating limitations contained in the aircraft flight manual, or its equivalent;

(*c*) the terms of its certificate of airworthiness; or

(*d*) mass limitations, if applicable, imposed by the terms of its noise certification standards, unless otherwise approved by the Authority.

(2) An operator shall ensure that the performance data contained in —

(*a*) the aeroplane flight manual;

(*b*) the rotorcraft flight manual; or

(*c*) other authorised source,

is used to determine compliance with the appropriate requirements of these Regulations.

(3) The operator performing calculations in relation to performance data under subregulation (2) shall account for the aircraft configuration, environmental conditions, and the operation of any system which may have an adverse effect on the performance.

General weight and obstruction clearance limitations

79. (1) A pilot-in-command shall not commence a flight without ensuring that the maximum take-off mass for the flight does not exceed the maximum take-off mass or maximum landing mass, or any applicable en route performance or landing distance limitations including —

(*a*) the condition of the take-off and landing areas to be used;

(*b*) the gradient of runway to be used for land planes only;

(*c*) the pressure altitude;

(*d*) the ambient temperature;

(*e*) the current and forecast winds; and

(*f*) any known conditions, such as atmospheric and aircraft configuration, which may adversely affect performance.

(2) A person shall not commence a flight at a mass that, assuming normal engine operation, shall not safely clear all obstacles during all phases of flight, including all points along the intended en route path or any planned diversions.

Aircraft used in air transport service

80. (1) An operator providing air transport service shall comply with the provisions of this Part.

(2) If the circumstances make compliance with the provisions of this Part unnecessary for safety, the Authority may, grant an exemption, in accordance with these Regulations, from the requirements.

(3) Where full compliance with the requirements cannot be shown due to the specific design characteristics of the aircraft, an operator shall apply approved performance standards ensuring that the level of safety is not less restrictive than the relevant requirements under this Part.

Commercial Air Transport-Aircraft performance calculations

81. (1) An operator shall not commence a flight in an aircraft used to provide air transport service without ensuring that the applicable operating and performance limitations required by this regulation are accurately computed based on the aircraft flight manual, rotorcraft flight manual, or other data source approved by the Authority.

(2) An operator calculating performance and operating limitations for an aircraft used to provide air transport service shall ensure that performance data used to determine compliance with this regulation shall, during any phase of flight, accurately account for —

(*a*) any reasonably expected adverse operating conditions that may affect aircraft performance;

(*b*) one engine failure, for aircraft having two engines, where applicable; and

(*c*) two engine failures, for aircraft having three or more engines, if applicable.

(3) When calculating the performance and limitation requirements, the operator shall, for all engines operating and for inoperative engines, accurately account for —

(*a*) in all phases of flight —

(i) the effect of fuel and oil consumption on aircraft weight,

(ii) the effect of fuel consumption on fuel reserves resulting from changes in flight paths, winds, and aircraft configuration,

(iii) the effect of fuel jettisoning on aircraft mass and fuel reserves, if applicable and approved,

(iv) the effect of any ice protection system, if applicable and weather conditions require its use,

(v) ambient temperatures and winds along intended route and any planned diversion, and

(vi) flight paths and minimum altitudes required to remain clear of obstacles; and

(*b*) during take-off and landing —

(i) the condition of the take-off runway or area to be used, including any contaminants, such as water, slush, snow, ice, etc.,

(ii) the gradient of runway to be used,

(iii) the runway length including clearways and stopways, if applicable,

(iv) pressure altitudes at take-off and landing sites,

(v) current ambient temperatures and winds at take-off,

(vi) forecast ambient temperatures and winds at each destination and planned alternate aerodrome,

(vii) the ground handling characteristics, or braking action of the type of aircraft, and

(viii) landing aids and terrain that may affect the take-off path, landing path, and landing roll.

(4) Where conditions are different from those on which the performance is based, the operator may determine compliance by interpolation or 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.

(5) The operator may correct take-off data based on still air, to allow for wind effect, by taking into account not more than 50 per cent of any reported headwind component and not less than 150 per cent of any reported tailwind component.

Take-off limitations

82. (1) A person shall not commence a flight in an aeroplane used to provide air transport service unless the following requirements are met when determining the maximum permitted take-off mass —

(*a*) the take-off run shall not be greater than the length of the runway;

(*b*) for turbine engine powered aeroplanes —

(i) the take-off distance shall not exceed the length of the runway plus the length of any clearway, except that the length of any clearway included in the calculation shall not be greater than half the length of the runway, and

(ii) the accelerate-stop distance shall not exceed the length of the runway, plus the length of any stopway, at any time during take-off until reaching V1;

(*c*) for reciprocating engine powered aeroplanes the accelerate-stop distance shall not exceed the length of the runway at any time during take-off until reaching V1; and

(*d*) where the critical engine fails at any time after the aeroplane reaches V1, to continue the take-off and clear all obstacles either —

(i) by a height of at least 9.1 metres (35 feet) vertically for turbine engine powered aeroplanes or 15.2 metres (50 feet) for reciprocating engine powered aeroplanes, and

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

(2) A person shall not commence take-off in a helicopter used in air transport service that, in the event of a critical engine failure, cannot —

(*a*) for performance class 1 helicopters —

(i) at or before the take-off decision point, discontinue the take-off and stop within the rejected take-off area, or

(ii) after the take-off decision point, continue the take-off and then climb, clearing all obstacles along the flight path, until a suitable landing site is found,

(*b*) for performance class 2 helicopters —

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

(ii) at any point after reaching a defined point after take-off, continue the take-off and then climb, clearing all obstacles along the light path, until a suitable landing site is found; or

(*c*) for performance Class 3 helicopters —

(i) clear the obstacles along its flight path by an adequate margin,

(ii) maintain minimum flight altitude, or

(iii) on engine failure, permit a safe, forced landing.

En-route limitations-all engines operating

83. (1) A pilot-in-command shall not commence a flight in a reciprocating engine powered aeroplane used in air transport service at a weight that does not allow a rate of climb of at least 6.9 Vso with all engines operating, at an altitude of at least 300 metres (1 000 feet) above all terrain and obstructions within 10 miles of each side of the intended track.

(2) In this regulation the term "6.9 Vso" means the number of feet per minute obtained by multiplying the aircraft's minimum steady flight speed by 6.9.

En-route limitations-one engine inoperative

84. (1) An operator shall ensure that the one engine inoperative en-route net flight path data shown in an aeroplane flight manual, appropriate to the meteorological conditions expected for the flight, complies with subregulation (2) or (3) at all points along the route.

(2) The operator shall ensure that net flight path referred to under subregulation (1), has a positive gradient at 1 500 feet above the aerodrome, where the landing is assumed to be made after engine failure, in meteorological conditions requiring the operation of ice protection systems, the effect of their use on the net flight path must be taken into account.

(3) The operator shall ensure that the gradient of the net flight path shall be positive, at least 1 000 feet above all terrain and obstructions along the route within 9.3 kilometres (5 nm) on either side of the intended track.

(4) The operator shall ensure that the net flight path permits the aeroplane to continue flight from the cruise altitude to an aerodrome where a landing can be made in accordance with regulation 132 as appropriate, the net flight path clearing vertically, by at least 2 000 feet, all terrain and obstructions along the route within 9.3 kilometres (5 nm) on either side of the intended track in accordance with the following —

(*a*) the engine is assumed to fail at the most critical point along the route;

(*b*) account is taken of the effects of winds on the flight path;

(*c*) fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used; and

(*d*) the aerodrome where the aeroplane is assumed to land after engine failure shall meet the following criteria —

(i) the performance requirements at the expected landing mass, and

(ii) weather reports or forecasts or any combination thereof, and field condition reports indicate that a safe landing can be accomplished at the estimated time of landing.

(5) A pilot-in command shall increase the width margins referred to in subregulation (4) to 18.5 kilometres (10 nm) if the navigational accuracy does not meet the 95 per cent containment level.

(6) A pilot-in-command shall not commence a flight in an air transport service helicopter having two engines unless the helicopter can, in the event of the critical engine failing and any point in the enroute phase, continue the flight to the destination or alternate aerodrome without flying below the minimum flight altitude at any point and clearing all obstacles in the approach path by a safe margin.

En-route limitations – two engines inoperative

85. (1) A pilot-in-command shall not commence take-off of an air transport service aircraft having three or more engines, where there is no suitable landing aerodrome, within 90 minutes, at any point along the intended route, with all engines operating at cruising power, unless the aircraft may, in the event of simultaneous power failure of two critical engines at the most critical point along that route, continue to a suitable landing aerodrome while complying with the requirements of subregulations (2) to (6).

(2) A pilot-in-command may continue to fly an aircraft, where a two engines inoperative en route net flight path data permits the aircraft to continue the flight, in the expected meteorological conditions, from the point where two engines are assumed to fail simultaneously, to an aerodrome at which it is possible to land and come to a complete stop when using the prescribed procedure for a landing with two engines inoperative.

(3) The pilot-in-command shall ensure that the net flight path referred to in subregulation (2) clears vertically, by at least 2 000 feet all terrain and obstacles along the route within 9.3 kilometres (5 nm), on either side of the intended track.

(4) A pilot-in-command shall take into account altitudes and meteorological conditions requiring ice protection systems to be operable, the effect of their use on the net flight path data, and if the navigational accuracy does not meet the 95 percent containment level, an operator shall increase the width margin given above to 18.5 kilometres (10 nm).

(5) The pilot-in-command shall assume two engines to fail, at the most critical point of that portion of the route, where the aeroplane is more than 90 minutes, at the all engines long range cruising speed at standard temperature in still air, away from an aerodrome at which the performance requirements applicable at the expected landing mass are met.

(6) The pilot-in-command shall ensure that the net flight path has a positive gradient at 1 500 feet above the aerodrome where the landing is assumed to be made after the failure of two engines.

(7) Fuel jettisoning in an aeroplane referred to in this regulation is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used.

(8) The pilot-in-command shall ensure that the expected mass of the aeroplane at the point where the two engines are assumed to fail, is not be less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made, and to arrive there at least 1500 feet directly over the landing area and thereafter to fly level for 15 minutes.

(9) A pilot-in-command shall not commence a flight in a performance class 1 or performance class 2 helicopter used in air transport service having three or more engines unless that helicopter may, 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.

Landing limitations

86. (1) A pilot-in-command shall not commence a flight in an aircraft used to provide air transport service unless the aircraft mass on arrival at either the intended destination aerodrome or any planned alternate aerodrome would allow a full stop landing from a point 50 feet above the intersection of the obstruction clearance plane and the runway, and within —

(*a*) for turbine engine powered aeroplanes, 60 percent of the effective length of each runway; and

(*b*) for reciprocating engine powered aeroplanes, 70 percent of the effective length of each runway.

(2) A person determining the landing limit shall ensure that for the purpose of determining the allowable landing weight at the destination aerodrome —

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

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

(3) Where the runway at the landing destination is reported or forecast to be wet or slippery, the person determining the landing limit shall ensure that landing distance available shall be at least 115 per cent of the required landing distance unless, based on a showing of actual operating landing techniques on wet or slippery runways —

(*a*) a shorter landing distance not less than that required by subregulation (1) has been approved for a specific type and model of aeroplane; and

(*b*) this information is included in the aircraft flight manual.

(4) Where a turbine powered transport aeroplane is prohibited from taking off because it does not meet the requirements of subregulation (1) (*a*), the pilot-in-command may take-off, if an alternate aerodrome is specified that meets all the requirements of subregulation (1).

(5) A person shall not commence a flight in a helicopter used to provide air transport service unless, satisfied that all engines will be operating on arrival at the intended destination aerodrome or any planned alternate landing, it shall clear all obstacles on the approach path and shall land and stop within the landing distance available.

(6) A person shall not commence a flight in a helicopter used to provide air transport service unless, in the event of any engine becoming inoperative in the approach and landing phase on arrival at the intended destination aerodrome or any planned alternate landing, the helicopter may —

(*a*) for performance class 1 helicopters —

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

(ii) after the landing decision point, land and stop within the landing distance available; or

(*b*) for performance class 2 and performance class 3 helicopters, before reaching a defined point before landing, safely execute a forced landing within the landing distance available.

(7) For purposes of subregulation (1), an "obstruction clearance plane" is a plane —

(*a*) sloping upward from the runway at a slope of 1:20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area;

(*b*) where in the plane view, the centre line of the specified area coincides with the centre line of the runway, beginning at the point where the obstruction clearance plane intersects the centre line of the runway and proceeding to a point at least 1 500 feet from the beginning point;

(*c*) where the centre line coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings), or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4 000 feet radius until a point is reached beyond which the obstruction clearance plane clears all obstructions; or

(*d*) which extends laterally 200 feet on each side of the centre line at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centre line at a point 1 500 feet from the intersection of the obstruction clearance plane with the runway; thereafter, it extends laterally 500 feet on each side of the centre line.

PART VIII – *Passengers and passenger handling*
A - *All passenger carrying operations*

Unacceptable conduct

87. A person on board an aircraft shall not —
(*a*) interfere with a crew member in the performance of the crew member's duties;
(*b*) refuse to fasten his or her seat belt and keep it fastened while the seat belt sign is lighted;
(*c*) willfully, recklessly or negligently act or omit to act —
(i) so as to endanger an aircraft or persons and property therein, or
(ii) so as to cause or permit an aircraft to endanger any person or property;
(*d*) secrete himself or herself nor secrete cargo on board an aircraft;
(*e*) smoke while the no-smoking sign is lighted;
(*f*) smoke in any aircraft lavatory;
(*g*) tamper with, disable or destroy any smoke detector installed in any aircraft lavatory; or
(*h*) willfully, recklessly or negligently imperil the safety of an aircraft or any person on board, whether by interference with any crew member, or by tampering with the aircraft or its equipment, or by disorderly conduct by any other means.

Refueling or defueling with passengers on board

88. (1) A pilot-in-command shall not allow an aeroplane to be refueled or defueled when passengers are embarking, on board, or disembarking unless —
(*a*) the aeroplane is manned by qualified personnel ready to initiate and direct an evacuation; and
(*b*) a two-way communication is maintained between the qualified personnel in the aeroplane and the ground crew supervising the refuelling.

(2) Unless specifically authorised by the Authority, a pilot-in-command shall not allow a helicopter to be refueled or defueled when —
(*a*) passengers are embarking, on board, or disembarking; or
(*b*) the rotors are turning.

Passenger seats, safety belts and shoulder harnesses

89. (1) A pilot-in-command shall ensure that each person on board an aircraft from the age of two years occupies an approved seat or berth with their own individual safety belt and shoulder harness, if installed, properly secured during take-off and landing.

(2) A passenger shall have his or her seatbelt securely fastened at any other time the pilot-in-command may determine is necessary for safety.

(3) When a cabin crew member is required in an air transport service, the pilot-in-command may delegate the responsibility specified in subregulation (1) to the cabin crew member, but shall ascertain that the proper briefing has been conducted prior to take-off.

Passenger briefing

90. (1) A pilot-in-command of an aircraft shall ensure that the crew and passengers are made familiar, by means of an oral briefing or by other means, with the location and use of the following items, where appropriate -
(*a*) seat belts;
(*b*) emergency exits;
(*c*) life jackets;
(*d*) oxygen dispensing equipment; and
(*e*) other emergency equipment provided for individual use, including passenger emergency briefing cards.

(2) A pilot-in-command of an aircraft 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.

(3) A pilot-in-command of an aircraft may delegate the responsibility of briefing passengers under this regulation to any other crew member on board the aircraft, and shall ensure that the briefing has been conducted prior to take-off.

In-flight emergency instruction

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

(2) A pilot-in-command may delegate the responsibility of briefing passengers under this regulation to any other crew member on board the aircraft, and shall ensure that the briefing has been conducted prior to take-off.

Passenger oxygen - minimum supply and use

92. A pilot-in-command of an aircraft shall —

(*a*) 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 harm passengers;

(*b*) ensure that the minimum supply of oxygen prescribed by the Authority is on board the aircraft; and

(*c*) require all passengers to use oxygen continuously at cabin pressure altitudes above 13 000 feet.

Alcohol or drugs

93. (1) A person shall not permit any person who appears to be intoxicated, or who demonstrates, by manner or physical indications, that that person is intoxicated, to —

(*a*) board an aircraft; or

(*b*) be served alcohol.

(2) A person shall not —

(*a*) board an aircraft while intoxicated or under the influence of substances; or

(*b*) while on board the aircraft, be intoxicated or under the influence of substances.

B – *Commercial air transport passenger carrying operations*

Passenger compliance with instructions

94. A passenger on an air transport service flight shall comply with any instructions given by a cabin crew member in compliance with these Regulations.

Denial of transportation

95. An aircraft operator may deny transportation to a passenger who —

(*a*) refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority; or

(*b*) has a handicap that can be physically accommodated only through causing an obstruction to the safe evacuation of other passengers from the aircraft as provided for in regulation 98.

Carriage of persons without compliance with passenger carrying requirements

96. A pilot-in-command shall not allow a person to be carried on board the aircraft without compliance to the passenger carrying requirements unless there is an approved seat with an approved seat belt for the person, and —

(*a*) the seat is so located that the occupant is not in any position to interfere with the flight crew members performing their duties;

(*b*) there is unobstructed access from the approved seat to the flight deck or a regular or emergency exit;

(*c*) there is a means for notifying such person when smoking is prohibited and when seat belts shall be fastened; and

(*d*) such person has been orally briefed by a crew member on the use of emergency equipment and exits.

Cabin crew at duty stations

97. (1) During taxi of an aircraft, a cabin crew member shall remain at his or her duty station with a safety belt and shoulder harness fastened except to perform duties related to the safety of the aircraft and its occupants.

(2) During taxi of an aircraft, 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 exit of passengers in event of an emergency evacuation.

(3) When passengers are on board a parked aircraft, cabin Crew members or other person qualified in emergency evacuation procedures for the aircraft shall be placed in the following manner —

(*a*) if only one cabin crew member is required, that cabin crew member shall be located in accordance with the air operator certificate holder's operations manual procedures; or

(*b*) if more than one cabin crew member is required, those crew members shall be spaced throughout the cabin to provide the most effective assistance for the evacuation in case of an emergency.

Evacuation capability

98. A pilot-in-command or 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 the exit of passengers through normal or emergency means.

Arming of automatic emergency exits

99. A person shall not cause an aircraft carrying passengers to be moved on the surface, to take-off or to land unless each automatically deployable emergency evacuation assisting means, installed on the aircraft, is ready for evacuation.

Accessibility of emergency exits and equipment

100. A person shall not 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.

Stops where passengers remain on board

101. (1) At stops where passengers remain on board the aircraft, the pilot-in-command shall ensure that —

(*a*) all engines are shut down;

(*b* at least one floor level exit remains open to provide for the evacuation of passengers if necessary; and

(*c*) 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.

(2) When refueling with passengers on board, the pilot-in- command or an operator's representative shall ensure that the aircraft manual procedures are followed.

Carriage of persons with reduced mobility and passenger loading

102. (1) A cabin crew member shall not allow a person of reduced mobility to occupy seats in an aircraft where such person's presence may —

(*a*) impede the crew in their duties;

(*b*) obstruct access to emergency equipment; or

(*c*) impede the emergency evacuation of the aircraft.

(2) A cabin crew member shall not load or unload passengers of a propeller driven aircraft unless all engines are shut down except where the aircraft is using a passenger jet-way to load or unload passengers.

Exit row seating

103. (1) A pilot-in-command shall ensure that no passenger sits in an emergency exit row, if the pilot-in-command 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.

(2) A pilot-in-command shall ensure that a passenger is not seated in a passenger exit seat if it is likely that the passenger —

(*a*) lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs and will be unable to —

(i) reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms,

(ii) grasp and push, pull, turn, or otherwise manipulate those mechanisms,

(iii) push, shove, pull, or otherwise open emergency exits,

(iv) lift out, hold, deposit on nearby seats, or manoeuvre over the seatbacks to the next row objects the size and weight of over-wing window exit doors,

(v) remove obstructions of size and weight similar over-wing exit doors,

(vi) reach the emergency exit expeditiously,

(vii) maintain balance while removing obstructions,

(viii) exit expeditiously,

(ix) stabilise an escape slide after deployment, or

(x) assist others in getting off an escape slide;

(*b*) is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in this regulation without assistance;

(*c*) lacks the ability to read and understand instructions required by this regulation and related to emergency evacuation provided by the air operator certificate holder in printed or graphic form or the ability to understand oral crew commands;

(*d*) lacks sufficient visual capacity to perform one or more of the functions specified in paragraphs (*a*) to (*c*) without the assistance of visual aids beyond contact lenses or eyeglasses;

(*e*) lacks sufficient aural capacity to hear and understand instructions given by cabin crew members, without assistance beyond a hearing aid;

(*f*) lacks the ability to adequately impart information orally to other passengers; or

(*g*) has a condition or responsibilities, such as travelling with 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.

(3) A cabin crew member shall determine the suitability of each passenger permitted to occupy an exit seat.

(4) Where a cabin crew member determines that a passenger assigned to an exit seat would be unable to perform the emergency exit functions, or if a passenger requests a non-exit seat, the cabin crew member shall expeditiously relocate the passenger to a non-exit seat.

(5) 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.

(6) An operator shall ensure that a ticket agent, prior to boarding, assigns seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible.

(7) An operator shall ensure that a ticket agent shall make available for inspection by the public at all passenger loading gates and ticket counters at each aerodrome where it conducts passenger operations, written procedures established for making determinations with regard to exit row seating.

(8) A cabin crew member shall include in his or her passenger briefings, a request that a passenger identify himself or herself to allow reseating if the passenger —

(*a*) meets the selection criteria;

(*b*) has a non-discernible condition that shall prevent the passenger from performing the evacuation functions;

(*c*) may suffer bodily harm as the result of performing one or more of those functions; or

(*d*) does not wish to perform emergency exit functions.

(9) A cabin crew member shall include, in the passenger briefings, a reference to the passenger information cards and the functions to be performed in an emergency.

(10) A passenger shall comply with instructions given by a member of the crew or other authorised employee of the aircraft operator implementing exit seating restrictions.

(11) A pilot-in-command shall not allow a taxi or pushback of an aircraft unless at least one member of the crew has verified that all exit rows and escape paths are unobstructed, and that no exit seat is occupied by a passenger who is unable to perform the applicable evacuation functions.

(12) In order to comply with this regulation an operator shall —

(*a*) establish procedures that address the requirements of this regulation; and

(*b*) submit their procedures for preliminary review and approval to the Authority.

(13) The procedures required by this regulation shall not become effective until final approval is granted by the Authority, and approval shall be based solely upon the safety aspects of the operator's procedures.

Prohibition against carriage of weapons

104. (1) A person shall not, while on board an aircraft providing air transport service, carry a deadly or dangerous weapon, either concealed or unconcealed.

(2) Notwithstanding the provisions of subregulation (2), an aircraft operator certificate holder may permit a person to transport a weapon in accordance with the aircraft operator certificate holders approved security programme, if —

(*a*) the weapon is unloaded; and

(*b*) the weapon and ammunition are securely stowed in a place inaccessible to any person during the flight.

(3) A person authorised to carry a weapon on board an aircraft in domestic flights, shall do so in accordance with the air operator certificate or approved security programme.

(4) A person intending to carry a weapon in an international flight shall, do so if there is an agreement between States in which the operation will be conducted or over flown.

Oxygen for medical use by passengers

105. (1) An operator shall allow a passenger to carry and operate equipment for the storage, generation or dispensing of medical oxygen only as prescribed by the Authority.

(2) A passenger shall not smoke, and a cabin crew member shall not allow any person to smoke within 10 feet of oxygen storage and dispensing equipment carried for the medical use of a passenger.

(3) A cabin crew member shall not allow any person to connect or disconnect oxygen dispensing equipment to or from an oxygen cylinder while another passenger is aboard the aircraft.

Carry-on baggage

106. (1) A cabin crew member shall not allow —

(*a*) the boarding of carry-on baggage unless it may be adequately and securely stowed in accordance with the aircrafts operations manual procedure;

(*b*) aircraft passenger entry doors to be closed in preparation for taxiing or pushback unless at least one required crew member has verified that each article of baggage is properly stowed in overhead racks with approved restraining devices or doors, or in approved locations aft of the bulkhead; and

(*c*) carry-on baggage to be stowed in a location that would cause that location to be loaded beyond its maximum placard weight limitation.

(2) The stowage locations referred to under subregulation (1) (*c*) 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-certificated.

Carriage of cargo in passenger compartments

107. (1) A cabin crew member shall not allow the carriage of cargo in the passenger compartment of an aircraft except as prescribed by the Authority.

(2) A cabin crew member may allow cargo to be carried anywhere in the passenger compartment, if it is carried in an approved cargo bin that meets the following requirements —

(*a*) the bin shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;

(*b*) the maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin shall be conspicuously marked on the bin;

(*c*) the bin may not impose any load on the floor or other structure of the aircraft that exceeds the load limitations of that structure;

(*d*) the bin shall be attached to the seat tracks or to the floor structure of the aircraft, and its attachment shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aircraft in which the bin is installed, multiplied by either the factor of 1.15 or the seat attachment factor specified for the aircraft, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;

(*e*) the bin shall 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;

(*f*) the bin shall be fully enclosed and made of material that is at least flame resistant;

(*g*) suitable safeguards shall be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and

(*h*) the bin shall 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.

(3) A cabin crew member may allow cargo, including a carry-on baggage, to 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 —

(*a*) for cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions;

(*b*) for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;

(*c*) it is packaged or covered to avoid possible injury to occupants;

(*d*) it does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;

(*e*) 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;

(*f*) it is not carried directly above seated occupants;

(*g*) it is stowed in compliance with these restrictions during take-off and landing; and

(*h*) for cargo-only operations, 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 aircraft if an emergency occurs.

Passenger information signs

108. A pilot-in-command 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.

Required passenger briefings

109. (1) A pilot-in-command shall not commence a take-off of an aircraft unless the passengers are briefed prior to take-off in accordance with the air operator certificate holder's operations manual procedures on —

(*a*) smoking limitations and prohibitions;
(*b*) emergency exit location and use;
(*c*) use of safety belts;
(*d*) emergency floatation means, location and use;
(*e*) location and the general manner of use of the principal emergency equipment for collective use;
(*f*) fire extinguisher location and operation;
(*g*) placement of seat backs;
(*h*) emergency use of oxygen; and
(*i*) the passenger briefing card.

(2) Immediately before or after turning the seat belt sign off, a pilot-in-command shall ensure that the passengers in an aircraft are briefed to keep their seat belts fastened while seated, even when the seat belt sign is off.

(3) Before take-off of an aircraft, a pilot-in-command shall ensure that persons of reduced mobility are personally briefed on the —

(*a*) route to the most appropriate exit; and
(*b*) time to begin moving to the exit in event of an emergency.

(4) A pilot-in-command of an aircraft providing air transport service shall ensure that the briefing specified in this regulation contains all the objects approved for the specific operations conducted as included in the relevant operations manual.

(5) A pilot-in-command 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 on board an aircraft shall be secured in their seats by means of seat belts or harnesses provided.

Passenger seat belts

110. (1) A passenger occupying a seat or berth shall fasten his or her safety belt and keep it fastened while the sign is lighted or, in an aircraft not equipped with such a sign, whenever instructed by a pilot-in-command.

(2) A cabin crew member shall not allow a passenger safety belt to be used by more than one occupant during take-off and landing.

(3) At each unoccupied seat, the cabin crew member shall ensure that the passenger safety belt and shoulder harness, if installed, are secured so as not to interfere with the crew in the performance of their duties or with the rapid exit of the passengers in an emergency.

(4) A cabin crew member shall ensure that a person, who is under two years of age is held by an adult who is occupying a seat or berth.

(5) A cabin crew member may allow a berth, such as a multiple lounge or divan seat, to b e occupied by two persons provided it is equipped with an approved safety belt for each person and is used during en route flight only.

Passenger seat backs

111. (1) A pilot-in-command shall not allow the take-off or landing of an aircraft unless each passenger seat back is in the upright position.

(2) A pilot-in-command may deviate from this requirement only in accordance with the 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.

Stowage of food, beverage and passenger service

112. A pilot-in-command shall not allow the movement of an aircraft on the surface, take-off or landing —

(*a*) when any food, beverage or tableware furnished by the air operator certificate holder is located at any passenger seat; and

(*b*) unless each food and beverage tray and seat back tray table is in the stowed position.

Securing of items of mass in passenger compartment

113. A pilot-in-command shall not allow —

(*a*) 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; or

(*b*) an aircraft to move on the surface, take-off or land unless each passenger serving cart is secured in its stowed position.

C — *Crew and flight operations officer qualifications - commercial air transport*

Age restriction

114. An operator shall not employ a pilot who has attained the age of 65 years to operate an aircraft used to provide air transport service.

Licence requirements for pilot-in-command

115. (1) A pilot shall not act as pilot-in-command of an aircraft certified for operation with more than one pilot in commercial air transport services, unless he or she holds —

(*a*) an airline transport pilot licence with appropriate category class;

(*b*) a type rating for that aircraft; and

(*c*) a valid instrument rating, if instrument privileges are to be exercised.

(2) A pilot shall not act as a pilot in command of an aircraft certified for operation for one pilot in commercial air transport service, unless he or she holds —

(*a*) a commercial pilot licence or an airline transport pilot licence with appropriate category class;

(*b*) a type rating for that aircraft; and

(*c*) a valid instrument rating, if instrument privileges are to be exercised.

Licence requirements for co-pilot

116. A pilot shall not act as co-pilot of an aircraft used in air transport service unless that pilot holds —

(*a*) a commercial pilot licence with appropriate category class and type ratings for the aircraft operated; and

(*b*) a valid instrument rating, if instrument privileges are to be exercised.

Persons qualified in flight release

117. A person shall not act as a flight operations officer in releasing a scheduled passenger-carrying aircraft unless that person holds a flight operations officer licence or an airline transport pilot licence, and is currently qualified by the operator for the operation and type of aircraft used.

Company procedures indoctrination

118. (1) A person shall not serve as a flight crew member or fight operations officer unless that person has completed training on the company procedures indoctrination course approved by the Authority, which shall include a complete review of operations manual procedures pertinent to the flight crew member or flight operation officer's duties.

(2) An operator shall ensure that all operations personnel undergo company's indoctrination training that covers the following areas —

(*a*) the operator's organisation, scope of operation, and administrative practices as applicable to crew member assignments and duties;
(*b*) the appropriate provisions of any Civil Aviation Regulations and other applicable regulations and guidance materials;
(*c*) the operator's policies and procedures;
(*d*) crew member and operators duties and responsibilities;
(*e*) the appropriate portions of the operator's operations manual;
(*f*) operators testing programme for alcohol and narcotic psychoactive substances; and
(*g*) contents of the operator's certificate holders and operations specifications.

(3) An operator shall provide a minimum of 40 programmed hours of instruction for basic indoctrination training unless a reduction of the hours of instruction is approved by the Authority.

Initial dangerous goods training

119. (1) An operator or owner of an aircraft shall establish and maintain approved staff training programmes as required by the technical instructions.

(2) An operator or owner of an aircraft not holding a permanent approval to carry dangerous goods shall ensure that -

(*a*) staff who are engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and what requests apply to the carriage of such goods by passengers; and
(*b*) crew members, ground staff, and security staff used by an air operator certificate holder to deal with the screening of passengers and their baggage, have received training to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.

Security training programmes

120. (1) An operator shall establish and maintain an approved security training programme which ensures crew members act in the most appropriate manner to minimise the consequences of acts of unlawful interference which programme shall, as a minimum, include the following elements —

(*a*) determination of the seriousness of any occurrence;
(*b*) crew communication and coordination;
(*c*) appropriate self-defence responses;
(*d*) use of non-lethal protective devices assigned to crew members whose use is authorised by the state of the operator;
(*e*) understanding of behavior of terrorists so as to facilitate the ability of crew members to cope with hijacker behavior and passenger responses;
(*f*) live situational training exercises regarding various threat conditions;
(*g*) cockpit procedures to protect the aircraft; and
(*h*) aircraft search procedures and guidance on least-risk bomb locations, where practicable.

(2) An operator shall establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aircraft so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

Initial crew resource management training

121. (1) A person shall not serve as a crew member or flight operations officer unless that person has completed the initial crew resource management curriculum approved by the Authority.

(2) An operator shall ensure that all crew members have crew resource management training as part of their initial and recurrent training requirements.

(3) A crew resource management training program shall include —

(*a*) an initial indoctrination or awareness segment;

(*b*) a method to provide recurrent practice and feedback; and

(*c*) a method of providing continuing reinforcement.

(4) Curriculum topics to be contained in an initial crew resource management training course shall include —

(*a*) communications processes and decision behaviour;

(*b*) internal and external influences on interpersonal communications;

(*c*) barriers to communication;

(*d*) listening skills;

(*e*) decision making skills;

(*f*) effective briefings;

(*g*) developing open communications;

(*h*) inquiry, advocacy, and assertion training;

(*i*) crew self-critique;

(*j*) conflict resolution;

(*k*) team building and maintenance;

(*l*) leadership and fellowship training;

(*m*) interpersonal relationships;

(*n*) workload management;

(*o*) situational awareness;

(*p*) how to prepare, plan and monitor task completions;

(*q*) workload distribution;

(*r*) distraction avoidance;

(*s*) individual factors; and

(*t*) stress reduction.

Initial emergency equipment drills

122. (1) A person shall not serve as a crew member unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crew member position approved by the Authority for the emergency equipment available on the aircraft to be operated.

(2) A crew member shall accomplish emergency training during the specified training periods, using the items of installed emergency equipment for each type of aircraft in which that the member is to serve.

(3) During initial training, a crew member shall perform the following one-time emergency drills —

(*a*) protective breathing equipment or fire-fighting drill; and

(*b*) emergency evacuation drill.

(4) In an emergency evacuation drill, a crew member may either observe the aircraft exits being opened in the emergency mode and the associated exit slider or aft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions.

(5) A crew member shall accomplish additional emergency drills during initial and recurrent training, including performing the following emergency drills —

(*a*) emergency exit drill;

(*b*) hand fire fighting extinguisher drill an actual or a simulated fire is not necessary during this drill;

(*c*) emergency oxygen system drill;

(*d*) flotation device drill; and

(*e*) ditching drill, if applicable, during which ditching drill trainees shall perform the "prior to impact" and "after impact" procedures for a ditching, as appropriate to the specific operator's type of operation.

(6) A crew member shall accomplish additional emergency drill requirements during initial and recurrent training including observing the following emergency drills —

(*a*) life raft removal and inflation drill, if applicable;

(*b*) slide raft transfer drill;

(*c*) slide and slide raft deployment, inflation, and detachment drill; and

(*d*) emergency evacuation slide drill.

Initial aircraft ground and flight training

123. (1) A person shall not serve as a flight crew member unless that person has completed the initial ground training approved by the Authority for the aircraft type.

(2) Initial aircraft ground training for a flight crew member shall include the pertinent portions of the operations manuals relating to aircraft-specific performance, mass and balance, operational policies, systems, limitations, normal, abnormal and emergency procedures on the aircraft type to be used.

(3) An operator shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown.

(4) Instructions shall include, at least, the following general subjects —

(*a*) the operator's dispatch, flight release, or operational control or flight following procedures;

(*b*) principles and methods for determining mass and balance, and runway limitations for take-off;

(*c*) adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions;

(*d*) normal and emergency communications procedures and navigation equipment including the operator's communications procedures and air traffic control clearance requirements;

(*f*) navigation procedures used in area departure, en route, area arrival, approach and landing phases;

(*g*) approved crew resource management training;

(*h*) air traffic control systems, procedures, and phraseology; and

(*i*) aircraft performance characteristics during all flight regimes.

(5) An operator shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown.

(6) An operator shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft systems integration items —

(*a*) use of checklist;

(*b*) flight planning;

(*c*) navigation systems;

(*d*) autoflight- autopilot, autothrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators; and

(*e*) cockpit familiarisation.

(7) An operator may have separate initial aircraft ground training curricula of varying lengths and subject emphasis which recognise the experience levels of flight crew members approved by the Authority.

(8) A person shall not serve as a flight crewmember unless that person has completed the initial flight training approved by the Authority for the aircraft type.

(9) Initial flight training shall focus on the maneuvering and safe operation of the aircraft in accordance with air operator certificate holder's normal, abnormal and emergency procedures.

(10) An operator may have separate initial flight training curricula, which recognise the experience levels of flight crewmembers approved by the Authority.

Initial specialised operations training

124. (1) A person shall not serve as a flight crew member unless that person has completed the appropriate initial specialised operations training curriculum approved by the Authority.

(2) Specialised operations for which initial training curricula shall be developed include —

(*a*) a low minima operations, including low visibility take-offs and Category II and III operations;

(*b*) an extended range operations;

(*c*) a specialised navigation;

(*d*) a pilot-in-command right seat qualification;

(*e*) reduced visual seaparation minima; and

(*f*) required navigation performance.

(3) An operator shall provide initial specialised operations training to ensure that each pilot and flight operations officer is qualified in the type of operation in which that person serves and in any specialised or new equipment, procedures, and techniques, such as —

(*a*) Class II navigation including —

(i) knowledge of specialised navigation procedures, such as required navigation performance, minimum navigation performance specifications and reduced vertical separation minimum, and

(ii) knowledge of specialised equipment, such as INS, Loran, and Omega;

(*b*) Category II and Category III operations approaches including —

(i) special equipment, procedures and practice, and

(ii) a demonstration of competency;

(*c*) ower than standard minimum take-offs, including —
(i) runway and lighting requirements,
(ii) rejected take-offs at or near V1 with a failure of the most critical engine,
(iii) taxi operations, and
(iv) procedures to prevent runway incursions under low visibility conditions;
(*d*) extended range operations with two turbine engine aeroplanes;
(*e*) airborne radar approaches; and
(*f*) autopilot instead of co-pilot.

Aircraft and instrument proficiency checks

125. (1) A person shall not serve as a flight crew member unless, within the preceding sixth calendar month before that service, that person has passed the proficiency check prescribed by the Authority in the make and model of aircraft on which their services are required.

(2) A person shall not serve as a pilot in instrument flight rules operations unless, within the preceding sixth calendar month before that service, the person has passed the instrument competency check prescribed by the Authority.

(3) A person may complete the requirements of subregulations (1) and (2) simultaneously.

(4) The completion of an approved operator training programme for the particular aircraft type and the satisfactory completion of a pilot- in- command proficiency check, shall satisfy the requirement for an aircraft type rating practical test:

Provided that the proficiency check —
(i) includes all manoeuvres and procedures required for a type rating practical test; and
(ii) is conducted by an examiner approved by the Authority.

Competency checks flight operations officer

126. (1) A person shall not serve as a flight operations officer unless, within the preceding 12 months before that service, that person has passed a competency check, approved by the Authority, performing the flight preparation and subsequent duties appropriate to that person's assignment.

(2) Evaluators of the flight operations officer referred to under subregulation (1) shall conduct competency checks for flight operations officers to demonstrate that the candidate's proficiency level is sufficient to ensure the successful outcome of all dispatch operations.

(3) A person authorised by the Authority shall observe and evaluate competency checks for flight operations officers which
shall include —
(*a*) an evaluation of all aspects of the dispatch function;
(*b*) a demonstration of the knowledge and abilities in normal and abnormal situations; and
(*c*) an observation of actual flights being dispatched.

(4) An evaluator of newly hired flight operations officer shall include during initial competency checks, an evaluation of all of geographic areas and types of aircraft the flight operations officer shall be qualified to dispatch.

(5) Evaluators may limit initial equipment and transition competency checks solely to the dispatch of the types of aircraft on which the flight operations officer is qualifying, unless the check is to simultaneously count as a recurrent check.

(6) An evaluator of flight operations officers shall include, during recurrent and requalification competency checks, a representative sample of aircraft and routes for which the flight operations officers maintains current qualification.

(7) A flight operations officer shall not qualify in extended range operations by turbine-engined aircrafts or other special operations authorised by the Authority unless that flight operations officer submits special operations competency checks to the Authority.

Supervised line flying pilots

127. (1) A pilot initially qualifying as pilot-in-command shall complete a minimum of 10 flights performing the duties of a pilot-in-command under the supervision of a check pilot.

(2) A pilot-in-command transitioning to a new aircraft type shall complete a minimum of five flights performing the duties of a pilot-in-command under the supervision of a check pilot.

(3) A pilot qualifying for duties other than pilot-in-command shall complete a minimum of five flights performing those duties under the supervision of a check pilot.

(4) During the time that a qualifying pilot-in-command is acquiring operating experience, an authorised instructor who is also serving as the pilot-in-command shall occupy a co-pilot station.

(5) In the case of a transitioning pilot-in-command, the check pilot serving as pilot-in-command may occupy the observer's seat if the transitioning pilot has made at least two take-offs and landings in the type aircraft used, and has satisfactorily demonstrated to the authorised instructor that he or she is qualified to perform the duties of a pilot-in-command for that type of aircraft.

Supervised-line experience: cabin crew

128. A person training as a cabin crew member shall —

(*a*) perform the functions of a cabin crew member for a minimum of two flights under the supervision of a cabin crew instructor; and

(*b*) not serve as a required crew member.

Line observations - flight operations officer

129. A person shall not serve as a flight operations officer unless within the preceding 12 months of that service, that person has observed, in the cockpit, the conduct of two complete flights over routes representative of those for which that person is assigned duties.

Route and area checks - pilot qualification

130. (1) A person shall not serve as a pilot unless, within the preceding 12 months, that person has passed a route check in which the person satisfactorily performed his or her assigned duties in one of the types of aircraft he or she is to fly.

(2) A person shall not perform pilot-in-command duties over a designated special operational area that requires a special navigation system or procedures or in extended range operations by turbine-engined aircraft operations unless his or her competency with the system and procedures has been demonstrated to the air operator certificate holder within the preceding 12 months.

(3) A pilot-in-command of an aircraft shall demonstrate special operational competency by navigation over the route or area as pilot-in-command under the supervision of a check pilot on an annual basis by demonstrating a knowledge of —

(*a*) the terrain and minimum safe altitudes;

(*b*) the seasonal meteorological conditions;

(*c*) the search and rescue procedures;

(*d*) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

(*e*) the procedures applicable to flight paths over heavily populated areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

Pilot-in-command low minimus authorisation

131. Where a pilot-in-command has not completed —

(*a*) 15 flights performing pilot-in-command duties in an aircraft type, including five approaches to landing using Category I or II operations procedures, the pilot-in-command shall not plan for or initiate an instrument approach when the ceiling is less than three feet and the visibility is less than 2 000 metres; and

(*b*) 20 flights performing pilot-in-command duties in an aircraft including five approaches and landing using category III operations procedures, the pilot-in-command shall not plan for or initiate an approach when the ceiling is less than 100 feet or the visibility is less than 400 metres runway visual range.

Designated special aerodromes and heliports-pilot-in-command qualification

132. (1) The Authority may determine that certain aerodromes, due to items such as surrounding terrain obstructions, or complex approach or departure procedures, are special airport qualifications aerodromes and that certain areas or routes, or both require a special type of navigation qualification.

(2) A person shall not serve as pilot-in-command for operations at special airport qualifications aerodromes unless within the preceding 12 months the pilot-in-command —

(*a*) has been qualified by the operator through a pictorial means acceptable to the Authority for that aerodrome or heliport; or

(*b*) the assigned co-pilot has made a take-off and landing at that aerodrome or heliport while serving as a flight crew member for the operator.

(3) Designated special airport qualifications aerodrome limitations are not applicable if the operation occurs —

(*a*) during daylight hours;

(*b*) when the visibility is at least five kilometers; and

(*c*) when the ceiling at that aerodrome is at least 1 000 feet above the lowest initial approach altitude prescribed for an instrument approach procedure.

Recurrent training - flight crew members

133. (1) A person may not serve nor may any air operator certificate holder use a person as a flight crew member unless within the preceding 12 months that person has completed the recurrent ground and flight training curricula approved by the Authority.

(2) The recurrent ground training shall include training on —

(*a*) aircraft systems and limitations and normal, abnormal and emergency procedures;

(*b*) emergency equipment and drills;

(*c*) crew resource management;

(*d*) transportation of dangerous goods; and

(*e*) security training.

(3) The recurrent training curriculum shall include —

(*a*) maneuvering and safe operation of the aircraft in accordance with the air operator certificate holder's normal, abnormal and emergency procedures;

(*b*) maneuvers and procedures necessary for avoidance of in-flight hazards, and

(*c*) for authorised pilots, at least one low visibility takeoff to the lowest applicable minimum LVTO and two approaches to the lowest approved minimums for the air operator certificate holder, one of which is to be a missed approach.

(4) Satisfactory completion of a proficiency check with the air operator certificate holder for the type aircraft and operation to be conducted may be used in lieu of recurrent flight training.

(5) An operator shall ensure that each flight crew member undergoes a line check on the aircraft to demonstrate his or her competence in carrying out normal line operations described in the operations manual.

(6) The period of validity of a line check referred to under subregulation (5) shall be —

(*a*) 12 months, in addition to the remainder of the month of issue; or

(*b*) if issued within the final three months of validity of a previous line check, extended from the date of issue to 12 months from the expiry date of that previous check.

(7) An operator shall ensure that each flight crew member undergoes training and checking on the location and use of emergency and safety equipment carried.

(8) The period of validity of an emergency and safety equipment check referred to under subregulation (7) shall be —

(*a*) 12 months in addition to the remainder of the month of issue; or

(*b*) if issued within the final three months of validity of a previous emergency and safety check, extended from the date of issue to 12 months from the expiry date of the previous emergency and safety equipment check.

(9) An operator shall ensure that —

(*a*) elements of crew resource management are integrated into all appropriate phases of the recurrent training; and

(*b*) a flight crew member undergoes pecific modular crew resource management training and all major topics of crew resource management training shall be covered over a period not exceeding three years.

(10) An operator shall ensure that each flight crew member undergoes ground and refresher training at least once every 12 months, if the training is conducted within three months prior to the expiry of the 12 months period, the next ground and refresher training must be completed within 12 months of the original expiry date of the previous ground and refresher training.

(11) An operator shall ensure that each flight crew member undergoes aircraft training or flight simulation training device training at least once every six months, and if the training is conducted within three months prior to the expiry of the 12 months period, the next aircraft or flight simulation training device training must be completed within six months of the original expiry date of the previous aircraft or flight simulation training device training.

Recurrent training for cabin crew members

134. (1) An operator shall ensure that a cabin crew member undergoes recurrent training, covering the actions assigned to each cabin crew member in normal and emergency procedures and drills relevant to the type or variant of aircraft on which they operate as specified in this regulation.

(2) An operator shall ensure that the recurrent training and checking programme approved by the Authority includes theoretical and practical instruction, together with individual practice as provided in this regulation.

(3) The period of validity of recurrent training and the associated checking required by this regulation shall be 12 months in addition to the remainder of three month of issue.

(4) If issued within the final three calendar months of validity of a previous check, the period of validity referred to in subregulation (3), shall extend from the date of issue to 12 months from the expiry date of that previous check.

(5) An operator shall ensure that recurrent training required under this regulation is conducted by suitably qualified persons.

(6) An operator shall ensure that every 12 months, the programme of practical training includes the following —

(*a*) emergency procedures, including pilot incapacitation;
(*b*) evacuation procedures, including crowd control techniques;
(*c*) touch-drills by each cabin crew member for opening normal and emergency exists for passenger evacuation;
(*d*) the location and handling of emergency equipment, including oxygen systems, and the donning by each cabin crew member of lifejackets, portable oxygen and protective breathing equipment;
(*e*) first aid and the contents of the first aid kit;
(*f*) stowage of articles in the cabin;
(*g*) security procedures;
(*h*) incident and accident review; and
(*i*) crew resource management.

(7) An operator shall ensure that, at intervals not exceeding three years, recurrent training for cabin crew members also includes —

(*a*) the operation and actual opening of all normal and emergency exits for passenger evacuation in an aircraft or representative training device;
(*b*) a demonstration of the operation of all other exits including cockpit windows;
(*c*) the training of cabin crew member undergoing realistic and practical training in the use of all fire-fighting equipment, including protective clothing, representative of that carried in the aircraft and shall include —
  (i) each cabin crew member extinguishing a fire characteristic of an aircraft interior fire except that, in the case of holon extinguishers, an alternative extinguishing agent may be used, and
  (ii) the donning and use of protective breathing equipment by each cabin crew member in an enclosed, simulated smoke-filled environment;
(*d*) the use of pyrotechnics, actual or representative devices; and
(*e*) a demonstration of the use of the life-raft, or slide-raft, where fitted.

(8) An operator shall ensure that all appropriate requirements in these Regulations are included in the training of cabin crew members.

Recurrent training for flight operations officers

135. (1) A person shall not serve as a flight operations officer unless within the preceding 12 months that person has completed the recurrent ground curricula approved by the Authority.

(2) An operator shall establish and maintain a recurrent training programme, approved by the Authority and established in the operator's operations manual, to be completed annually by each flight operations officer.

(3) A flight operations officer shall undergo recurrent training relevant to the type or variant of aircraft and operations conducted by the operator.

(4) An operator shall conduct all recurrent training, of flight operations officers by suitably qualified personnel.

(5) An operator shall ensure that, every 12 months, each flight operations officer receives recurrent training in at least the following —

(*a*) aircraft-specific flight preparation;

(*b*) emergency assistance to flight crews;

(*c*) crew resource management; and

(*d*) recognition and transportation of dangerous goods.

(6) An operator may administer each of the recurrent ground and flight training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

Flight instructor qualifications and flight instructor training

136. A person shall not serve as an instructor in an established training programme unless, with respect to the aircraft type involved, such person —

(*a*) holds the licences and ratings required to serve as a pilot-in-command or a flight engineer, as applicable;

(*b*) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a pilot-in-command or a flight engineer, as applicable;

(*c*) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a pilot-in-command or a flight engineer, as applicable;

(*d*) has satisfactorily completed the applicable initial or transitional training requirements and the Authority observed in flight competency check; and

(*e*) holds a Class 1 medical assessment.

Check pilot qualifications

137. An operator shall not use a person as a check pilot or an flight engineer authorised by the air operator certificate holder and accepted by the Authority in an established training programme nor shall any person serve as such, unless with respect to the aircraft type involved, such person —

(*a*) holds the pilot licences and ratings required to serve as a pilot-in-command or a flight engineer as applicable;

(*b*) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a pilot-in-command or a flight engineer as applicable;

(*c*) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a pilot-in-command or a flight engineer as applicable;

(*d*) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check;

(*e*) holds a Class I or II medical certificate as may be applicable; and

(*f*) has been approved by the Authority for the check pilot or authorised flight engineer duties involved as applicable.

Check pilot designation

138. A person shall not serve as a check pilot for any light check unless such person has been designated by name for specified function by the Authority within the preceding 12 months.

Check pilot training

139. (1) A person shall not serve as a check pilot in an aircraft or a flight simulation training device in a training programme unless, with respect to the aircraft type involved, that person has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as pilot-in-command.

(2) An operator shall ensure that initial ground training for check pilots includes —

(*a*) check pilot duties, functions, and responsibilities;

(*b*) applicable regulations and the air operator certificate holder's policies and procedures;

(*c*) appropriate methods, procedures, and techniques for conducting the required checks;

(*d*) proper evaluation of student performance including the detection of –

(i) improper and insufficient training, and

(ii) personal characteristics of an applicant that could adversely affect safety;

(*e*) appropriate corrective action in the case of unsatisfactory checks; and

(*f*) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft.

(3) A transition ground training for a check pilot shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the check pilot is in transition.

(4) An operator shall ensure that the initial and transition flight training for check pilots in an aircraft includes —

(*a*) training and practice in conducting flight evaluations, from the left and right pilot seats for pilot check pilots in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight checks;

(*b*) the potential results of improper, untimely, or non-execution of safety measures during an evaluation; and

(*c*) the safety measures, to be taken from either pilot seat for pilot check pilots, for emergency situations that are likely to develop during an evaluation.

(5) An operator shall ensure that the initial and transition flight training for check pilots in a flight simulation training device includes —

(*a*) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by this regulation; and

(*b*) training in the operation of synthetic flight trainers to ensure competence to conduct the evaluations required by this regulation.

(6) An operator shall accomplish flight training for check pilot in full or in part in an aircraft, in flight in a flight simulation training device, as appropriate.

Monitoring of training and checking activities

140. (1) To enable adequate supervision of its training and checking activities, an air operator certificate holder shall forward to the Authority at least five working days prior to the scheduled activity, the dates, location, reporting times and report of all —

(*a*) training for which a curriculum is approved in the air operator certificate holder's training programme; and

(*b*) proficiency, competence and line checks.

(2) Failure to provide the information required under subregulation (1) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.

Termination of a proficiency, competence or line check

141. An operator shall not use a crew member or flight operations officer whose check is terminated in air transport services, until the completion of a satisfactory recheck of that crew member or flight operations officer has been carried out.

Recording of crew member qualifications

142. (1) The operator shall record and maintain for each crew member and flight operations officer, a record of each test and check as required by these Regulations.

(2) A pilot may complete the curricula required by these Regulations concurrently or intermixed with other required curricula, but completion of each of these curricula shall be recorded separately.

Eligibility period

143. (1) A crew member who is required to take a proficiency check, a test or competency check, or recurrent training to
maintain qualification for air transport services shall complete those requirements at any time during the eligibility period.

(2) In these Regulations "eligibility period" means the three month period including the month prior, the month due, and the month after any due date specified by these Regulations.

(3) Completion of the requirement at any time during the period shall be considered as completed in the month due for calculation of the next due date.

PART IX — *Flight Rules*

A – *Visual flight rules*

Operation of aircraft on ground

144. (1) A person shall not taxi an aircraft on a controlled aerodrome unless the person —

(*a*) is authorised by the owner, the lessee or a designated agent;

(*b*) is fully competent to taxi the aircraft;

(*c*) is qualified to use the radio, if radio communication is required;

(*d*) has received instruction from a competent person in respect of —

(i) aerodrome layout, and

(ii) routes, signs, markings, lights and signals; and

(*e*) is able to conform to the operational standards required for safe aircraft movement at the aerodrome.

(2) A person shall not cause a helicopter rotor to be turned under power, unless there is a qualified pilot at the controls.

Take-off conditions

145. A pilot-in-command of an aircraft shall before take-off ensure that —

(*a*) the weather at the aerodrome and the condition of the runway intended for use is safe for take-off and departure; and

(*b*) the visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum.

Flight into known or expected icing

146. (1) A person shall not take-off an aircraft for commercial air services or continue to operate an aircraft en route when icing conditions are expected or encountered, without ensuring that the aircraft is certified for icing operations and has sufficient operational d-icing or anti-icing equipment.

(2) A person shall not take-off an aircraft when frost, ice or snow is expected which may affect the performance of the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft.

Altimeter settings

147. A person operating an aircraft other than a ballon or glider shall maintain a cruising altitude or flight level of altimeter settings provided by the Authority.

Minimum safe altitudes-General

148. (1) A person shall not operate an aircraft below the following altitudes —

(*a*) an altitude allowing continuation of a flight or emergency landing, without undue hazard to persons or property on surface if there is a power unit failure;

(*b*) over congested areas of —

(i) a city,

(ii) town,

(iii) a settlement, or

(iv) over an open air assembly of persons;

(*c*) over an altitude of 300 meters (1 000 feet) above the highest obstacle within a horizontal radius of 600 meters (2 000 feet) of the aircraft; or

(*d*) over congested areas of an altitude of 150 meters (500 feet) above the surface, except over open water or sparsely populated area where the aircraft may not operate closer to 150 meters (500 feet) to any person, vessel, vehicle or structure.

(2) A pilot-in-command of an aircraft shall comply with any routes or altitudes for the areas that are prescribed for aircrafts by the Authority.

Minimum safe visual flight rules altitudes

149. A person shall not operate an aircraft below the following altitudes, except when take-off or landing is necessary —

(*a*) during the day under visual flight rules at an altitude less than 300 meters (1 000 feet) above the surface or within 300 meters (1 000 feet) of a mountain, or any obstruction to an aircraft; or

(*b*) at night under visual flight rules at an altitude less than 300 meters (1 000 feet) above the highest obstacle within a horizontal distance of eight kilometers from the centre of the intended course.

Instrument approach operating minima

150. (1) A person shall not operate to or from an aerodrome using operating minima lower than those which may be established for such aerodrome, unless approved by the Authority.

(2) A person shall not conduct instrument approach and landing operations below 800 meters visibility, unless the runway visual range information is provided.

Category II and Category III operations-General operations rules

151. (1) A person shall not operate an aircraft in Category II and Category III, unless —

(*a*) a pilot-in-command and co-pilot of the aircraft hold the appropriate authorisation and prescribed ratings;

(*b*) flight crew-members have adequate knowledge of, and are familiar with the aircraft and the procedures to be used; and

(*c*) the instrument panel of the aircraft has appropriate instrumentation for the type of flight control system that is being used.

(2) A pilot-in-command of an aircraft in Category II and Category III may unless authorised by the Authority, operate a ground component required for such operation, if the related equipment is installed and operating.

(3) A pilot-in-command of an aircraft in Category II and Category III that requires use of a decision height may, unless authorised by the Authority, continue the approach below the authorised decision height —

(*a*) if the aircraft is in a position from which a descent to a landing on the intended runway is made at a normal maneuvers and where such descent rate will allow touchdown to occur within the touchdown zone of the runway of the intended landing; or

(*b*) if one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot —

(i) the approach light system,
(ii) the threshold,
(iii) the threshold markings,
(iv) the threshold lights,
(v) the touchdown zone markings, and
(vi) the touchdown zone lights.

(4) A pilot-in-command of an aircraft shall unless authorised by the Authority, execute an appropriate missed approach before touchdown, if the conditions provided under subregulation (3) are not met.

Category II and Category III manual

152. (1) A person shall not operate an aircraft in Category II and Category III, unless —

(*a*) there is available in the aircraft, a current and approved Category II or Category III manual, appropriate for such aircraft;

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

(*c*) the instrument and equipment listed in the manual are required for a particular Category II or Category III operation is inspected and maintained in accordance with the maintenance programme contained in the manual.

(2) An operator shall keep a copy of the approved manual at its principal base of operation available for inspection upon request by the Authority.

(3) An aircraft operator certificate holder issued with a certificate for Category II and Category III operations as part of its operations manual shall be exempt from the provisions of subregulation (1) and (2).

Exemption from certain Category II operations

153. The Authority may grant an exemption for the operation of a Category II operation, if the operator may demonstrate to the Authority that the proposed operation will be safely conducted.

Diversion decision-engine inoperative

154. (1) A pilot-in-command of an aircraft may land an aircraft at the nearest suitable aerodrome at which a safe landing will be made whenever an engine of the aircraft fails or is shut down to prevent possible damage.

(2) A pilot-in-command of an aircraft may proceed to an aerodrome if he or she decides that proceeding to the aerodrome is safe after considering —

(*a*) the nature of malfunction and the possible mechanical difficulties that may occur if the flight is continued;

(*b*) the altitude, mass, and usable fuel at the time of engine stoppage;

(*c*) the weather conditions en route and possible landing points;

(*d*) the air traffic congestion;

(*e*) the kind of terrain; and

(*f*) familiarity with the aerodrome to be used.

Operating near other aircraft – including formation flights

155. (1) A person shall not operate an aircraft close to another aircraft in a manner likely to cause a collision.

(2) A person shall not operate an aircraft in formation flight, unless —

(*a*) by arrangement with the pilot-in-command of the aircraft in the formation; or

(*b*) the aircraft is in a controlled airspace, in accordance with conditions prescribed by the appropriate air traffic authority.

Use of aircraft lights

156. (1) A pilot-in-command of an aircraft shall switch the red rotating beacon lights or other lights installed on the aircraft, to show that the engine is running at all times.

(2) A person shall not operate an aircraft, unless —

(*a*) the aircraft is clearly illuminated;

(*b*) the anti-collision lights are on; or

(*c*) the aircraft is in an area marked by obstruction lights.

Simulated instrument flight

157. A person shall not operate an aircraft in simulated instrument flight, unless —

(*a*) the aircraft has fully functioning dual controls; and

(*b*) the aircraft is operated by a person with a private pilot licence with category and class ratings appropriate to such aircraft.

In-flight simulation of abnormal situations

158. A person shall not simulate an abnormal or emergency situation during a commercial air transport service.

Dropping, spraying, towing

159. Unless authorised by the Authority, a person shall not —

(*a*) tow an aircraft or other objects;

(*b*) allow parachute descents; or

(*c*) drop, dust or spray from an aircraft.

Aerobatic flight

160. (1) A person shall not operate an aircraft in an aerobatic flight —

(*a*) over a city, town, or settlement;

(*b*) over an open air assembly of people;

(*c*) within the lateral boundaries of the surface areas of Class B, C, D or E airspace designated for an aerodrome;

(*d*) below an altitude of (1 500) feet above the surface;

(*e*) when the flight visibility is less than three statute miles; and

(*f*) unless in compliance with conditions prescribed by the Authority.

(2) A person shall not operate an aircraft in maneuvers exceeding 60 degrees or pitch of 30 degrees from the level flight altitude, unless the occupants of the aircraft are wearing parachutes.

Flight test area

161. A person shall not fly-test an aircraft over open water or densely populated areas.

Operations in reduced vertical separation minima airspace

162. (1) A person shall not operate an aircraft in Botswana airspace designated as reduced vertical separation minima without approval of the Authority.

(2) A reduced vertical separation minima aircraft shall operate in compliance with the conditions of the procedure and restrictions required for the airspace.

Operations in the vicinity of controlled or uncontrolled aerodrome

163. (1) A pilot-in-command shall when approaching to land at an aerodrome —

(*a*) make all turns of the aircraft appropriate to the area of landing;

(*b*) avoid out-bound aircrafts; and

(*c*) comply with the traffic patterns of the aerodrome.

(2) A pilot-in-command of an aircraft operating in the vicinity of an aerodrome shall —

(*a*) observe other aerodrome traffic for purposes of avoiding collision; and

(*b*) avoid the pattern of traffic formed by other aircrafts in operation.

Aerodrome traffic pattern altitudes

164. (1) A pilot-in-command of a turbojet, turbofan or large aircraft shall when arriving at an aerodrome enter the traffic pattern at least 1 500 feet, until further descent is required.

(2) A pilot-in-command of a turbojet, turbofan or a large aircraft shall, when departing, climb 1 500 feet as rapidly as practicable.

Compliance with visual and electronic glide slopes

165. (1) A pilot-in-command of an aircraft shall, when approaching to land on a runway served by a visual approach pattern, maintain an altitude at or above the glide slope until a lower altitude is necessary for safe landing.

(2) A pilot-in-command of a turbojet, turbofan, or a large aircraft shall, when approaching to land on a runway served by an instrument landing system, maintain an altitude at or above the glide slope until a lower altitude is necessary for safe landing.

Restriction or suspension of operations

166. A pilot-in-command of an aircraft or an aircraft operator certificate holder shall, when he or she knows of the aerodrome and runway conditions, restrict or suspend all commercial air transport services to such an aerodrome and runway.

Interception

167. A pilot-in-command of an aircraft shall not conduct an international flight, unless the procedures and signals relating to the interception of the aircraft are available on the flight deck.

Noise abatement procedures

168. (1) A pilot-in-command of an aircraft shall operate the aircraft in accordance with the noise and abatement procedures approved by the Authority.

(2) Unless authorised by the Authority, the noise abatement procedures specified by an aircraft operator certificate holder for an aircraft shall, be the same type for all aerodromes.

Single pilot operations

169. (1) An aircraft shall not be operated under instrument flight rules or during the night by a single pilot, unless authorised by the Authority.

(2) Notwithstanding the provisions of subregulation (1), an aircraft may be operated under instrument flight rules or during the night by a single pilot, if —

(*a*) the flight manual does not require a flight crew of more than one;

(*b*) the aircraft is propeller driven;

(*c*) the maximum approved passenger configuration is not more than nine;

(*d*) the maximum certified take-off mass does not exceed 5 700 kilograms;

(*e*) the aircraft is equipped as described by the Authority; and

(*f*) the pilot-in-command has satisfied the Authority that he or she has the requisite experience, training, and has the checking requirements of the aircraft.

Single engine aircraft operations

170. (1) A person shall not operate a single engine aircraft, unless the aircraft is continually operated in daylight or visual flight rule over such routes and diversions that permit a safe forced landing to be executed in the event of an engine failure.

(2) A person shall not operate a single turbine powered aircraft at night or in instrument meteorological conditions, unless the airworthiness certification of the aircraft is appropriate and acceptable to the Authority and that the operation of the aircraft is consistent with air transport services as provided by —

(*a*) the reliability of the turbine engine;
(*b*) the operators maintenance procedures;
(*c*) the operating procedures;
(*d*) the flight dispatch procedures;
(*e*) crew training programmes; and
(*f*) equipment and additional requirements provided.

(3) A person shall not operate a single turbine powered aircraft at night or in instrument meteorological conditions, unless the aircraft has an engine trend monitoring system and any aircraft with a certificate of airworthiness issued after 1st January, 2005 shall have an automatic trend monitoring system.

(4) A person shall not operate a multi engine aircraft used for air transport services which does not comply with any of the performance limitations under Part VII of these Regulations, unless the aircraft is continually operated —

(*a*) in daylight;
(*b*) in visual flight rule, excluding over the top operations; and
(*c*) at a mass that will allow the aircraft to climb with critical engine inoperative atleast 50 feet a minute when operating at the minimum enroute altitudes of the intended route or any planned diversion or at 5000 feet mean sea level whichever is greater.

(5) A multi engine aircraft that is unable to comply with subregulation (4) (*c*) is for purposes of this regulation considered to be a single engine aircraft and shall comply with the requirements under subregualtion (1).

B — *Control of air traffic*

Air traffic control clearance

171. (1) A pilot-in-command of an aircraft shall obtain an air traffic control clearance, before operating a controlled or a portion of a controlled aircraft.

(2) A pilot-in-command of an aircraft shall submit to an air traffic control facility a flight plan for an air traffic control clearance.

(3) A pilot-in-command of an aircraft shall submit to the appropriate air traffic control facility a report with details for a priority clearance.

(4) A person operating an aircraft on a controlled aerodrome shall not taxi on the maneuvering area or runway without clearance from the aerodrome control tower.

Adherence to air traffic control clearance

172. (1) Except in an emergency situation, a person shall not deviate from the clearance, unless he or she has obtained an amended clearance.

(2) Except in an emergency situation, a pilot-in-command of an aircraft shall not operate an aircraft in an airspace requiring a controlled flight.

(3) A pilot-in-command of an aircraft shall as soon as possible notify the air traffic control if he or she intends to deviate from an air traffic control clearance or instruction in an emergency.

Communication

173. (1) A pilot-in-command operating an aircraft in a controlled flight shall maintain a continuous listen on the appropriate radio frequency and establish a two-way communication with the appropriate air traffic control facility.

(2) A pilot-in-command operating an aircraft in a controlled flight shall, except when landing at a controlled aerodrome, advice the appropriate air traffic control clearance facility as soon as it ceases to be subject to the air traffic control clearance service.

Route to be flown

174. (1) A pilot-in-command of a controlled flight shall unless otherwise authorised or directed by the appropriate aircraft traffic control —

(*a*) operate along the defined centre line of an established air traffic control route; or

(*b*) operate directly between the navigation facilities or point defining such route.

(2) A pilot-in-command of a controlled flight operating along an air traffic control route defined by reference to very high frequency Omni-directional range shall change over for primary navigation guidance from the facility behind the aircraft to that ahead of it, or as close as operationally feasible, to the change-over point where established.

Inadvertent changes

175. A pilot-in-command of an aircraft shall in the event of a controlled flight inadvertently deviating from its current flight plan, take the following actions —

(*a*) the pilot-in-command shall, if the aircraft is off track, adjust the heading of the aircraft to regain track as soon as practicable;

(*b*) the pilot-in-command shall, if there is variation in true airspeed, inform the appropriate air traffic control facility if the average true airspeed at cruising level between reporting points varies from that given in the flight plan or is expected to vary by plus or minus five percent of the true airspeed; or

(*c*) the pilot-in-command shall, if there is a change in time estimate, notify the appropriate air traffic control facility and give a revised time estimate as soon as possible if the time estimate for a reporting point, flight information region boundary, or destination aerodrome, whichever comes first, is found to be in excess for three minutes from that notified to the air traffic control, or such other period of time as is prescribed by the appropriate air traffic control authority.

Air traffic control clearance-intended changes

176. A request for a flight plan change shall include —

(*a*) a change of cruising plan;

(*b*) a change of route;

(*c*) a description of new route of flight including related flight plan; and

(*d*) a description of revised route of flight to revised destination.

Reports

177. (1) A pilot-in-command of a controlled flight shall unless exempted, report to the appropriate air traffic control facility as soon as possible, the time and level of passing of each designated compulsory reporting point together with any other required information.

(2) A pilot-in-command of a controlled flight shall, when requested by the appropriate air traffic control facility, make a report in relation to additional points or intervals.

(3) A pilot-in-command of a controlled flight shall when operating data link communications providing position information, provide voice position reports to the appropriate air traffic control facility.

Operation in vicinity of controlled aerodrome

178. (1) A person shall not operate an aircraft on an aerodrome with an operational control tower, unless a two-way communication is maintained between the aircraft and the control tower.

(2) A pilot-in-command of an aircraft shall upon arrival at a controlled aerodrome, establish communication as required under subregulation (1), prior to four nautical miles from the aerodrome when operating from the surface of up to 2 500 (feet).

(3) A pilot-in-command of an aircraft shall on departure establish communication with the control tower before taxi.

(4) A person shall not operate an aircraft on a runway, taxiway, take-off or land an aircraft at an aerodrome with an operating tower, unless an appropriate clearance communication is maintained between the aircraft and the control tower.

Unlawful interference

179. (1) A pilot-in-command of an aircraft shall notify the appropriate air traffic control facility when an aircraft is subjected to unlawful interference.

(2) A pilot-in-command of an aircraft shall when the aircraft is subjected to unlawful interference, land the aircraft as soon as practicable.

Time checks

180. (1) A pilot-in-command of an aircraft shall use a coordinated universal time in flight operations, expressed in hours and minutes of 24 hour day, beginning at midnight.

(2) A pilot-in-command of an aircraft shall obtain a time check before operating a controlled flight.

Universal signals

181. (1) A person operating an aircraft shall observe and receive any designated universal aviation signal as may be required by the interpretation of the signal.

(2) A person shall not use a signal likely to conflict with a universal aviation signal.

Visual meteorological conditions

182. A person shall not operate an aircraft under visual flight rules when the flight visibility is less than that set out in Schedule 2.

Visual flight rules weather minimums

183. A person shall not land or takeoff an aircraft under visual flight rules from an aerodrome located within a controlled zone or enter the aerodrome traffic zone or traffic pattern, unless —

(*a*) the report ceiling is at 450 meters (1 500 feet);

(*b*) the reported ground visibility is at 5 kilometers; and

(*c*) a clearance is obtained from the air traffic control.

Special visual flight rules operations

184. A person shall not conduct a special visual flight rules flight operation to enter a traffic pattern, land or takeoff an aircraft from an aerodrome located in Class B, C, D or E airspace, unless that person is —

(*a*) authorised by an air traffic control clearance;

(*b*) the aircraft remain clear of clouds;

(*c*) the flight visibility is at 1.5 kilometers (1 statute mile);

(*d*) the pilot-in-command is qualified in instrument flight rules operations; and

(*e*) the aircraft is qualified to operate for instrument flight rules flight.

Visual flight rules cruising altitudes

185. A person operating an aircraft in level cruising flight under visual flight rules at an altitude of 900 meters (3 000 feet) from the ground or water shall maintain a flight level appropriate to the track.

Air traffic control clearance for visual flight rules flights

186. A pilot-in-command of a visual flight rules flight shall comply with an air traffic control clearance during the aircraft operation.

Visual flight rules flights requiring air traffic control authorisation

187. (1) A pilot-in-command of an aircraft shall not operate a visual flight rules flight, unless he or she is —

(*a*) above flight level 200 and at transonic and supersonic speed;

(*b*) authorised by the appropriate air traffic control authority; and

(*c*) in accordance with conditions prescribed by the Authority.

(2) An air traffic control clearance for visual flight rules flight shall not be granted in an area where a visual meteorological condition of 300 meters (1 000 feet) is applied above flight level 290.

Visual meteorological conditions

188. A pilot-in-command of a visual flight rules flight operating as a controlled flight shall when he or she finds it not practicable or possible to maintain a flight in visual meteorological condition —

(*a*) request an amended clearance enabling the aircraft to continue in visual meteorological condition to its destination or to an alternative aerodrome;

(*b*) continue to operate in visual meteorological condition and notify the appropriate air traffic control facility of the action taken;

(*c*) request authorisation to operate as a special visual flight rules flight within a controlled zone; or

(*d*) request a clearance to operate under instrument flight rules.

Change from visual flight rules to instrument flight rules

189. A pilot-in-command of an aircraft who wishes to change from visual flight rules to instrument flight rules shall —

(*a*) if a flight plan is submitted, communicate the necessary changes to be effected in the flight plan; or

(*b*) submit a flight plan to the appropriate air traffic control facility and obtain a clearance before proceeding in instrument flying route when in controlled airspace.

C – *Instrument flight rules*

Applicability

190. Any aircraft operated in accordance with instrument flight procedures shall comply with the instrument flight rules and the aerodrome instrument approach procedures approved by the State where the operation will take place.

Instrument flight rules in controlled airspace

191. A pilot-in-command shall not operate an aircraft in a controlled airspace under instrument flight rules, unless the he or she has —

(*a*) filed an instrument flight rules flight plan; and

(*b*) received an appropriate air traffic control clearance.

Instrument flight rules outside controlled airspace

192. A pilot-in-command of an instrument flight rules flight operating outside a controlled airspace within an area designated by the air traffic control authority shall maintain a listening watch on the appropriate radio frequency and establish a two-way communication with the air traffic control facility providing flight information.

(2) A pilot-in-command of an instrument flight rules flight operating outside a controlled airspace for which the appropriate air traffic control authority requires a flight plan, shall report to the air traffic control facility providing the flight information the appropriate radio frequency and establish a two-way communication.

Instrument flight rules - takeoff minimums for commercial air transport

193. Unless otherwise authorised by the Authority, a pilot-in-command an aircraft in commercial air transport services shall not accept a clearance to take-off from an aerodrome under instrument flight rules, unless the weather conditions are —

(*a*) 1500 meters (one statute mile) visibility for an aircraft with two engines; or

(*b*) 800 meters (half statute mile) visibility for helicopters.

Minimum altitude for instrument flight rules operations

194. Unless when necessary for take-off or landing, a person shall not operate an aircraft under instrument flight rules below —

(*a*) the applicable minimum altitudes prescribed by the authority —

(i) over high terrain or in mountainous areas at a level which is at least 600 meters (2 000 feet) above the highest obstacle located within 8 kilometers of the estimated position of the aircraft; or

(ii) at a level which is at least 300 meters (1 000 feet) above the highest obstacle located within 8 kilometers of the estimated position of the aircraft; or

(*b*) a minimum en-route altitude and minimum obstruction clearance altitude prescribed for a particular route or route segment within 40.7 kilometers (22 nautical miles) of the very high frequency Omni-directional range.

Minimum altitude for autopilot

195. A person shall not use an autopilot for —

(*a*) en route operations at an altitude above the terrain that is less than 500 feet;

(*b*) instrument approach operations at an altitude above the terrain that is less than 50 feet below the minimum descent altitude or decision height; or

(*c*) Category III approach without the approval of the Authority.

Instrument flight rules cruising altitude

196. (1) A person operating an aircraft under instrument flight rules in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned to the aircraft by the air traffic controller.

(2) A person operating an aircraft in level cruising flight under instrument flight rules shall maintain the altitude or flight level appropriate to the track of the cruising level.

Cruising altitude in uncontrolled airspace

197. (1) A person operating an aircraft in level cruising flight under instrument flight rules outside a controlled airspace shall maintain a flight level appropriate to the track of cruising levels for flights above flight level 410.

(2) A person may deviate from the cruising altitude provided under sub-regulation (1), if authorised by the air traffic controller for a flight at or below 900 meters (3 000 feet) above mean sea level.

Instrument flight rules communication

198. A pilot-in-command of an aircraft operated in a controlled airspace under instrument flight rules shall have a continuous watch on the appropriate frequency and shall report —

(*a*) the time and altitude of passing a designated reporting point, or the reporting points specified by an air traffic controller;

(*b*) any weather forecast conditions encountered; and

(*c*) any information relating to the safety of the aircraft.

Reports

199. A pilot-in-command of an aircraft operated in a controlled airspace under instrument flight rules, shall report to the air traffic controller any malfunction of navigation, approach or communication equipment in the flight, including —

(*a*) the aircraft identification;

(*b*) the equipment affected;

(c) the degree to which the capability of the pilot is impaired; and

(*d*) the nature and extent of assistance required from the air traffic controller.

Continuation of instrument flight rules flights

200. A pilot-in-command of an aircraft shall not continue the aircraft towards an aerodrome or heliport of intended landing, unless the available meteorological information indicates the conditions at the aerodrome or heliport at the expected time of arrival.

Instrument approach procedures

201. A person shall not make an instrument approach at an aerodrome except in accordance with instrument flight rules minimums and instrument approach procedures established for the aerodrome by the Authority.

Commencing an instrument approach

202. A pilot-in-command of an aircraft in commercial air transport services shall not continue an approach past the final approach fix or begin the final approach at an aerodrome, unless —

(*a*) a source approved by the Authority issues a weather report for the aerodrome; and

(*b*) the latest weather report for such aerodrome reports the visibility to be equal to or more than the minimums prescribed for the procedure.

Operations below decision height or minimum decision altitude

203. A pilot-in-command of an aircraft shall not operate an aircraft at an aerodrome or heliport below the authorised minimum descent altitude or continue an approach below the authorised decision height, unless —

(*a*) the aircraft is continuously in a position from which a descent to a landing on the intended runway is made at a normal rate of descent using normal maneuvers;

(*b*) a descent approach will allow touchdown to occur within the touchdown zone of the runway intended for landing;

(*c*) the reported flight visibility is not less than the visibility prescribed in the standard instrument approach used or the controlling runway visual range is above the specified minimum; or

(*d*) the visual reference for the intended runway is distinctly visible and identifiable to the pilot for —

(i) the threshold;

(ii) the threshold markings;

(iii) the threshold lights;

(iv) the runway end identifier lights;

(v) the visual approach slope indicator;

(vi) the touchdown zone or touchdown zone markings;

(vii)the touchdown zone lights;

(viii) the runway or runway markings; or

(ix) the runway lights.

Change from instrument flight rules to visual flight rules flight

204. (1) A pilot-in-command of an aircraft who wishes to change from instrument flight rules flight to visual flight rules flight, shall notify the appropriate air traffic control facility that the instrument flight rules flight is cancelled and communicate the change to be made to his or her flight plan.

(2) A pilot-in-command of an aircraft under instrument flight rules who encounters a visual meteorological condition shall not cancel the flight unless such flight is operated for a reasonable period of time in uninterrupted visual meteorological condition.

Communication under instrument flight rules flight

205. A pilot-in-command of an aircraft shall continue a flight if a two-way radio communication failure occurs under instrument flight conditions if —

(*a*) the route assigned in the last air traffic control clearance is received;

(*b*) being radar vectored by the direct route from the point of radio failure to the fix, route or airway specified in the vector clearance;

(*c*) in the absence of an assigned route or a route that the air traffic controller has advised on is expected in a further clearance;

(*d*) in the absence of an assigned route or a route that the air traffic controller has advised on is expected in a further clearance by the route filed in the flight plan; or

(*e*) the altitude or flight level assigned in the last air traffic control clearance is received.

Threshold crossing height

206. An operator of an aircraft shall establish an operational procedure designed to ensure that the aircraft used to conduct a precision approach, crosses the threshold by a safe margin with the aircraft in the landing configuration and altitude.

Offences

207. (1) Any person who contravenes the provisions of these Regulations commits an offence and is liable to a fine not exceeding P5 000 000 or to imprisonment for a term not exceeding 10 years, or to both.

(2) Where criminal proceedings are not authorised under subregulation (1), the Authority may impose an appropriate administrative penalty, as set out in Schedule 3 to these Regulations, on a person who –

(*a*) hinders or obstructs an authorised officer, inspector or authorised person in the exercising of his or her or powers or the performance of his or her duties;

(*b*) refuses or fails to give his or her name and address, or gives a false name or address when called upon to do so by an authorised officer, or inspector;

(*c*) obstructs or impedes another person from exercising any priviledge, power or duty conferred on such other person by the Authority or under these Regulations;

(*d*) makes or causes to be made, orally or in writing —

(i) a misleading or false statement for the purpose of obtaining any licence, rating, certificate, approval, authorisation, exemption or other document under these Regulations;

(ii) a misleading or false entry in any logbook, record, record or report which is required to be kept or maintained under these Regulations;

(*e*) falsifies, counterfeits, alters, defaces or adds anything to, any licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations;

(*f*) does, causes or permits to be done, an act contrary to, or who fails to comply with any provision of these Regulations;

(*g*) exercises a privilege granted by, or uses any licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations, of which he or she is not the holder;

(*h*) unless otherwise authorised in these Regulations, permits a licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations, of which he or she is the holder, to be or privileges thereof to be exercised by another person;

(*i*) commits an act by —

(i) interference with any flight crew member, air traffic controller or aircraft maintenance engineer,

(ii) tampering with any aircraft or any part thereof, or

(iii) disorderly conduct or otherwise, which is likely to endanger the safety of an aircraft or its occupants;

(*j*) enters in a place within the boundaries of a licensed aerodrome or heliport which is closed to the public, without the permission of an aerodrome or heliport operator;

(*k*) gives false information pertaining to the investigation of an aviation accident or incident; and

(*l*) operates or attempts to operate an aircraft in respect of which no valid certificate of registration or valid certificate of airworthiness is issued.

(3) Where criminal proceedings are instituted, the administrative penalties for offences under subregulation (2) may be used as guide in determining the appropriate penalty.

SCHEDULE

SCHEDULE 1

En route aerodrome-extended range operations by twin engine aeroplanes

(*regulation (71 (2)*)

Planning Minima (RVR/visibility required & ceiling, if applicable)		
Type of Approach	**Aerodrome with;** at least 2 separate approach procedures based on 2 separate aids serving 2 separate runways	at least 2 separate approach procedures based on 2 separate aids serving 1 runway or, at least 1 approach procedure based on 1 aid serving 1 runway
Precision Approach CAT I, III (Instrument Landing System, Microwave Landing System)	Precision Approach CAT I Minima	Non-Precision Approach Minima
Precision Approach CAT 1(Instrument Landing System, Microwave Landing System)	Non-Precision Approach Minima	Circling minima or, if not available, non- Precision approach minima plus 60 m (200ft)/1,000 m
Non-Precision Approach	The lower of non-precision approach minima plus 60 m (200 ft)/1,000 m or circling minima	The higher of non-precision approach minima plus 60 m (200 ft)/1,000 m or circling minima
Circling Approach	Circling Minima	Circling Minima

SCHEDULE 2

Visual metereological conditions

(*regulation (182)*)

Airspace and VMC Minimums			
Airspace	**A****B C D E**	**F.C**	
		Above 900 meters (3 000 feet) AMSL or above 300 meters (1000 feet) above terrain, which ever is greater	At and below 900m (3,000 ft) AMSL or 300M (1,000 ft) above terrain, whichever is higher.
Distance from cloud	1,500 m horizontally 300m (1,000 ft) vertically		Clear of cloud and in sight of the surface
Flight Visibility	8km at and above 3,050m (10,000 ft) AMSL 5 km below 3,050m (10,000 ft) AMSL)		5km **
*When the height of the transition altitude is lower than 3,050 in (10,00 ft) AMSL, FL 100 should be used in lieu of 10,00 ft. **When so prescribed by the appropriate ATC Authority; Lower flight visibilities to 1,500m may be permitted for flight operating: At speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacle 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 manoeuvred 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.			

SCHEDULE 3

Administrative Penalties
(*regulation 207 (2)*)

(1) The administrative penalties, in respect of the offences under regulation 207 (2), shall apply to an individual as indicated in Table A.

TABLE A

PENALTIES APPLICABLE TO AN INDIVIDUAL			
Regulation	*1st offence*	*2nd offence*	*Subsequent offence*
207 (2) (*a*)	P 5 000	P 10 000	P 15 000
207 (2) (*b*)	P 5 000	P 10 000	P 15 000
207 (2) (*c*)	P 5 000	P 10 000	P 15 000
207 (2) (*d*)	P 15 000	P 20 000	P 25 000
207 (2) (*e*)	P 10 000	P 20 000	P 30 000
207 (2) (*f*)	P 10 000	P 20 000	P 30 000
207 (2) (*g*)	P 10 000	P 20 000	P 30 000
207 (2) (*h*)	P 10 000	P 20 000	P 30 000
207 (2) (*i*)	P 5 000	P 10 000	P 15 000
207 (2) (*j*)	P 10 000	P 20 000	P 30 000
207 (2) (*k*)	P 5 000	P 10 000	P 15 000
207 (2) (*l*)	P 10 000	P 20 000	P 30 000

(2) The administrative penalties, in respect of the offences under regulation 207 (2), shall apply to an organisation as indicated in Table B.

PENALTIES APPLICABLE TO AN ORGANISATION			
Regulation	1st offence	2nd offence	Subsequent offence
207 (2) (*a*)	P 15 000	P 30 000	P 50 000
207 (2) (*b*)	P 15 000	P 30 000	P 50 000
207 (2) (*c*)	P 15 000	P 30 000	P 50 000
207 (2) (*d*)	P 15 000	P 30 000	P 50 000
207 (2) (*e*)	P 25 000	P 40 000	P 60 000
207 (2) (*f*)	P 25 000	P 50 000	P 80 000
207 (2) (*g*)	P 25 000	P 50 000	P 80 000
207 (2) (*h*)	P 35 000	P 60 000	P 100 000
207 (2) (*i*)	P 5 000	P 10 000	P 15 000
207 (2) (*j*)	P 25 000	P 50 000	P 120 000
207 (2) (*k*)	P 15 000	P 30 000	P 80 000
207 (2) (*l*)	P 35 000	P 60 000	P 120 000

MADE this 8th day of March 2013.

NONOFO MOLEFHI,
Minister of Transport and Communications.

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