

GOVERNMENT NOTICE NO.. published on.....

THE CIVIL AVIATION ACT
(CAP.)

REGULATIONS

(Made under Section)

THE CIVIL AVIATION (OPERATION OF AIRCRAFT) REGULATIONS,

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THE CIVIL AVIATION (OPERATION OF AIRCRAFT) REGULATIONS,

PART I
PRELIMINARY PROVISIONS

- Citation. **1.** These Regulations may be cited as the Civil Aviation (Operation of Aircraft) Regulations,
- Interpretation. **2.** In these Regulations, unless the context otherwise requires-
“advisory airspace” means an airspace of defined dimensions, or designated route, within which air traffic advisory service is available,
“aerial work” means an aircraft operation in which an aircraft is used for specialised services including, but not limited to agriculture, construction, photography, surveying, observation and patrol, search and rescue and aerial advertisement;
“aerodrome” means a defined area on land or water, including any buildings, installations and equipment, used or intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;
“aerodrome operating minima” means the limits of usability of an aerodrome for-
 (a) take-off, expressed in terms of runway visual range and visibility and, if necessary, cloud conditions;

- (b) landing in precision approach and landing operations, expressed in terms of visibility and runway visual range and decision altitude or height (DA or DH) as appropriate to the category of the operation;
- (c) landing in approach and landing operations with vertical guidance, expressed in terms of visibility and runway visual range and decision altitude or height (DA or DH); and
- (d) landing in non-precision approach and landing operations, expressed in terms of visibility and runway visual range, minimum descent altitude or height (MDA or MDH) and, if necessary, cloud conditions;

“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;

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

“air traffic control service” means a service provided for the purpose of-

- (a) preventing collisions-
 - (i) between aircraft; and
 - (ii) on manoeuvring area between aircraft and obstructions; and
- (b) expediting and maintaining an orderly flow of air traffic;

“air traffic control unit” is a generic term meaning variously an area control centre, approach control unit or aerodrome control tower;

“air traffic service” is a generic term meaning variously flight information service, alerting service, air traffic advisory service, or air traffic control service;

“aircraft” means any machine that can derive support in the atmosphere from the reactions of the air, other than the reactions of the air against the earth’s surface;

“aircraft component” means any component part of an aircraft up to and including a complete power plant or any operational or emergency equipment;

“aircraft type” means all aircraft of the same basic design;

“airframe” means the fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces, including rotors (but excluding propellers and rotating airfoils of a powerplant) and landing gear of an aircraft and their accessories and controls;

“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 including the following-

- (a) take-off alternate- an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and 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) ETOPS 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 ETOPS 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, power plant, or propeller;

“approach and landing operations using instrument approach procedures” means instrument approach and landing operations classified as follows-

- (a) non-precision approach and landing operations- an instrument approach and landing which utilizes lateral guidance but does not utilize vertical guidance;
- (b) approach and landing operations with vertical guidance- an instrument approach and landing which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations;
- (c) precision approach and landing operations- an instrument approach and landing using precision lateral and vertical guidance with minima as determined by the category of operation;

appropriate authority” means-

- (a) regarding flight over the high seas-the relevant authority of the state of registry;
- (b) regarding flight other than over the high seas-the relevant authority of the state having sovereignty over the territory being overflown.

“authorised instructor” means a person who-

- (a) holds a valid ground instructor licence issued under the Civil Aviation (Personnel Licensing) Regulations when conducting ground training;
- (b) holds a current flight instructor rating issued under the Civil Aviation (Personnel Licensing) Regulations when conducting ground training or flight training; or

- (c) is authorised by the Authority to provide ground training or flight training under the Civil Aviation (Personnel Licensing) and the Civil Aviation (Approved Training Organisations) Regulations;
- “authorized person” means any person authorized by the Authority either generally or in relation to a particular case or class of cases, and references to an authorized person includes references to a holder for the time being of any office designated by the Authority;
- “Authority” means the [State] Civil Aviation Authority ;
- “Category II (CAT II) operations” means, a precision instrument approach and landing with a decision height lower than 60 m (200 ft) , but not lower than 30 m (100 ft), and a runway visual range not less than 350 m.
- “Category IIIA (CAT IIIA) operations” means, a precision instrument approach and landing with-
- (a) a decision height lower than 30 m (100 ft) or no decision; and
 - (b) a runway visual range not less than 200 m;
- “Category IIIB (CAT IIIB) operations” means, a precision instrument approach and landing with-
- (a) a decision height lower than 15 m (50ft) or no decision height; and
 - (b) a runway visual range less than 200 m but not less than 50 m;
- “Category IIIC (CAT IIIC) operations” means a precision instrument approach and landing with no decision height and no runway visual range limitations;
- “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;
- “commercial air transport” means an aircraft operation involving the transport of passengers, cargo, or mail for remuneration or hire;
- “Contracting States” means all States that are parties to the Convention on International Civil Aviation (Chicago Convention);
- “co-pilot” means a licensed pilot serving in any piloting capacity other than as PIC, but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instruction;
- “cruise relief pilot” means a flight crew member who is assigned to perform pilot tasks during cruise flight, to allow the PIC or a co-pilot to obtain planned rest;
- “crew member” means a person assigned by an operator to duty on an aircraft during a flight duty period;
- “crew resource management (CRM)” 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 the 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 cruise flight;
- “defined point after take-off” means the point, within the take-off and initial climb phase, before which the performance class 2 helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;
- “estimated time of arrival” means for IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome;
- “evaluator” means a person employed by an Approved Training Organisation who performs tests for licensing, added ratings, authorisations, and proficiency checks that are authorised by the certificate holder's training specification, and who is authorised by the Authority to administer such checks and tests;
- “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 crew member” means a licensed crew member charged with duties essential to the operation of an aircraft during flight time;
- “flight duty period” means the total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or a series of flights, to the moment the flight crew member is relieved of all duties having completed such flight or series of flights.
- “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” means-
- (a) for aeroplanes and gliders the total time from the moment an aeroplane or a glider moves for the purpose of taking off until 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 until it finally stops at the end of the flight;
 - (b) for helicopter 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;

- (c) for airships or free balloon the total time from the moment an airship or free balloon first becomes detached from the surface until 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 operation or an aerial work operation;
- “handling agent” means an agency which performs on behalf of the operator some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo;
- “heavier-than-air aircraft” means any aircraft deriving its lift in flight chiefly from aerodynamic forces;
- “helicopter” means a heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on 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;
- “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 manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply;
- “journey log” means a form signed by the PIC of each flight that records the aircraft's registration, crew member names and duty assignments, the type of flight, and the date, place, and time of arrival and departure;
- “knowledge test” means a test on the aeronautical knowledge areas required for a pilot licence or rating that can be administered in written form or by a computer;
- “landing decision point” means the point used in determining landing performance from which, an engine failure occurring at this point, the landing may be safely continued or a bailed landing initiated;
- “large aeroplane” means an aeroplane having a maximum certified take-off mass of over 5,700 kg (12,500 lbs);
- “lighter-than-air aircraft” means any aircraft supported chiefly by its buoyancy in the air;
- “line operating flight time” means flight time recorded by the PIC or co-pilot while in revenue service for an AOC holder;

- “maintenance” means tasks required to ensure the continued airworthiness of an aircraft or aeronautical product including any one or combination of overhaul, repair, inspection, replacement, modification, and defect rectification;
- “major modification” means a type design change not listed in the aircraft, aircraft engine, or propeller specifications that might appreciably affect the mass and balance limits, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness or environmental characteristics, or that will be embodied in the product according to non-standard practices;
- “Master Minimum Equipment List (MMEL)” means a list established for a particular aircraft type by the organisation responsible for the type design with the approval of the State of design containing items, one or more of which is permitted to be unserviceable on the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures;
- “minimum equipment list (MEL)” means a list approved by the Authority which provides for the operation of the aircraft, subject to specific conditions, with particular equipment inoperative;
- prepared by an operator in conformity with, or more restrictive than, the MMEL established for a particular aircraft type;
- “missed approach point” means that point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.
- “missed approach procedure” means the procedure to be followed if the approach cannot be continued;
- “modification” means a change to the type design of an aircraft or aeronautical product which is not a repair;
- “night” means the time between fifteen minutes after sunset and fifteen minutes before sunrise, sunrise and sunset being determined at surface level, and includes any time between sunset and sunrise when an unlighted aircraft or other unlighted prominent object cannot clearly be seen at a distance of 4,572 m;
- “Operator” means a person, organization or enterprise engaged in or offering to engage in an aircraft operation;
- “operational control” means the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight;

- “operational flight plan” means the operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations, and relevant expected conditions on the route to be followed and at the aerodromes or heliports concerned;
- “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 AOC 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 (PMA) or Technical Standard Order (TSO);
- “package” means the complete product of the packing operation consisting of the packaging and its contents prepared for transport;
- “packaging” means receptacles and any other components or materials necessary for the receptacle to perform its containment function;
- “passenger exit seats” means those seats having direct access to an exit, and those seats in a row of seats through which passengers would have to pass to gain access to an exit, from the first seat inboard of the exit to the first aisle inboard of the exit;
- “Performance class 1 helicopter” means a helicopter with performance such that, in case of critical engine failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area, 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 (PIC)” means the pilot designated by the operator, or in the case of general aviation, the owner as being in command and charged with the safe conduct of a flight;

“powerplant” means an engine that is used or intended to be used for propelling aircraft and includes turbo superchargers, appurtenances, and accessories necessary for its functioning, but does not include propellers;

“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;

“preventive maintenance” means simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

“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. It includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines;

“problematic use of substances” means the use of one or more psychoactive substances by aviation personnel in a way that;

- (a) constitutes a direct hazard to the user or endangers the lives, health or welfare of others; and
- (b) causes or worsens an occupational, social, mental or physical problem or disorder

“psychoactive substance” means alcohol, opioids, cannabinoids, sedatives and hynotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded;

“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 except as used in ‘engine thrust rating’;

“repair” means the restoration of an aircraft or aircraft component to a serviceable condition in conformity with an approved standard;

“required navigation performance (RNP)” means a statement of the navigation performance necessary for operation within a defined airspace;

“rest period” means any period of time on the ground during which a crew member is relieved of all duties by the operator;

“runway visual range (RVR)” means the range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;

“RVSM” means reduced vertical separation minimum;

- “RVSM (Reduced Vertical Separation Minima) Airspace” means any airspace or route between flight level 290 and flight level 410 inclusive where the aircraft are separated vertically by 1000ft (300m);
- “serious injury” means an injury which is sustained by a person in an accident and which-
- (a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received;
 - (b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
 - (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
 - (d) involves injury to any internal organ; or
 - (e) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or
 - (f) involves verified exposure to infectious substances or injurious radiation;
- “Safety management system” means a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures;
- “Safety programme” means an integrated set of regulations and activities aimed at improving safety;
- “safety-sensitive personnel” means persons who might endanger aviation safety if they perform their duties and functions improperly including, but not limited to, crew members, aircraft maintenance personnel and air traffic controllers;
- “small aeroplane” means an aeroplane having a maximum certified take-off mass of 5,700 kg (12,500 lbs) or less;
- “special VFR” means a controlled VFR traffic authorized by air traffic control to operate within the control zone under meteorological conditions below the visual meteorological conditions or at night;
- “state of design” means the Contracting State which approved the original type certificate and any subsequent supplemental type certificates for an aircraft, or which approved the design of an aircraft, aircraft component or appliance;
- “state of registry” means the Contracting State on whose registry an aircraft is placed;
- “substance” 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;
- “synthetic flight trainer” 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;
- (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 the point used in determining take-off performance of a Class 1 helicopter from which, an engine failure occurring at this point, either a rejected take-off may be made or a take-off safely continued;

“Technical Instructions” means edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air approved and published by decision of the Council of the International Civil Aviation Organisation;

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

“ V_1 ” means take-off decision speed;

“ V_{mo} ” means maximum operating speed;

“ V_{so} ” means stalling speed or the minimum steady flight speed in landing configuration.

PART II

GENERAL OPERATIONS REQUIREMENTS

Aircraft requirements

Registration markings.

3. A person shall not operate an aircraft registered in [State] or a foreign-registered aircraft in [State] airspace unless that aircraft displays the proper markings prescribed in the Civil Aviation (Aircraft Registration and Marking) Regulations,

Civil aircraft airworthiness

4. -(1) A person shall not operate an aircraft unless that aircraft is in an airworthy condition.
- (2) Subject to sub-regulation (1), a pilot-in-command (PIC) shall-

- (a) determine whether an aircraft is in a condition for safe flight; and
- (b) discontinue a flight when an non-airworthy mechanical, electrical or structural condition occurs.

Certificate of airworthiness.

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

Aircraft instruments and equipment.

6. (1) 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 the Civil Aviation (Instruments and Equipment) Regulations,

(2) Aircraft required to be equipped with an airborne collision avoidance system, shall operate in accordance with the relevant provisions prescribed by the Authority.

Inoperative instruments and equipment.

7. -(1) A person shall not commence an aircraft flight with inoperative instruments or equipment installed, except as authorised by the Authority.

(2) A person shall not operate a multi-engine aircraft in commercial air transport with inoperative instruments and equipment installed unless the following conditions are met-

- (a) an approved Minimum Equipment List (MEL) exists for that aircraft.
- (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 which constitutes an approved change to the type design without requiring desertification;
- (d) the approved Minimum Equipment List which shall-
 - (i) be prepared in accordance with the limitations specified in sub-regulation (4); and

- (ii) provide for the operation of the aircraft with certain instruments and equipment in an inoperative condition;
 - (d) records identifying the inoperative instruments and equipment and the information required by paragraph (c) which shall be 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) Flight operations with inoperative instruments and equipment installed may be allowed in situations where no master 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 sub-regulation (1) shall not be-
- (a) part of the visual flight rules day instruments and equipment prescribed in the Civil Aviation (Instruments and Equipment) 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 (Instruments and Equipment) 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"; and
 - (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-

- (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; or
- (c) instruments and equipment required for specific operations.

Aircraft flight manual, marking and placard requirements

8. - (1) A person shall not operate an aircraft registered in [State] unless there is available in the aircraft-

- (a) a current, approved Aeroplane Flight Manual or Rotorcraft Flight Manual; or
- (b) an Operations Manual approved by the Authority for the AOC holder if no Aeroplane Flight Manual or Rotorcraft Flight Manual exists;
- (c) an approved manual material, markings and placards, or any combination thereof which provide the pilot-in-command with the necessary limitations for safe operation.

(2) A person shall not operate an aircraft within or over the [State] without complying with the operating limitations specified in the approved Aeroplane 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) Each AFM or RFM shall be updated by implementing changes made mandatory by the State of Registry.

Required aircraft and equipment

9. - (1) Unless otherwise authorised by the Authority, a person shall not operate an aircraft registered in [State] unless it has had the following inspections-

- (a) an annual inspection within the past twelve months;
- (b) a one hundred hour inspection;
- (c) an altimeter and pilot-static system inspection in the past twelve months;

- (d) for transponder equipped aircraft, a transponder check within the past twelve months; and
 - (e) for emergency locator transmitter-equipped aircraft, an emergency locator transmitter check within the past twelve months.
- (2) Aircraft for remuneration or hire operations maintained under maintenance and inspection programme approved by the Authority, is not required to have current annual or one hundred hour inspections in their maintenance records.

Documents to be carried on aircraft.

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

(2) An aircraft registered in [State] shall, when in flight, have on board the documents specified in this regulation, except that if the flight is intended to begin and end at the same aerodrome and does not include passage over the territory of any other State other than the [State] , the documents may be kept at the aerodrome instead of being carried aboard the aircraft.

(3) The documents to be carried in an aircraft are-

(a) on a flight for the purpose of commercial air transport-

- (i) 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) aircraft certificate of registration;
- (ix) aircraft journey logbook;
- (x) list of passenger names and points of embarkation and disembarkation, if applicable;
- (xi) cargo manifest including special loads information if applicable;

- (xii) certified true copy of the air operator certificate (AOC) and a copy of the operations specifications relevant to the aircraft type, issued in conjunction with the certificate;
 - (xiii) noise certificate, if required;
 - (xiv) aeroplane flight manual or rotorcraft flight manual;
 - (xv) minimum equipment list;
 - (xvi) category II or III Manual, as applicable;
 - (xvii) operational flight plan;
 - (xviii) filed notice to Airmen (NOTAMS) briefing documentation;
 - (xix) meteorological information;
 - (xx) maps and charts required for the flight and possible diversions;
 - (xxi) forms for complying with the reporting requirements of the Authority and the AOC holder list of special situation passengers;
 - (xxii) list of special situation passengers;
 - (xxiii) filed air traffic control (ATC) flight plan;
 - (xxiv) Search and rescue information;
 - (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 the [State] for the purpose of commercial air transport and aerial work-
- (i) those documents set forth in paragraph (a);
 - (ii) a copy of notified procedure to be followed by pilot-in-command (PIC) of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft; and
 - (iii) general declaration.
- (c) on a flight for the purpose of aerial work-

- (i) 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) aircraft certificate of registration;
 - (vii) any other document required by the Authority.
- (d) on a flight which includes passage over a territory of any country other than the [State] for the purpose of aerial work-
- (i) those documents set forth in paragraph (c);
 - (ii) a copy of notified procedure to be followed by PIC 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 the [State] for the purpose of general aviation-
- (i) a 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) certificate of registration;
 - (v) a copy of notified procedure to be followed by PIC of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft; journey logbook;
 - (vi) 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;
- (f) for the purpose of general aviation flight within the [State]-
- (i) 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) one copy of the certificate of release to service, if any, in force with respect to the aircraft;
- (v) aircraft certificate of registration;
- (vi) noise certificate, if required;
- (vii) aeroplane flight manual or rotorcraft flight manual;
- (viii) category II or III manual, as applicable;
- (ix) filed NOTAMS briefing documentation;
- (x) forms for complying with reporting requirements of the Authority;
- (xi) filed ATC flight plan; and
- (xii) any other document required by the Authority

(4) Where the certificate and the associated operations specifications are issued by the State of the Operator in a language other than English, an English translation shall be included.

Production of documents

11. - (1) A pilot-in-command shall, after being requested to do so by an authorized person, produce for examination by that person-

- (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 an aircraft registered in [State] shall, after being requested to do so by an authorized person, produce to that person any of the following documents or records requested by that person, being documents or records which are required by or under these Regulations to be in force or to be carried, preserved or made available-

- (a) 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 require to be preserved by these Regulations, and such other documents and information in the possession or control of the operator, as the authorized person may required for the purpose of determining whether those 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 (Instrument and Equipment) Regulations,

(3) The holder of a licence or certificate granted or rendered valid under the Civil Aviation (Personnel Licensing) Regulations, shall, after being requested to do so by an authorized person, produce to that authorized person, his licence, certificate, including any validation thereof.

(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 an authorized person immediately, and in any case not latter than fourteen days after being requested to do so.

Preservation of documents

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

(2) If another person becomes the operator of the aircraft, the first-mentioned operator or his personal 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 first-mentioned operator or his personal 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 first-mentioned operator in accordance with these Regulations becomes a flight crew member of an aircraft registered in [State] engaged in commercial air transport operations in the [State] and operated by another person, the first-mentioned operator or his personal representative shall deliver those records to that other person upon demand.

(5) It shall be the duty of the other person referred to in sub-regulations (2), (3) and (4) to deal with the documents or records delivered to him as if he were the first mentioned operator.

Insurance

13. - (1) A person shall not fly, or cause or commit any other person to fly an aircraft unless there is in force an insurance policy in respect of third party risks.

(2) The insurance policy for commercial air transport aircraft shall cover insurance in respect of passengers' liability, cargo, baggage and mail risks.

(3) The minimum sum of insurance in respect of any aircraft insured in accordance with sub-regulation (2) shall be notified by the Authority.

Stowaways

14. A person shall not secrete himself in an aircraft for the purpose of being carried in the aircraft without the consent of either the operator or the pilot in command thereof or of any other person entitled to give consent to his being carried in the aircraft.

Co-ordination of activities potentially hazardous to civil aircraft.

15. - (1) A person shall not carry out activities potentially hazardous to civil aircraft whether flying over the [State] or over the territorial waters of the [State] without approval from the Authority.

(2) Notwithstanding the generalities of sub-regulation (1)-

(a) a person shall not intentionally project, or cause to be projected, a laser beam or other directed high intensity light at an aircraft in such a manner as to create a hazard to aviation safety, damage to the aircraft or injury to its crew or passengers;

(b) a person using or planning to use lasers or other directed high-intensity lights outdoors in such a manner that the laser beam or other light beam may enter navigable airspace with sufficient power to cause an aviation hazard shall provide written notification to the competent authority;

(c) a pilot in command shall not deliberately operate an aircraft into a laser beam or other directed high-intensity light unless flight safety is ensured. This may require mutual agreement by operator of the laser emitter or light source, the pilot in command and the competent Authority.

(3) A person shall not release into the atmosphere any radio active material or toxic chemicals which could affect the safety of aircraft operating within the [State]n airspace.

Power to prohibit or restrict flying or landing or taking off.

16. -(1) Where the Authority deems it necessary in the public interest to restrict or prohibit-

(a) flying over any area of the [State] or along any route therein; or

(b) landing or take-off at any place in the [State] by reason of-

(i) the intended gathering or movement of a large number of persons;

(ii) the intended holding of an aircraft race contest or of an exhibition of flying; or

(iii) national security or any reason affecting public interest, may make orders prohibiting, restricting or imposing conditions on flight by any aircraft, whether or not registered in [State], in any airspace over the [State] and by an aircraft registered in [State] , in any other airspace, being airspace in respect of which the [State] has in pursuance of international arrangements undertaken to provide navigation services for aircraft.

(2) Orders made under this regulation may apply either generally or in relation to any class of aircraft.

(3) It shall be an offence to contravene or permit the contravention of or fail to comply with any Orders made hereunder.

(4) If the pilot-in-command (PIC) becomes aware that he is flying in contravention of any regulation which have been made for any of the reasons referred to in sub-regulation (1)(b)(iii) he shall, unless otherwise instructed pursuant to sub-regulation (5), cause the aircraft to leave the area to which the order relate by flying to the least possible extent over such area and the aircraft shall not begin to descend while over such an area.

(5) The PIC flying either within an area for which Orders have been made for any of the reasons referred to in sub-regulation (1)(b)(iii) or within airspace notified as a danger area shall forthwith comply with instructions given by radio by the appropriate air traffic services unit or by, or on behalf of, the person responsible for safety within the relevant airspace.

Balloons, kites and airships

17. - (1) A person shall not, within the [State]-

- (a) fly a captive balloon or kite at a height of more than 200 feet above the ground level or within 200 feet of any vessel, vehicle or structure;
- (b) fly a captive balloon within an aerodrome traffic zone;
- (c) fly a balloon exceeding 6 feet in any linear dimension at any stage of its flight, including any basket or other equipment attached to the balloon, in controlled airspace;
- (d) fly a kite within an aerodrome traffic zone;
- (e) moor an airship; or
- (f) fly a free balloon at night, without the permission in writing of the Authority, and in accordance with any conditions subject to which the permission may be granted.

(2) A captive balloon when in flight shall not be left unattended unless it is fitted with a device which ensures automatic deflation if it breaks.

(3) An unmanned free balloon shall be operated in such a manner as to minimise hazards to persons, property or other aircraft.

PART III
AIRCRAFT MAINTENANCE REQUIREMENTS

Aircraft maintenance requirements

18. - (1) A registered owner or operator of an aircraft shall be responsible for maintaining that aircraft in an airworthy condition, including compliance with all airworthiness directives.

(2) A person shall not perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in this Part and the Civil Aviation (Airworthiness) Regulations,

(3) A person shall not operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals and related procedures set out in Operations Specifications approved by the Authority under the Civil Aviation (Air Operator Certification and Administration) Regulations, or in accordance with an inspection programme approved under regulation 26.

Maintenance required.

19. - (1) This Regulation and Regulations 25, 26 and 27 do not apply to aircraft maintained in accordance with an approved maintenance programme as required under the Civil Aviation (Airworthiness) Regulations, and Civil Aviation (Air Operators Certification and Administration) Regulations,

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

- (a) have that aircraft inspected as prescribed in these Regulations, and discrepancies noted and the equipment repaired as prescribed in 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 the aircraft has been approved for return to service.

Operator's maintenance responsibilities

20. - (1) Operators shall ensure that, in accordance with procedures acceptable to the State of Registry:

- a) each aeroplane they operate is maintained in an airworthy condition;
- b) the operational and emergency equipment necessary for an intended flight is serviceable;
- c) the Certificate of Airworthiness of each aeroplane they operate remains valid.

(2) An operator shall not operate an aeroplane unless it is maintained and released to service by an organization approved in accordance with the Civil Aviation (Approved Maintenance Organisation) regulations,

(3) An operator shall employ a person or group of persons to ensure that all maintenance is carried out in accordance with the maintenance control manual.

(4) The operator shall ensure that the maintenance of its aeroplanes is performed in accordance with the maintenance programme.

Operator's
maintenance
control manual

21. - (1) The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance control manual, acceptable to the State of Registry and the design of the manual shall observe Human Factors principles.

(2) The operator shall ensure that the maintenance control manual is amended as necessary to keep the information contained therein up to date.

(3) Copies of all amendments to the operator's maintenance control manual shall be furnished promptly to all organizations or persons to whom the manual has been issued.

(4) The operator shall provide the State of the Operator and the State of Registry with a copy of the operator's maintenance control manual, together with all amendments or revisions to it and shall incorporate in it such mandatory material as the State of the Operator or the State of Registry may require.

(5) The operator's maintenance control manual shall contain the information provided in the Civil Aviation (AOC) Regulations:

Maintenance
programme

22. - (1) The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance programme, approved by the State of Registry, containing the information required by regulation 25 and the design and application of the operator's maintenance programme shall observe Human Factors principles.

(2) Copies of all amendments to the maintenance programme shall be furnished promptly to all organizations or persons to whom the maintenance programme has been issued.

Content of the
Maintenance
programme

23. - (1) A maintenance programme for each aeroplane as required by regulation 19 shall contain the following information:

a) maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilization of the aeroplane;

b) when applicable, a continuing structural integrity programme;

c) procedures for changing or deviating from a) and b) above; and

d) when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components and powerplants.

(2) Maintenance tasks and intervals that have been specified as mandatory in approval of the type design shall be identified as such.

Safety programme
and management
system

24. - (1) The Authority shall establish a safety programme in order to achieve an acceptable level of safety in the maintenance of aircraft.

(2) The Authority shall require, as part of their safety programme, that a person to implement a safety management system acceptable to the State that, as a minimum:

- a) identifies safety hazards;
- b) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
- c) provides for continuous monitoring and regular assessment of the safety level achieved; and
- d) aims to make continuous improvement to the overall level of safety.

(3) A safety management system shall clearly define lines of safety accountability throughout a maintenance organization, including a direct accountability for safety on the part of senior management

(4) An operator shall establish -

- a. a flight data analysis programme that is non-punitive and contains adequate safeguards to protect the source of the data;
- b. a flight safety documents systems, for the use and guidance of operational personnel, as part of its safety management system.

(5) An operator shall, as part of certification requirements, submit an SMS manual to the Authority for approval and shall include:

- a. a scope of safety management system
- b. the safety policy and objectives;
- c. safety accountabilities;
- d. key safety personnel;
- e. documentation control procedures;
- f. coordination of emergency response planning;
- g. hazards identification and safety risk management schemes;
- h. safety assurance;
- i. safety performance monetary;
- j. safety audit;
- k. management of change;
- l. safety promotion; and
- m. contracted activities.

Inspections:
commercial air
transport.

25. - (1) Except as provided in sub-regulation (4), a person shall not operate an aircraft unless, within the proceeding twelve 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 authorized under the Civil Aviation (Airworthiness) Regulations,; or

(b) an inspection for issuance or renewal of a certificate of airworthiness in accordance with the Civil Aviation (Airworthiness) Regulations,

(2) Except as provided in sub-regulation (4), a person shall not operate an aircraft carrying any person, other than a crew member, for hire or reward or give flight instruction for hire unless within the preceding 100 hours of time in service the aircraft has received 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 issuance or renewal of a certificate of airworthiness in accordance with the Civil Aviation (Airworthiness) Regulations,

(3) The 100-hour limitation referred to in sub-regulation (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 sub-regulation (1) and (2) shall not apply to-
 - (a) aircraft that is operating under restricted certificate of airworthiness or special flight permit.
 - (b) an aircraft subject to the requirements of sub-regulation (1) and (6) of regulation 26; or
 - (c) A turbine-powered rotorcraft when the operator selects to inspect that rotorcraft in accordance with sub-regulation (6) of regulation 26.

Progressive inspection.

26. .-(1) A registered 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 a licensed aircraft maintenance engineer with appropriate type ratings in accordance with the Civil Aviation (Personnel Licensing) Regulations,, an approved maintenance organization appropriately rated in accordance with the Civil Aviation (Approved Maintenance Organisation) Regulations,; or
- (b) the manufacturer of the aircraft to supervise or conduct the progressive inspection;

- (c) 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 sub-regulation (1) shall provide for the complete inspection of the aircraft within each 12 months 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 conform to all applicable aircraft specifications, type data sheets, airworthiness directives and other approved data acceptable to the Authority.

(4) Where the progressive inspection is discontinued, the owner or 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 25(2)(a) shall be due within 100 hours after that complete inspection.

(5) A complete inspection of the aircraft, for the purpose of determining when the annual and 100-hour inspections are due, shall be 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) The registered owner or operator of a large aircraft, turbojet multi-engine aeroplane, turbo propeller-powered multi-engine aeroplane and turbine powered rotorcraft shall select and use the following programmes for inspection of the aircraft-

- (a) a current inspection programme recommended by manufacturer;
- (b) a maintenance programme for that make and model of aircraft currently approved by the Authority for use by an AOC holder; or
- (c) any other inspection programme developed by the operator and approved by the Authority.

(7) An owner or operator of a large aeroplane 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) An aircraft shall not be approved for return to service unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the aircraft, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with an inspection programme selected.

(9) A person wishing 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 forth 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 operator changes from one inspection programme to another, the operator shall apply the time in service, calendar times, or cycles of operation accumulated under the previous programme, in determining time the inspection is due under the new programme.

Changes to aircraft maintenance programmes

27. - (1) Whenever 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 found to be necessary in the programme.

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

(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 notice as submitted by the operator to the Authority.

Inspections: all other aircraft.

28. - (1) A person shall not operate an aircraft not used in commercial air transport unless within the preceding twelve 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 a certificate of airworthiness by the Authority.

(2) A person shall not operate an aircraft for flight instruction, or for compensation, hire or reward 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.

29. - (1) The owner or operator of an aircraft shall keep a maintenance record of-

- (a) the entire aircraft to include-
 - (i) total time in service indicated in hours, calendar time and cycles, as appropriate, of the aircraft and all life limited parts;
 - (ii) current inspection status of the aircraft, including the time since required or approved inspections were last performed;
 - (iii) current empty mass and the location of the centre of gravity when empty;

- (iv) addition or removal of equipment;
- (v) type and extent of maintenance and alteration, including the time in service and date;
- (vi) when work was performed; and
- (vii) a chronological list of compliance with airworthiness directives issued in accordance with the Civil Aviation (Airworthiness) Regulations,, including methods of compliance;

(b) life-limited products-

- (i) total time in service;
- (ii) date of the last overhaul;
- (iii) time in service since the last overhaul; and
- (iv) date of the last inspection.

(c) instruments and equipment, the serviceability and operating life of which are determined by their time in service-

- (i) records of the time in service as are necessary to determine their serviceability or to compute their operating life; and
- (ii) date of last inspection.

Except for records maintained by an AOC holder, a registered owner or operator of an aircraft 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;

(b) rotor, and appliance of an aircraft to include-

- (i) a description or reference to data acceptable to the Authority, of the work performed;
- (ii) the date of completion of the work performed;
- (iii) the signature and licence number of the person approving the aircraft for return to service.

(c) 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 directives 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; and
- (vi) copies of the forms for each major modification to the airframe and currently installed engines, rotors, propellers and appliances.

(2) The 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.

Maintenance records retention.

30. - (1) Except for records maintained by an AOC holder, a registered owner or operator of an aircraft 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 to include:
 - (i) a description or reference to data acceptable to the Authority, of the work performed;
 - (ii) the date of completion of the work performed; and
 - (iii) the signature and 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 directives 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; and
 - (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

31. The owner or operator who sells or leases an aircraft registered in the [State] shall transfer to the purchaser or lessee, at the time of sale or lease, the records identified in regulations 19 and 22 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

32. .-(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) An aircraft registered in [State] shall carry a flight crew adequate in number and description to ensure the safety of the aircraft and of at least the number and description specified in the Aircraft Flight Manual.

(3) The number and composition of the flight crew of an aircraft registered in [State] and flying for the purpose of commercial air transport operations, shall not be less than that 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) An aircraft registered in [State] and flying for the purpose of commercial air transport operations, having a maximum mass of over 5,700 kg shall carry not less than two pilots as members of the flight crew thereof.

(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, acceptable to the Authority, to prevent the crewing together of inexperienced flight crew members;
- (c) one pilot amongst the flight crew, qualified as a pilot-in-command (PIC) is designated as the PIC who may delegate the conduct of the flight to another suitably qualified pilot; and
- (d) when a dedicated system panel operator is required by the aeroplane or rotorcraft flight manual, the flight crew includes one crew member who holds a flight engineer's licence or is a suitably qualified flight crew member and acceptable to the Authority

Operations under
IFR or at night

33. -(1) A person shall not conduct a single pilot operation under the instrument flight rules or at night unless the operation is approved by the Authority and -

- (a) the flight manual does not require a flight crew of more than one;
- (b) the aeroplane is propeller-driven;
- (c) the maximum approved passenger seating configuration of the aeroplane is not more than nine;
- (d) the maximum certificated take-off mass of the aeroplane is 5,700 kg or less;
- (e) the aeroplane is equipped as described in sub-regulation (3); and

(f) the pilot has satisfied requirements of experience, training, checking and regency as prescribed by regulation 36.

(2) Notwithstanding the provisions of sub-regulation (1) (c) the Authority may approve a single pilot operation under IFR or at night for an aero plane with a passenger seating configuration of more than nine if the aero plane, in addition to meeting the requirements of sub-regulation (1) (a), (b), (d), (e) and (f), is type certificated for operation by a single pilot.

(3) A person conducting a single pilot operation under the IFR or at night shall ensure that the aeroplane is equipped with-

- (a) a serviceable autopilot that has at least altitude hold and heading select modes;
- (b) a headset with a boom microphone or equivalent; and
- (c) means of displaying charts that enables them to be readable in all ambient light conditions.

(4) A helicopter which has a minimum approved seating configuration of nine and which is flying for the purpose of commercial air transport operations in circumstances where the pilot in command is required to comply with instrument flight rules or which is flying by night shall carry not less than two pilots as members of the flight crew thereof unless it is equipped with an autopilot with, at least, altitude hold and heading mode which is serviceable on take-off;

(5) A helicopter described in sub-regulation (3) which is equipped with an approved autopilot shall not be required to carry two pilots notwithstanding that before take-off the approved autopilot is found to be unserviceable, if the helicopter flies in accordance with arrangements approved by the Authority.

In-flight
procedures -
Heliport operating
minima

34. -(1)A flight shall not be continued towards the heliport of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that heliport, or at least one alternate heliport, in compliance with the operating minima established in accordance with Regulation 35.

(2) A person operating a helicopter shall not continue an instrument approach beyond the outer marker fix in case of precision approach, or below 300 m (1 000 ft) above the aerodrome in case of nonprecision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(3) A person operating a helicopter shall not continue its approach-to-land at any aerodrome beyond a point at which the limits of the operating minima specified for that aerodrome would be infringed.

Heliport operating minima under IFR

35. –(1) The operator, in establishing the heliport operating minima, for any particular operation shall take into account:

- a) the type, performance and handling characteristics of the helicopter;
 - b) the composition of the flight crew, their competence and experience;
 - c) the physical characteristics of the heliport, and direction of approach;
 - d) the adequacy and performance of the available visual and non-visual ground aids;
 - e) the equipment available on the helicopter for the purpose of navigation and control of the flight path during the approach to landing and the missed approach;
 - f) the obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures;
 - g) the means used to determine and report meteorological conditions;
- and
- h) the obstacles in the climb-out areas and necessary clearance margins.

(2) Category II and Category III instrument approach and landing operations shall not be authorized unless RVR information is provided.

(3) The operator shall ensure that, during take-off and landing and whenever considered necessary by reason of turbulence or any emergency occurring during flight, all passengers on board a helicopter shall be secured in their seats by means of the seat belts or harnesses provided.

Requirements of experience, recency and training for single pilot operations at night or instrument flight rules.

36. –(1) A pilot-in-command (PIC) of a single pilot operation at night or under instrument flight rules (IFR) shall satisfy the following requirements-

- (a) for operations under IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as PIC;
- (b) for operations under IFR, have accumulated at least 25 hours flight time under IFR on the class of aeroplane, which may form part of the 50 hours flight time in sub-paragraph (a);
- (c) for operations at night, have accumulated at least 5 hours flight time at night, which may form part of the 50 hours flight time in sub-paragraph (a);
- (d) for operations under IFR, have acquired recent experience as a pilot engaged in a single pilot operation under IFR of:

- (i) at least three IFR flights, including three instrument approaches carried out during the preceding six months on the class of aeroplane in the single pilot role; or
 - (ii) an IFR instrument approach check carried out on such an aeroplane during the preceding six months.
- (e) for operations at night, have made at least five take-offs and landings at night on the class of aeroplane in the single pilot role in the preceding six months; and
- (f) for an AOC holder, have successfully completed training programmes that include, in addition to the requirements as specified in the Civil Aviation (Air Operator Certification and Administration) Regulations,, passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

(2) The initial and recurrent flight training and proficiency checks stipulated in these Regulations and the Civil Aviation (Air Operator Certification and Administration) Regulations, respectively, shall be performed by the PIC in the single pilot role on the class of aeroplane in an environment representative of the operation.

Pilot authorisation in lieu of a type rating.

37. The Authority may authorise a pilot to operate an aircraft requiring a type rating without a type rating for a period not exceeding sixty days, provided that-

- (a) the applicant has demonstrated to the satisfaction of the Authority that an equivalent level of safety can be achieved through the operating limitations on the authorisation;
- (b) the applicant shows that compliance with these Regulations is impracticable for the flight or series of flights;
- (c) the operations-
 - (i) involve only a ferry flight, training to qualify on type or test flight;
 - (ii) are within the [State] , unless, by previous agreement with the Authority, the aircraft is flown to an adjacent Contracting State for maintenance;
 - (iii) are not for compensation or hire unless the compensation or hire involves payment for the use of the aircraft for training; and

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

Pilot recent experience: PIC, co-pilot cruise relief pilot.

38. - (1) An operator shall not assign a pilot-in-command (PIC) or a co-pilot to operate at the flight controls of an aeroplane during take-off and landing unless that pilot has operated the flight controls for at least three take-offs and landings within the preceding 90 days on the same type of aeroplane or in a synthetic flight trainer approved for that purpose.

(2) An operator shall not assign a pilot to act in the capacity of cruise relief pilot unless, within the preceding 90 days, that pilot has either-

- (a) operated as a PIC, co-pilot or cruise relief pilot on the same type of aeroplane; or
- (b) carried out flying skill refresher training including normal, abnormal and emergency procedures specific to cruise flight on the same type of aeroplane or in a synthetic flight trainer approved for the purpose, and has practiced approach and landing procedures, where the approach and landing procedure practice may be performed as the pilot who is not flying the aeroplane.

(2) An operator shall not assign a pilot to act as PIC of an aeroplane unless, on the same type of aeroplane within the preceding ninety days, that pilot has made at least three take-offs and landings.

(3) An operator shall not assign a co-pilot to operate at the flight controls during take-off and landing unless, on the same type of aeroplane within the preceding ninety days, that co-pilot has operated the flight controls, as pilot in command or as co-pilot, during three take-offs and landings or has otherwise demonstrated competence to act as co-pilot on a synthetic flight trainer approved for the purpose.

PIC: route and airport qualification

39. - (1) An operator shall not utilize a pilot as pilot-in-command (PIC) of an aeroplane on a route or route segment for which that pilot is not currently qualified until such pilot has complied with sub-regulation (2).

(2) The pilot referred to in sub-regulation (1) shall-

(a) demonstrate to the operator an adequate knowledge of -

- (i) the route to be flown, and the aerodromes to be used which shall include knowledge of-
 - (aa) the terrain and minimum safe altitudes;
 - (bb) the seasonal meteorological conditions;

- (cc) the meteorological, communication and air traffic facilities, services and procedures;
 - (dd) the search and rescue procedures; and
 - (ee) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place;
- (ii) procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.
- (b) have been tested as to his proficiency in using instrument approach-to-land systems of the type in use at the aerodrome of intended landing and any alternate aerodromes, such test being carried out either in flight in instrument meteorological conditions (IMC) or IMC simulated by means approved by the Authority for the purpose, by means of apparatus so approved in which flight conditions are simulated on the ground.
- (3) A PIC on a scheduled route shall have made an actual approach into each aerodrome of landing on the route, accompanied by a pilot who is qualified for the aerodrome, as a member of the flight crew or as an observer on the cockpit, unless-
- (a) the approach to the aerodrome is not over difficult terrain and instrument approach procedures and aids available are similar to those with which the pilot is familiar, and a margin to be approved by the Authority is added to the normal operating minima, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions;
 - (b) the descent from the initial approach altitude can be made by day in visual meteorological conditions;
 - (c) the operator qualifies the PIC to land at the aerodrome concerned by means of an adequate pictorial presentation; or
 - (d) the aerodrome concerned is adjacent to another aerodrome at which the PIC is currently qualified to land.

(4) The operator shall maintain a record, sufficient to satisfy the Authority of the qualification of the pilot and of the manner in which such qualification has been achieved.

(5) An operator shall not continue to utilize a pilot as a PIC on a scheduled route unless, within the preceding twelve months, that pilot has made at least one trip between the terminal points of that route as a pilot member of the flight crew, or as a check pilot, or as an observer on the cockpit.

(6) In the event that more than 12 months elapse in which a pilot has not made such a trip on a scheduled route in close proximity and over similar terrain, prior to again serving as a PIC on that route, that pilot must qualify afresh in accordance with sub-regulations (2) and (3).

Pilot proficiency checks.

40. - (1) An operator shall ensure that piloting technique and the ability to execute emergency procedures is checked in such a way as to demonstrate the pilot's competence and where the operation may be conducted under instrument flight rules, an operator shall ensure that the pilot's competence to comply with such rules is demonstrated to the check pilot of the operator or to the Authority.

(2) The checks referred to in sub-regulation (1) shall be performed twice within any period of one year, and any two such checks which are similar, and which occur within a period of four consecutive months shall not alone satisfy this requirement.

(3) Where an operator schedules flight crew on several variants of the same type of aeroplane or different types of aeroplanes with similar characteristics in terms of operating procedures, systems and handling, the Authority shall decide under which conditions the requirements of sub regulation (1) for each variant or each type of aeroplane may be combined.

Licences required

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

(a) registered in [State], unless that person carries in his personal possession the appropriate and current licence for that flight crew position for that type of aircraft; or

(b) of foreign registry, unless that person carries in his 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 international and domestic operations shall hold a valid radio telephony operator licence or endorsement issued or rendered valid by the State of Registry, authorizing operation of the type of radio transmitting equipment to be used.

Pilots:
Qualifications

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

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

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

Rating required for
IFR operations.

43. A person shall not act as pilot-in-command of an aircraft under instrument flight rules (IFR) or instrument meteorological conditions unless-

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

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

Special
authorisation
required for
Category II or III
operations.

44. - (1) A person shall not act as a pilot of an aircraft in a Category II or III operations 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 individual pilots of an AOC holder which has operations specifications approving Category II or III operations.

Recording of flight
time

45. - (1) A pilot shall record and keep details of all flights he has flown in a logbook format acceptable to the Authority.

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

(3) The record referred to in sub-regulation (1) and (2) shall contain the following information-

- (a) personal details: name and address of the holder;
- (b) for each flight:
 - (i) name of pilot-in-command (PIC);
 - (ii) date (day, month, year) of flight;
 - (iii) place and time of departure and arrival (times to be UTC and block to block);
 - (iv) type (aircraft make, model and variant) and registration of aircraft;
 - (v) single engine or multi-engine;
 - (vi) total time of flight;
 - (vii) accumulated total time of flight;
- (c) for each synthetic flight trainer or flight and navigation procedures trainers session:
 - (i) type and qualification number of training device;
 - (ii) synthetic training device instruction;
 - (iii) date (date/month/year);
 - (iv) total time of session; and
 - (v) accumulated total time;
- (d) pilot function-
 - (i) PIC,
 - (ii) co-pilot;
 - (iii) dual;
 - (iv) authorised instructor or authorised examiner;
 - (v) a remarks column to give details of specific functions such as student PIC time, PIC under supervision time, PIC instrument flight time, etc;
- (e) operational conditions-

- (i) night; or
 - (ii) instrument flight rules;
- (4) Logging of time-
- (a) PIC flight time:
- (i) the holder of a licence may log as PIC time all of the flight time during which he is the PIC;
 - (ii) the applicant for or the holder of a pilot licence may log as PIC time all solo flight time and flight time as student PIC provided that such student PIC time is countersigned by the instructor;
 - (iii) the holder of an instructor rating may log as PIC all flight time during which he acts as an instructor in an aeroplane;
 - (iv) the holder of an examiner's authorisation may log as PIC all flight time during which he occupies a pilot's seat and acts as an examiner in an aeroplane;
 - (v) a co-pilot acting as PIC under the supervision of the PIC on an aeroplane on which more than one pilot is required under the certificate of airworthiness of the aeroplane or by these Regulations may log as PIC under supervision flight time, provided such PIC time under supervision is countersigned by the PIC; or
 - (vi) where the holder of a licence carries out a number of flights upon the same day returning on each occasion to the same place of departure and the interval between successive flights does not exceed thirty minutes, such series of flights are to be recorded as a single entry.
- (b) co-pilot flight time: the holder of pilot licence occupying a pilot seat as co-pilot may log all flight time as co-pilot flight time on an aeroplane on which more than one pilot is required under the certificate of airworthiness of the aeroplane;
- (c) cruise relief co-pilot flight time: a cruise relief co-pilot may log all flight time as co-pilot when occupying a pilot's seat;
- (d) instruction time: a summary of all time logged by an applicant for a licence or rating as flight instruction, instrument flight instruction, instrument ground time, shall be certified by the appropriately rated or authorised instructor from whom it was received;

- (e) PIC under supervision: a co-pilot may log as PIC under supervision flight time flown as PIC under supervision, when all of the duties and functions of PIC on that flight were carried out, such that the intervention of the PIC in the interest of safety was not required, provided that the method of supervision is acceptable to the Authority.
- (5) Presentation of flight time record-
 - (a) the holder of a licence or a student pilot shall without undue delay present his flight time record for inspection upon request by an authorised person; and
 - (b) a student pilot shall carry his flight time record logbook with him on all solo cross-country flights as evidence of the required instructor authorisations.

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

- 46.** - (1) A person shall not act as pilot-in-command or co-pilot of an aircraft unless within the preceding ninety 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) for a tail wheel aeroplane, made three take-offs and landings in a tail wheel 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 regency of experience for take-offs and landings shall satisfactorily complete a re-qualification curriculum acceptable to the Authority.
- (3) The requirements of sub-regulations (1) and (2) may be satisfied in a synthetic flight trainer approved by the Authority.

Pilot currency: IFR operations

- 47.** - (1) A person shall not act as pilot-in-command under instrument flight rules (IFR), or in instrumental meteorological conditions, unless that 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 IFR operations for six months following that check.

Pilot currency:
general aviation
operations

48. - (1) A person shall not act as pilot of an aircraft type certificated-

- (a) for more than one pilot unless, in the preceding twelve months, that person has passed a proficiency check carried out by an authorized person in an aircraft requiring more than one pilot;
- (b) for more than one pilot unless, in the preceding twenty four months, that person has passed a proficiency check in the type of aircraft to be operated; or
- (c) for a single pilot unless, in the preceding twenty four months, that person has passed a proficiency check carried out by an authorized person.

(2) The person conducting the proficiency checks as required under sub-regulation (1) shall ensure that each check duplicates the manoeuvres of the type rating practical test.

(3) A person shall not act as co-pilot of an aircraft type certificated for more than one pilot unless, in the preceding twelve months, that person has

- (a) An appropriate class and type rating for the aircraft to be flown; and
- (b) logged three take-offs and landings as the sole manipulator of the controls.

Pilot privileges and
limitations

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

PART V

CREW MEMBER DUTIES AND RESPONSIBILITIES

Authority and
responsibility of
the PIC

50. - (1) The pilot-in-command (PIC) 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 and Air Traffic Control) Regulations,, except that the PIC may depart from them in emergency circumstances that render such departure absolutely necessary in the interests of safety.
- (2) The provisions of sub-regulation (1)(c) may be departed from to the extent necessary-
 - (a) to avoid immediate danger or in an emergency situation; or
 - (b) to comply with the law of any State other than the [State] within which the aircraft then is; or
 - (c) If any departure from the provisions of sub-regulation (1)(c), is made for the purpose of avoiding immediate danger or in an emergency situation, the PIC shall cause written particulars of the departure, and of the circumstances giving rise to it, to be given without delay, and in any case within ten days thereafter, to the competent authority of the State in whose territory the departure was made with a copy of it to the Authority and in the case of the [State]n aircraft the departure was made over the high seas, to the Authority.

Authority of the pilot-in-command

51. A person in an aircraft registered in the [State] shall obey all lawful commands which the pilot-in-command (PIC) of that aircraft may give for the purpose of securing the safety of the aircraft and of persons or property carried therein, or the safety, efficiency or regularity of air navigation.

Compliance with local regulations

52. –(1)Any PIC 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 regulations exceed but 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 therein necessitates the taking of action which involves a violation of local regulations or procedures, the PIC 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 within ten days.

Compliance by a foreign operator with laws, regulations and procedures

53. - (1) Where the Authority identifies a case of non-compliance or suspected non-compliance with applicable laws, regulations and procedures by a foreign operator or a similar serious safety issue with that operator, the Authority shall immediately notify the operator and, if the issue warrants it, the State of the Operator.

(2) Where the State of the Operator and the State of Registry are different, such notification shall also be made to the State of Registry, if the issue falls within the responsibilities of that State and warrants a notification.

(3) In the case of notification to States as specified in sub regulation (1) if the issue and its resolution warrant it, the Authority shall engage in consultations with the State of the Operator and the State of Registry, as applicable, concerning the safety standards maintained by the operator.

Surveillance of operations by a foreign operator

54. - (1) The Authority shall recognize as valid an air operator certificate issued by another Contracting State, if the requirements under which the certificate was issued are at least equal to the applicable international Standards and the Civil Aviation (Commercial Air Transport Operations by Foreign Air Operator in and out of *the State*) Regulations.....

(2) The Authority shall establish a programme with procedures for the surveillance of operations in their territory by a foreign operator and for taking appropriate action when necessary to preserve safety.

(3) An operator shall meet and maintain the requirements established by the Authority in which the operations are conducted.

Imperilling the safety of persons and property

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

Fitness of crew members

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

(2) The operator and the pilot-in-command (PIC) 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, the effects of alcohol or drugs; or

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

Use of narcotics,
drugs or
intoxicating liquor

57. - (1) A person shall not act or attempt to act as a 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 percent by weight or more alcohol in the blood.

(2) A crew member shall, up to eight hours before or immediately after acting or attempting to act as a crew member, on the request of the Authority, submit to a test to indicate the presence of alcohol or narcotic drugs 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 the request of the Authority, that 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 alcohol or narcotic substances up to eight hours before or immediately after acting or attempting to act as a 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 seatbelts and
shoulder harnesses

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

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

(3) An occupant of 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 assigned duties.

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

Flight crew
members at duty
stations

59. - (1) A required 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 (PIC) 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 station during all phases of flight unless-

- (a) absence is necessary for the performance of the flight crew member duties in connection with the operation;
- (b) 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 that crew member at the duty station.
- (4) A required flight crew member may leave the assigned duty station if the crew member is taking a rest period, and relief is provided-
 - (a) for the assigned PIC 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 PIC or co-pilot, and is qualified as PIC 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 PIC or co-pilot of that aircraft during en route operations. crew member crew member.

Required crew member equipment.

- 60.** - (1) A crew member involved in night operations shall have an electric torch at his station.
- (2) A pilot shall have at his station all normal, abnormal and emergency procedures checklists.
 - (3) A pilot shall have at his 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 that the flight may be diverted
 - (4) A flight crew member assessed as 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 crew member in commercial air transport.
 - (5) A cabin crew member shall be required to have an emergency procedures manual for the type of aircraft.

Compliance with checklists.

- 61.** A pilot-in-command shall ensure that the flight crew follows the approved checklist procedures when operating the aircraft.

Search and rescue information.

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

Information on emergency and survival equipment carried

63. An operator shall ensure that there are available for immediate communication to rescue coordination centres, lists containing information on the emergency and survival equipment carried on board all of the operators aircraft, which information shall include, as applicable, the number, colour and type of life-rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of emergency portable radio equipment.

Locking of cockpit compartment door.

64. -(1) In an aircraft equipped with a cockpit compartment door:

- (a) the door shall be capable of being locked; and
- (b) means shall be provided by which the cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.

(2) A PIC shall ensure that the cockpit compartment door, if installed, is locked at all times during passenger carrying commercial air transport operations, except as necessary to permit access and egress by authorised persons.

Admission to the cockpit

65. -(1) A person shall not admit any person to the cockpit of an aircraft engaged in commercial air transport operations unless the person being admitted is-

- (a) an operating 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 and carried in accordance with instructions contained in the Operations Manual.

(2) A person shall not admit any person who is not a flight crew member to the cockpit of an aircraft of maximum certificated mass of over 5,700 kg unless there is a seat available in the passenger compartment for use by the person to be admitted in the cockpit.

(3) A pilot-in-command shall ensure that-

- (a) in the interest of safety, 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.

Power to inspect	<p>66. - (1) The pilot-in-command (PIC) shall give the inspector free and uninterrupted access to the aircraft, including the cockpit, when an inspector from the Authority presents valid aviation safety inspector credentials to the PIC in order to conduct an inspection.</p> <p>(2) The PIC may refuse an inspector access to the cockpit if, in his or her opinion, the safety of the aircraft would thereby be endangered.</p>
Duties during critical phases of flight	<p>67. - (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.</p> <p>(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.</p>
Microphones.	<p>68. A required flight crew member shall use a boom or throat microphone to intercommunicate and communicate with another flight crew members and air traffic services below the transition level or altitude.</p>
Manipulation of the controls: commercial air transport.	<p>69. - (1) A pilot-in-command shall not allow an unqualified person to manipulate the controls of an aircraft during commercial air transport operations.</p> <p>(2) A person shall not manipulate the controls of an aircraft during commercial air transport operations unless that person is qualified to manipulate the controls and is authorised to do so by the air operator certificate holder.</p>
Simulated abnormal situations in flight: commercial air transport.	<p>70. A person shall not cause or engage in simulated abnormal or emergency situations or the simulation of instrument meteorological conditions by artificial means during commercial air transport operations.</p>
Completion of the technical logbook: commercial air transport.	<p>71. A pilot-in-command shall ensure that all portions of the technical logbook required under the Civil Aviation (Air Operator Certification and Administration) Regulations, are completed at the appropriate points before, during and after flight operations.</p>
Reporting mechanical irregularities.	<p>72. A pilot-in-command shall ensure that all mechanical irregularities occurring during flight time are-</p> <p>(a) reported to the operator at the termination of the flight;</p>

- (b) for general aviation operations, entered in the aircraft logbook and dealt with in accordance with the Minimum Equipment List or other approved or prescribed procedure;
- (c) for commercial air transport operations, entered in the technical log of the aircraft at the end of that flight time.

Reporting of facility and navigation aid inadequacies.

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

(2) Subject to their published conditions of use, aerodromes and their facilities shall be kept continuously available for flight operations during their published hours of operations, irrespective of weather conditions.

Reporting of incidents

74. –(1) A pilot-in-command (PIC) shall submit, without delay, a signed written report to the Authority, of an air traffic incident whenever an aircraft in flight has been endangered by-

- (a) a near collision with another aircraft or object or whenever an aircraft in flight has manoeuvred in response to a collision avoidance system (ACAS) Resolution Advisory;
- (b) faulty air traffic control procedures or lack of compliance with applicable procedures by an air traffic control unit or by the flight crew; or
- (c) a failure of air traffic control unit.

(2) Where a bird constitutes an in-flight hazard or an actual bird strike, the PIC shall, without delay-

- (a) inform the appropriate air traffic control (ATC) unit whenever a potential bird hazard is observed; and
- (b) submit to the Authority a written bird strike report after landing.

(3) A PIC shall inform the appropriate ATC unit if the situation permits, when an in-flight emergency occurs involving dangerous goods on board.

(4) A PIC shall, without delay, submit a report to the local authorities and to the Authority, following an act of unlawful interference.

Hazardous flight conditions

75. –(1) A person shall report to the appropriate aeronautical station as soon as possible where the hazardous flight conditions are encountered, other than those associated with meteorological conditions.

(2) The reports so rendered under sub regulation (1) shall give such details as may be pertinent to the safety of other aircraft.

Accident notification.

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

Operation of flight recorders

77. - (1) A pilot-in-command (PIC) 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, the initiation of the pre-flight checklist until the end of the securing aircraft checklist

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

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

Crew member Oxygen supply

78. - (1) The approximate altitudes in the Standard Atmosphere corresponding to the values of absolute pressure used in this regulation are as follows-

Absolute pressure	Metres	Feet
700 hPa	3 000	10 000
620 hPa	4 000	13 000
376 hPa	7 600	25 000

(2) A flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments will be less than 700 hPa shall not be commenced unless sufficient stored breathing oxygen is carried to supply-

(a) all crew members and 10 per cent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hPa and 620 hPa; and

(b) the crew and passengers for any period that the atmospheric pressure in compartments occupied by them will be less than 620 hPa.

(3) A flight to be operated with a pressurized aircraft shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 hPa.

(4) In addition to sub-regulation (3), 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, there shall be no less than a 10-minute supply for the occupants of the passenger compartment.

(5) In no case shall the minimum supply of oxygen on board the aircraft be less than that prescribed by the Authority in the Civil Aviation (Instruments and Equipment) Regulations,

Use of oxygen.

79. -(1) All flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in regulation 72.

(2) All flight crew members of pressurized aircraft operating above an altitude where the atmospheric pressure is less than 376 hPa shall have available at the flight duty station a quick-donning type of oxygen mask which will readily supply oxygen upon demand.

Carriage of dangerous goods

80. -(1) A person shall not carry dangerous goods in an aircraft except-

(a) with the written permission of the Authority and subject to any condition the Authority may impose in granting such permission; and

(b) in accordance with the Technical Instructions for the Safe Transport of Dangerous Goods by Air issued by the Council of International Civil Aviation Organization and with any variations to those instructions which the Authority may from time to time notify that Council.

(2) A person shall not take or cause to be taken on board an aircraft or deliver or cause to be delivered for loading thereon, any goods which that person knows or has reasonable cause to know to be dangerous goods without complying with this regulation.

(3) The operator of an aircraft shall, before the flight begins, inform the pilot-in-command of the aircraft of the identity of the goods, the danger to which they give rise and the weight or quantity of the goods.

(4) For the purposes of this regulation, “dangerous goods” means the goods classified and listed as dangerous goods in the Technical Instructions for the Safe Transport of Dangerous Goods by Air.

(5) This Regulation shall be in addition to and not in derogation of regulation 165.

Portable electronic devices.

81. A PIC 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 IFR operations other than commercial air transport, the PIC allows such a device prior to its use; or
- (b) for commercial air transport operations, the AOC holder makes a determination of acceptable devices and publishes that information in the Operations Manual for the crew members use; and
- (c) the PIC informs passengers of the permitted use.

PART VI
FLIGHT PLANS AND AIR TRAFFIC CONTROL CLEARANCE
Operational Flight Planning and Preparation

Pre-flight action

82. A pilot-in-command of an aircraft registered in the [State] shall satisfy himself before take off-

- (a) that the flight can safely be made, taking into account the latest information available as to the route and aerodromes to be used, the weather reports and forecasts available, and any alternative cause of action which can be adopted in case the flight cannot be completed as planned;
- (b) that the equipment, including radio apparatus, required by these Regulations to be carried is carried and is in a fit condition for use;
- (c) that the aircraft is in every way fit for the intended flight, and that, where a certificate of release to service is required by the Civil Aviation (Airworthiness) Regulations, to be in force, is in force and will not cease to be in force during the intended flight;
- (d) that the load carried by the aircraft is of such weight, and is so distributed and secured, that it may safely be carried on the intended flight;

- (e) in the case of an aeroplane, a rotorcraft or airship, that sufficient fuel, oil and engine coolant, if required, are carried for the intended flight, and that a safe margin has been allowed for contingencies, and, in the case of a flight for the purpose of commercial air transport, that the instructions in the operations manual relating to fuel, oil, and engine coolant have been complied with;
- (f) in case of an airship or balloon, that, sufficient ballast if required is carried for the intended flight;
- (g) in the case of an aeroplane, that having regard to the performance of the aeroplane in the condition to be expected on the intended flight, and to any obstacle at the places of departure and intended destination and on the intended route, it is capable of safely taking off, reaching and monitoring a safe height thereafter, and making a safe landing at the place of intended destination; and
- (h) that any pre-flight check system established by the operator and set out in the operations manual or elsewhere has been complied with by each member of the crew of the aircraft.

Operation of aircraft
on the ground

83. -(1) A person shall not taxi an aeroplane on the movement area of an aerodrome unless that person-

- (a) has been authorised by the operator, owner or a designated agent;
- (b) is fully competent to taxi the aircraft;
- (c) is qualified to use the radio if radio communications are required;
- (d) has received instruction from a competent person in respect of aerodrome layout, and where appropriate, information on routes, signs, marking, lights, air traffic control signals and instructions, phraseology and procedures, and is able to conform to the operational standards required for safe aircraft movement at the aerodrome; and
- (e) has been given an air traffic control clearance where appropriate.

(2) A person shall not cause a helicopter rotor to be turned under power unless there is a qualified pilot at the controls properly secured in his seat.

Flight into known or
expected icing

84. A person shall not commence a flight-

- (a) in an aircraft or continue to operate an aircraft en route when the icing conditions are expected or encountered, without ensuring that the aircraft is certified for icing operations and has sufficient operational de-icing or anti-icing equipment;

- (b) in an aircraft when frost, ice or snow is adhering to the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft which might adversely affect the performance or controllability of the aircraft; or
- (c) for commercial air transport operations in an aircraft when conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless the procedures approved for the air operator certificate holder by the Authority are followed to ensure ground de-icing, and anti-icing is accomplished.

Aerodrome
operating minima

85. –(1) A person shall not operate to or from an aerodrome using aerodrome operating minima lower than those which may be established for that aerodrome by the State in which it is located, unless that State specifically approves that operation.

(2) The operator in establishing the aerodrome operating minima in any particular operation, shall take into account of;

- (a) the type, performance and handling characteristics of the aeroplanes;
 - (b) the composition of the flight crew, their competence and experience;
 - (c) the dimensions and characteristics of the runways which may be selected for use;
 - (d) the adequacy and performance of the available visual and non-visual ground aids;
 - (e) the equipment available on the aeroplane for the purpose of navigation and control of the flight path during the approach to landing and the missed approach;
 - (f) the obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures;
 - (g) the means used to determine and report meteorological conditions;
- and
- (h) the obstacles in the climb-out areas and necessary clearance margins.

Take-off conditions.

86. Before commencing take-off, a pilot-in-command shall ensure that:

- (a) according to the available information, the weather at the aerodrome and the condition of the runway intended to be used shall allow for a safe take-off and departure; and
- (b) the runway visual range (RVR) or visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum.

Altimeter settings.

87. A person operating an aircraft registered in the [State] shall set the aircraft altimeters to maintain the cruising altitude for flight level reference in accordance with the procedure notified by-

- (a) the State where the aircraft may be; or
- (b) the Aeronautical Information Publication

Operation of radio in aircraft

88. - (1) The radio station in an aircraft shall not be operated, whether or not the aircraft is in flight, except in accordance with the conditions of the licence issued in respect of that station under the law of the State of registry, and by a person duly licensed or otherwise permitted to operate the radio station under that law.

(2) Subject to sub-regulations (3) and (4) whenever an aircraft is in flight in such circumstances that it is required by or under these Regulations to be equipped with radio communications apparatus, a continuous radio watch shall be maintained by a member of a flight crew listening to the signals transmitted upon the frequency notified, or designated by a message received from an appropriate aeronautical radio station, for use by that aircraft.

(3) The radio watch may be discontinued or continued on another frequency to the extent that a message as aforesaid so permits.

(4) The watch may be kept by a device installed in the aircraft if the appropriate aeronautical radio station has been informed to that effect and has raised no objection; and that station is notified, or in the case of a station situated in a State other than the [State], otherwise designated as transmitting a signal suitable for that purpose.

(5) Whenever an aircraft is in flight in such circumstances that it is required by or under these Regulations to be equipped with radio or radio navigation equipment a member of the flight crew shall operate that equipment in such a manner as he may be instructed by the appropriate air traffic control unit or as may be notified in relation to any notified airspace in which the aircraft is flying.

(6) The radio station in an aircraft shall not be operated so as to cause interference, that impairs the efficiency of aeronautical telecommunications or navigational services, and in particular emissions shall not be made except as follows-

- (a) emission of the class and frequency for the time being in use, in accordance with general international aeronautical practice, in the airspace in which the aircraft is flying;
- (b) distress, urgency and safety messages and signals, in accordance with general international aeronautical practice;
- (c) messages and signals relating to the flight of the aircraft, in accordance with general international aeronautical practice; and

(d) such public correspondence messages as may be permitted by or under the aircraft radio station licence referred in sub-regulation (1).

(7) In any aircraft registered in [State], which is engaged on a flight for the purpose of commercial air transport operations, the pilot and the flight engineer (if any) shall not make use of a hand-held microphone, whether for the purpose of radio communication or of intercommunication within the aircraft, whilst the aircraft is flying in controlled airspace below flight level 150 or is taking off or landing.

(8) An aircraft which is equipped with a radio station having a defect such as to impair the safety of the aircraft shall not undertake any flight until the aircraft has been rendered safe, or if such defect occurs during flight, shall land as soon as possible unless the radio station can be and is speedily rendered safe for flight.

Weather reports and forecasts

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

(2) Pre-flight action by a PIC 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 cannot be completed as planned because of weather conditions.

(3) A PIC who is unable to communicate by 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 it is reasonably practicable for the PIC to obtain indicates that he will arrive at that aerodrome when the ground visibility is less than eight kilometres or the cloud ceiling is less than 1,500 feet, unless the PIC 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

90. A person shall not commence a flight to be conducted in accordance with visual flight rules (VFR) unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under VFR, shall, at the appropriate time, allow VFR operations.

Adequacy of
operating facilities

- 91.** - (1) A person 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) that person 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.

(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.

Diversions decision:
engine inoperative

92. - (1) Except as provided in sub-regulation (2) of this regulation, a pilot-in-command shall land the aircraft at the nearest suitable aerodrome at which a safe landing can be made whenever an engine of an aircraft fails or is shut down to prevent possible damage.

(2) Where not more than one engine of an aeroplane having three or more engines fails, and its rotation stops, the pilot in command may proceed to an aerodrome if the pilot in command decides that proceeding to that aerodrome is as safe as landing at the nearest suitable aerodrome after considering the-

- (a) nature of the malfunction and the possible mechanical difficulties that may occur if the flight is continued;
- (b) altitude, mass, and usable fuel at the time of engine stoppage;
- (c) weather conditions en route and at possible landing points;
- (d) air traffic congestion;
- (e) kind of terrain; and
- (f) familiarity with the aerodrome to be used.

Instrument flight
rules destination
aerodromes

93. A person shall not commence an instrument flight rules flight unless the available information indicates that the weather conditions at the aerodrome of intended landing and, if required, at least one suitable alternate at the estimated time of arrival, 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 alternate
aerodrome selection
criteria

94. -(1) Where alternate minimums are published, a pilot-in-command (PIC) shall not designate an alternate aerodrome in an instrument flight rules (IFR) 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 IFR planning alternate, a PIC shall ensure that the meteorological conditions at that alternate at the estimated time of arrival shall be at or above-

- (a) for a precision approach procedure, a ceiling of at least 600 feet and visibility of not less than 3 kilometres; or
- (b) for a non-precision approach procedure, a ceiling of at least 800 feet and visibility of not less than 3 kilometres.

(3) A flight to be conducted in accordance with IFR to a heliport when no alternate heliport is required shall not be commenced unless available current meteorological information indicates that the following meteorological conditions-

- (a) a cloud base of at least 120 m (400 ft) above the minimum associated with the instrument approach procedure; and
- (b) visibility of at least 1.5 km more than the minimum associated with the procedure;

will exist from two hours before to two hours after the estimated time of arrival, or from the actual time of departure to two hours after the estimated time of arrival, whichever is the shorter period.

Off-shore alternates
for helicopter
operations

95. -(1) A person shall not designate an offshore alternate landing site when it is possible to carry enough fuel to have an on-shore alternate landing site.

(2) The selection of offshore alternates shall be exceptional cases, the details of which have been 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) until the point of no return, using an on-shore alternate;
- (b) the offshore 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 helpdesk availability;
- (e) the weather information at the helpdesk shall be available from a source approved by the Authority; and

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

(4) The landing technique specified in the flight manual following control system failure may preclude the selection of certain helpdesk as alternate aerodromes.

(5) The mechanical reliability of critical control systems shall be taken into account when determining the suitability and necessity for an offshore alternate.

Take-off alternate aerodromes: commercial air transport operations.

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

(2) An operator shall ensure that each take-off alternate 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 twin-engine operations (ETOPS); 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.

Destination alternate heliport

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

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

(b) the heliport of intended landing is isolated and no suitable alternate is available and a point of no return (PNR) has been determined.

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

Maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS approval

98. - (1) Unless specifically granted an extended twin-engine operations (ETOPS) approval by the Authority, an air operator certificate (AOC) holder 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 sixty minutes at the one-engine-inoperative cruise speed determined in accordance with sub-regulation (2) with either-
 - (i) a maximum approved passenger seating configuration of twenty or more; or
 - (ii) a maximum take-off mass of 45360 kg or more;
- (b) reciprocating engine powered aeroplanes:
 - (i) the distance flown in 120 minutes at the one-engine-inoperative cruise speed determined in accordance with sub-regulation (2); or
 - (ii) three hundred nautical miles, whichever is less.

(2) An AOC holder 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 V_{mo} based upon the true airspeed that the aeroplane can maintain with one-engine-inoperative under the following conditions-

- (a) International Standard Atmosphere;
- (b) level flight:
 - (i) for turbine engine powered aeroplanes at-
 - (aa) flight level 170; 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;
 - (cc) flight level 170; or
 - (dd) 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;
 - (ii) for propeller driven 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;
- (iii) maximum continuous thrust or power on the remaining operating engine;
- (iv) 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 prescribed 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 prescribed in sub-regulation (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 prescribed in sub-regulation (1).

(3) An AOC holder 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 sub-regulation (2); and
- (b) the maximum distance from an adequate aerodrome determined in accordance with sub-regulation (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 two-engined aeroplanes

99. - (1) An AOC holder shall not conduct operations beyond the threshold distance determined in accordance with regulation 98, unless approved to do so by the Authority.

(2) Prior to conducting an extended twin-engine operations (ETOPS) flight, an AOC holder shall ensure that a suitable ETOPS 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.

En-route alternate aerodromes: ETOPS operations.

100. - (1) A pilot-in-command shall ensure that the required en route alternates for extended twin-engine operations (ETOPS) are selected and specified in air traffic control flight plans in accordance with the ETOPS diversion time approved by the Authority.

(2) A person shall not select an aerodrome as an ETOPS en-route alternate aerodrome unless the appropriate weather reports or forecasts, or any combination thereof, indicate that during a period commencing one hour before and ending one hour after the expected time of arrival at the aerodrome, the weather conditions shall be at or above the planning minima prescribed in Table 1 below and in accordance with the operator's ETOPS approval.

TABLE 1 - WEATHER CONDITIONS PLANNING MINIMA

Type of Approach	Planning Minima	
(RVR or visibility required & ceiling, if applicable)		
	Aerodrome with	
	at least 2 separate approach procedures based on 2 separate aids serving 2 separate runways (See sub regulation (4) above)	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 II, III (ILS, MLS)	Precision Approach Cat I Minima	Non-Precision Approach Minima
Precision Approach Cat 1 (ILS, MLS)	Non-Precision Approach Minima	Circling minima or, if not available, non-precision approach minima plus 200 ft per 1000m
Non-Precision Approach	The lower of non-precision approach minima plus 200 ft per 1000 m or circling minima	The higher of non-precision approach minima plus 200 ft per 1000 m or circling minima
Circling Approach	Circling Minima	

(3) The forecast weather criteria used in the selection of alternate aerodromes for instrument flight rules flight shall also be used for the selection of ETOPS alternates.

(4) Runways on the same aerodrome are considered to be separate runways when:

- (a) they are separate landing surfaces which may overlay or cross such that if one of the runways is blocked, it will not prevent the planned type of operations on the other runway; and
- (b) each of the landing surfaces has a separate approach based on a separate aid.

Fuel and oil supply.

101. - (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 can 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 in sub-regulation (1) shall consider at least the following-

- (a) meteorological conditions forecast;
- (b) expected air traffic control routings and traffic delays;
- (c) for instrument flight rules (IFR) flight, one instrument approach at the destination aerodrome, including a missed approach;

Flight planning: document distribution and retention

102. - (1) A pilot-in-command (PIC) operating commercial air transport shall complete and sign the following flight preparation documents prior to departure-

- (a) an operational flight plan, including Notice to Airmen (NOTAMs) 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 applicable technical log page, to accept that the aircraft is fit for the intended flight after the pre-flight inspection has been conducted
- (d) an operational flight plan, including NOTAMs and weather pertinent to the flight planning decisions regarding minimum fuel supply, en route performance, and destination and alternate aerodromes;
- (e) 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
- (f) an applicable technical log page, to accept that the aircraft is fit for the intended flight after the pre-flight inspection has been conducted.

(2) A person shall not commence a flight in commercial air transport unless all flight release documents, specified in the Operations Manual and signed by the PIC, are retained and available at the point of departure.

(3) A PIC shall carry a copy of the documents specified in sub-regulation (1) on the aircraft.

(4) In-flight operational instructions involving a change in the Air Traffic Services flight plan shall, when practicable, be coordinated with the appropriate Air Traffic Services unit before transmission to the aeroplane.

(5) Where the coordination under sub regulation (4) is not possible, operational instructions shall not relieve a pilot of the responsibility for obtaining an appropriate clearance from an Air Traffic Services unit before making a change in flight plan.

Commercial air transport: loading of aircraft

103. - (1) An air operator certificate (AOC) holder shall not cause or permit an aircraft to be loaded for a flight for the purpose of commercial air transport except under the supervision of a person who the AOC holder has caused to be furnished with written instructions as to the distribution and securing of the load so as to ensure that-

- (a) the load may safely be carried on the flight; and
- (b) any condition subject to which the certificate of airworthiness in force in respect of the aircraft was issued or rendered valid, being conditions relating to the loading of the aircraft are complied with.

(2) The instructions shall indicate the mass of the aircraft prepared for service, that is, the aggregate of the basic mass and the mass of such additional items in or on the aircraft as the operator thinks fit to include, and the instructions shall indicate the additional items included in the mass of the aircraft prepared for service, and shall show the position of the centre of gravity of the aircraft at that mass.

(3) The provisions of sub-regulation (2) shall not apply in relation to a flight if-

- (a) the aircraft's authorized maximum take-off mass does not exceed 1150 kg; or
- (b) the aircraft's authorized maximum take-off mass does not exceed 2730 kg. and the flight is not intended to exceed sixty minutes in duration and is either a flight-
 - (i) solely for training persons to perform duties in an aircraft; or
 - (ii) intended to begin and end at the same aerodrome.

(4) An operator of an aircraft shall not cause or permit the aircraft to be loaded in contravention of the instructions set out in sub-regulation (1).

(5) A person supervising the loading of the aircraft shall, before the commencement of a flight:

- (a) prepare and sign a load sheet in duplicate conforming to the requirements specified in sub-regulation (7); and

(b) unless the operator is the pilot-in-command (PIC) of the aircraft, submit the load sheet for examination by the PIC of the aircraft who shall, upon being satisfied that the aircraft is loaded in the manner required by sub-regulation (1), sign his name thereon;

(6) The requirements of sub-regulation (5) shall not apply where-

(a) the load and the distributing and securing thereof upon the next intended flight are to be unchanged from the previous flight and the PIC of the aircraft makes and signs an endorsement to that effect upon the load sheet for the previous flight, indicating the date of the endorsement, the place of departure upon the next intended flight and the next intended destination; or

(b) as set out in sub-regulation (3), sub-regulation (2) does not apply in relation to the flight.

(7) A pilot operating an aircraft shall ensure that one copy of the load sheet shall be carried in the aircraft when so required by these Regulations, until the flights to which the load sheet relates have been completed, and one copy of that load sheet and of the instruction referred to in this regulation shall be preserved by the operator until the expiration of a period of six months thereafter, and shall not be carried in the aircraft.

(8) A load sheet required under sub-regulation (5) shall contain the following information-

(a) the nationality and registration marks of the aircraft to which the load sheet relates; particulars of the flight to which the load sheet relates;

(b) particulars of the flight to which the load sheet relates;

(c) the total mass of the aircraft as loaded for the flight;

(d) the mass of the several items from which the total mass of the aircraft, as so loaded, has been calculated including in particular the mass of the aircraft prepared for service and the respective total mass of the passengers, crew, baggage and cargo intended to be carried on the flight;

(e) the manner in which the load is distributed and the resulting position of the centre of gravity of the aircraft which may be given approximately if and to the extent that the relevant certificate of airworthiness so permits; and

(f) at the foot or end of the load sheet, a certificate signed by the person referenced in sub-regulation (1) as responsible for the loading of the aircraft, stating that the aircraft has been loaded in accordance with the written instructions furnished to him by the operator of the aircraft pursuant to that sub-regulation.

(9) For the purpose of calculating the total mass of the aircraft, the respective total mass of the passengers and crew entered in the load sheet shall be computed from the actual mass of each person, and for that purpose each person shall be separately weighed unless sub-regulations (10), (11) and (13) applies.

(10) When determining the actual mass by weighing, an operator must ensure that passengers' personal belongings and hand baggage are included and such weighing must be conducted immediately prior to boarding and at an adjacent location.

(11) An Operator shall compute the mass of passengers and checked baggage using the standard mass values specified in Tables 2 and 3 except where the number of passenger seats available is less than 10.

(12) The standard masses values include hand baggage and the mass of any infant below 2 years of age carried by an adult on one passenger seat and Infants occupying separate passenger seats must be considered as children for the purpose of this regulation.

(13) In cases where the number of passenger seats available is less than 10, passenger mass may be established by use of a verbal statement by or on behalf of each passenger and adding to it a predetermined constant to account for hand baggage and clothing.

(14) The procedure specifying when to select actual or standard masses and the procedure to be followed when using verbal statements must be included in the Operations manual.

(15) On flights where no hand baggage is carried in the cabin or where hand baggage is accounted for separately, 6 kg may be deducted from the male and female masses in table 1 below and articles such as an overcoat, an umbrella, a small handbag or purse, reading material or a small camera are not considered as hand baggage for the purpose of this regulation;

TABLE 2-COMPUTATION OF MASS OF PASSENGERS

Passenger seats	1-5	6-9	10-19	20 and more	30 and more
Male	104	96	92	88	84
Female	86	78	74	70	84
children	35	35	35	35	35

(16) Where the total number of passenger seats available on the aircraft is 20 or more the standard mass values given in Table 3 are applicable for each piece of checked baggage and for aircraft with less than 20 passenger seats the actual mass of checked baggage, determined by weighing, must be used.

TABLE 3- COMPUTATION OF MASS OF BAGGAGE

Type of flight	Baggage standard mass
Domestic	11kgs
Regional	13kgs
Intercontinental	15kgs
All others	13kgs

(17) Where sub-regulation (10), (11) and (13) is applied, the load sheet shall bear a notation to that effect.

(18) Where sub-regulation (10), (11) and (13) may apply, the PIC shall, if the standard masses described in sub-regulation 10 appear to be inapplicable or doing so is in the interests of safety of the aircraft, require any or all of the passengers, crew and cargo to actually be weighed for the purpose of the entry to be made in the load sheet.

Aircraft loading,
mass and balance

104. A person shall not operate an aircraft unless-

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

Stowage of
baggage and
cargo.

105. -(1) An operator shall establish procedures to ensure that only such hand baggage is taken into the passenger cabin as can be adequately and securely stowed.

(2) An operator shall establish procedures to ensure that all baggage and cargo on board, which might cause injury or damage, or obstruct aisles and exits if displaced, is placed in storages designed to prevent its movement.

(3) The procedure referred to in sub-regulation (2) shall take account of the following

- (a) each item carried in cabin shall be stowed only in a location that is capable of restraining it;
- (b) mass limitations placarded on or adjacent to stowages shall not be exceeded;
- (c) underseat stowages shall not be used unless the seat is equipped with a restraint bar and the baggage is of such size that it may adequately be restrained by this equipment;
- (d) items shall not be stowed in toilets or against bulkheads that are incapable of restraining articles against movement forwards, sideways or upwards and unless the bulkheads carry a placard specifying the greatest mass that may be placed there;
- (e) baggage and cargo placed in lockers shall not be of such size that they prevent latched doors from being closed securely;
- (f) baggage and cargo shall not be placed where it can impede access to emergency equipment; and
- (g) checks shall be made before take-off, before landing and whenever the fasten seat belts signs are illuminated or it is otherwise so ordered to ensure that baggage is stowed where it cannot impede evacuation from the aircraft or cause injury by falling or other movement, as may be appropriate to the phase of flight.

Maximum allowable weights to be considered on all load manifests.

- 106.** 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

- 107.** A person shall not commence a-
- (a) flight under a flight following system without specific authority from the person authorised by the air operator certificate (AOC) holder to exercise operational control over the flight; or
 - (b) passenger carrying flight in commercial air transport for which there is a published schedule, unless a qualified person authorised by the AOC holder to perform operational control functions has issued a flight release for that specific operation or series of operations.

Operational flight plan: commercial air transport

- 108.** -(1) A person shall not commence a flight unless the operational flight plan has been signed by the pilot-in-command (PIC).

(2) A PIC shall sign the operational flight plan only when he and the person authorised by the operator to exercise operational control have determined that the flight can 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 alternates.

(4) A PIC signing the operational flight plan shall have access to the applicable flight planning information for fuel supply, alternate aerodromes, weather reports and forecasts and Notice to Airmen (NOTAMs) for the routing and destination aerodrome

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

PART VII

AIRCRAFT OPERATING AND PERFORMANCE LIMITATIONS

All Aircraft

Aircraft
airworthiness and
safety precautions

109. - (1) A pilot-in-command (PIC) shall not operate an aircraft until satisfied that-

- (a) the aircraft is airworthy, duly registered and that appropriate certificates are aboard the aircraft;
- (b) the instruments and equipment installed in the aircraft are appropriate, taking into account the expected flight conditions; and
- (c) any necessary maintenance has been performed and a certificate of release to service, if applicable, has been issued with respect to the aircraft.

(2) A PIC carrying out commercial air transport operations shall certify by signing the aircraft technical log that they are satisfied that the requirements of sub-regulation (1) have been met for a particular flight.

Performance and
operating
limitations

- 110.** A person shall not operate an aircraft that-
- (a) exceeds its designed performance limitations for any operation, as established by the State of Registry; or
 - (b) exceeds operating limitations contained in the Aeroplane Flight Manual, the Rotorcraft Flight Manual, or its equivalent.

In-flight
simulation of
abnormal
situations

111. A person operating an aircraft shall not simulate an abnormal or emergency situation when passengers or cargo are being carried on the aircraft.

Test-flight areas

112. A person shall not operate an aircraft during a test-flight except over open water, or sparsely populated areas having light traffic.

Operation in
RNP, MNPS or
RVSM airspace

113. - (1) A person shall not operate an aircraft in defined portions of airspace or on routes where an required navigation performance, (RNP) type has been prescribed, unless-

- (a) the aircraft is provided with navigation equipment which will enable it to operate in accordance with the prescribed RNP type(s); and
- (b) he is authorized by the State of the Registry for operations in such airspace.

(2) A person shall not operate an aircraft in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, without a written authorisation issued by the State of the Operator for MNPS operations.

(3) For flights in defined portions of airspace where, minimum navigation performance specifications (MNPS) are prescribed, an aircraft shall be provided with navigation equipment which-

- (a) continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track; and
- (b) has been authorized by the State of the Operator for MNPS operations concerned.

(4) A person shall not operate an aircraft in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1 000 ft) is applied between Flight Level 290 and Flight Level 410 inclusive, unless-

- (a) authorized by the State of the Operator in the airspace concerned and
- (b) the aircraft is provided with equipment which is capable of-
 - (i) indicating to the flight crew the flight level being flown;
 - (ii) automatically maintaining a selected flight level;
 - (iii) providing an alert to the flight crew when a deviation occurs from the selected flight level and the threshold for the alert shall not exceed ± 90 m (300 ft); and
 - (iv) automatically reporting pressure-altitude;

(5) Prior to granting the reduced vertical separation minimum (RVSM) approval required in sub-regulation (4), the State of the Operator shall be satisfied that-

- (a) the vertical navigation performance capability of the aircraft satisfies the requirements of the altimetry system performance for operations in RVSM airspace as prescribed by the Authority;(in the first schedule to this regulations)
- (b) the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and

(c) the operator has instituted appropriate flight crew procedures for operations in RVSM airspace.

Reports of height-keeping performance

114. The Authority in consultation with the State of Registry, shall ensure that, in respect of those aeroplanes mentioned in regulation 113 adequate provisions exist for:

- a) receiving the reports of height-keeping performance issued by the monitoring agencies established in accordance with the Civil Aviation (Air Navigation Services) Regulations,; and
- b) taking immediate corrective action for individual aircraft, or aircraft type groups, identified in such reports as not complying with the height-keeping requirements for operation in airspace where RVSM is applied.

Electronic navigation data management

115. -(1) An operator shall not employ electronic navigation data products that have been processed for application in the air and on the ground unless the State of the Operator has approved the operator's procedures or unless the process applied and the products delivered meets acceptable standards of integrity and such products are compatible with the equipment to which they are intended to be used.

(2) The State of the Operator shall ensure that the operator continues to monitor both process and products.

(3) An operator shall implement procedures that ensure timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that requires it.

Compliance with visual and electronic glide slopes.

116. -(1)A pilot-in-command (PIC) of an aircraft approaching to land on a runway served by a visual approach slope indicator or precision approach path indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.

(2) A PIC of a turbojet, turbofan, or large aircraft approaching to land on a runway served by an instrument landing system shall fly that aircraft at or above the glide slope from the point of interception of the glide slope to the decision height.

Restriction or suspension of operations: commercial air transport

117. Where a pilot-in-command (PIC) or an air operator certificate (AOC) holder knows of conditions, including aerodrome and runway conditions, that are a hazard to safe operations, that PIC or AOC holder shall restrict or suspend all commercial air transport operations to such aerodromes and runways as necessary until those conditions are corrected or have improved.

Continuation of flight when destination aerodrome is temporarily restricted: commercial air transport.

- 118.** A pilot-in-command (PIC) shall not allow a flight to continue toward any aerodrome of intended landing where commercial air transport operations have been restricted or suspended, unless-
- (a) in the opinion of the PIC, the conditions that are a hazard to safe operations may reasonably be expected to be corrected or have improved by the estimated time of arrival; or
 - (b) there is no safer procedure.

Continuation of Instrument flight rules flight toward a destination.

- 119.** A pilot shall not continue an instrument flight rules flight toward an aerodrome or heliport of intended landing, unless the latest available meteorological information indicates that the conditions at that aerodrome, or at least one destination alternate aerodrome shall, at the expected time of arrival, be at or above the specified instrument approach minima.

Operations of single-engine aircraft.

- 120.** -(1) An operator shall ensure that a single-engine aircraft other than turbine-powered, is operated only in conditions of weather and light, and over such routes and diversions there from, that permit a safe forced landing to be executed in the event of engine failure.
- (2) In complying with sub-regulation (1) of this regulation-
 - (a) the aircraft shall not be assumed to be flying, with the engine operating within the maximum continuous power condition specified, at an altitude exceeding that which the rate of climb equals 300 feet per minute; and
 - (b) the assumed en-route gradient shall be the gross gradient of descent increased by gradient of 0.5%.

Operations of single-engine turbine-powered aircraft at night or in instrument meteorological conditions

- 121.** -(1) A person shall not operate a single-engine turbine-powered aircraft at night or in instrument meteorological conditions (IMC) unless he ensures that-
- (a) the reliability of the turbine engine is to a level of safety intended by these Regulations and the Civil Aviation (Airworthiness) Regulations,
 - (b) the maintenance procedures, operating practices, flight dispatch procedures and crew training programmes are as intended by these Regulations and the Civil Aviation (Airworthiness) Regulations,
 - (c) equipment and other requirements for Instrument flight rules operations are as stipulated in the Civil Aviation (Instruments and Equipment) Regulations,

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

Instrument flight rules take-off minima for commercial air transport.

122. Unless otherwise authorised by the Authority, no pilot operating an aircraft in commercial air transport operations shall accept a clearance to take off from an aerodrome under Instrument flight rules unless weather conditions are at or above-

- (a) for aircraft, other than helicopters, having two engines or less: one thousand five hundred metres;
- (b) for aircraft having more than two engines: eight hundred metres; or
- (c) for helicopters: eight hundred metres.

Instrument approach procedures and Instrument flight rules landing minima.

123. A person shall not make an instrument approach at an airport except in accordance with Instrument flight rules weather minima and instrument approach procedures set out in the AOC holder's operations specifications.

Commencing an instrument approach

124. -(1) A pilot shall not continue an approach past the final approach fix, or where a final approach fix is not used, begin the final approach segment of an instrument approach procedure, at any aerodrome unless-

- (a) a source approved by the Authority issues a weather report for that aerodrome; and
- (b) the latest weather report for that aerodrome indicates the visibility to be equal to or more than the visibility minima prescribed for that procedure.

(2) Where a pilot begins the final approach segment of an instrument approach procedure and subsequently receives a weather report indicating below minimum conditions, the pilot may continue the approach to decision height or minimum descent altitude.

(3) For the purpose of this regulation, the final approach segment begins at the final approach fix or facility prescribed in the instrument approach procedure.

(4) When a final approach fix is not prescribed for a procedure that includes a procedure turn, the final approach segment begins at the point where the procedure turn is completed and the aircraft is established inbound toward the aerodrome on the final approach course within the distance prescribed in the procedure.

Instrument approaches to aerodromes

125. .-(1) A person operating an aircraft shall use a standard instrument approach procedure prescribed for that aerodrome unless otherwise authorised by the Authority.

(2) For the purpose of this regulation, when the approach procedure being used provides for and requires the use of a decision height or minimum descent altitude, the authorised DH or MDA shall be the highest of the following-

- (a) the DH or MDA prescribed by the approach procedure;
- (b) the DH or MDA prescribed for the PIC; or
- (c) the DH or MDA for which the aircraft is equipped.

Threshold crossing height for precision approaches.

126. An operator shall establish operational procedures designed to ensure that aircraft being used to conduct precision approaches crosses the threshold by a safe margin with the aircraft in the landing configuration and altitude.

Operation below decision height or minimum descent altitude

127. .-(1) Where a decision height or minimum descent altitude is applicable, a pilot shall not operate an aircraft at any 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 can be made at a normal rate of descent using normal manoeuvres;
- (b) for commercial air transport operations, a descent rate shall allow touchdown to occur within the touchdown zone of the runway of intended landing;
- (c) the flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and
- (d) at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:
 - (i) the approach light system, except that the pilot shall not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable-
 - (ii) threshold or the threshold markings;
 - (iii) threshold lights;
 - (iv) the runway end identifier lights;
 - (v) the visual approach slope indicator system; or precision approach path 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.

(2) The visual references set out in sub-regulation (1)(d) shall not apply to Category II and III operations.

(3) The required visual references under Category II and III operations shall be provided in the AOC holder's operations specifications or a special authorisation prescribed by the Authority.

Landing during instrument meteorological conditions

128. A pilot operating an aircraft shall not land that aircraft when the flight visibility is less than the visibility prescribed by the Authority in the standard instrument approach procedure being used.

Execution of a missed approach procedure

129. A pilot operating an aircraft shall immediately execute an appropriate missed approach procedure when either of the following conditions exist-

- (a) whenever the required visual reference criteria is not met in the following situations-
 - (i) when the aircraft is being operated below minimum descent altitude (MDA); or
 - (ii) upon arrival at the missed approach point, including a decision height (DH) where a DH is specified and its use is required, and at any time after that until touchdown; or
- (b) whenever an identifiable part of the aerodrome is not distinctly visible to the pilot during a circling manoeuvre at or above MDA, unless the inability to see an identifiable part of the aerodrome results only from a normal bank of the aircraft during the circling approach.

Minimum altitudes for use of an autopilot

130. -(1) Except as provided in sub-regulations (2),(3) and (4) , a person shall not use an autopilot en route, including climb and descent, at an altitude above the terrain that is less than twice the maximum altitude loss specified in the aircraft flight manual for malfunction of the autopilot under cruise conditions, or less than 500 feet, whichever is higher.

(2) When using an instrument approach facility, a person shall not use an autopilot at an altitude above the terrain that is less than twice the maximum altitude loss specified in the aircraft flight manual for a malfunction of the autopilot under approach conditions, or less than 50 feet below the approved minimum descent altitude or decision height for the facility, whichever is higher, except:-

- (a) when reported weather conditions are less than the basic visual flight rules (VFR) weather conditions as specified in the Civil Aviation (Rules of the Air and Air Traffic Control) Regulations, a person shall not use an autopilot with an approach coupler for instrument landing system approaches at an altitude above the terrain that is less than 50 feet higher than the maximum altitude loss specified in the aircraft flight manual for the malfunction of the autopilot with approach coupler under approach conditions; and
 - (b) when reported weather conditions are equal to or better than the basic VFR minima as specified in the Civil Aviation (Rules of the Air and Air Traffic Control) Regulations, a person shall not use an autopilot with an approach coupler for instrument landing system approaches at an altitude above the terrain that is less than the maximum altitude loss specified in the aircraft flight manual for the malfunction of the autopilot with approach coupler under approach conditions, or 50 feet, whichever is higher.
- (3) Notwithstanding sub-regulation (1) or (2) , the Authority shall issue operation specifications to allow the use, to touchdown, of an approved flight control guidance system with automatic capability, in any case in which-
- (a) the system does not contain any altitude loss (above zero) specified in the aircraft flight manual for malfunction of the autopilot with approach coupler; and
 - (b) the Authority finds that the use of the system to touchdown will not otherwise affect the safety standards required by this regulation.
- (4) Notwithstanding sub-regulation (1), the Authority shall issue operation specifications to allow the use of an approved autopilot system with automatic capability below the altitude specified in sub-regulation (1) during the take-off and initial climb phase of flight provided-
- (a) the aircraft flight manual specifies a minimum altitude engagement certification restriction;
 - (b) the system is not engaged prior to the minimum engagement certification restriction specified in the aircraft flight manual or an altitude specified by the Authority, whichever is higher; and
 - (c) the Authority finds that the use of the system will not otherwise affect the safety standards required by this regulation.

Minimum flight altitudes

131. –(1) An operator shall be permitted to establish minimum flight altitudes for those routes flown for which minimum flight altitudes have been established by the State flown over, provided that minimum flight altitudes shall not be less than those established by that State.

(2) An operator shall specify the procedure intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the State flown over and shall include this procedure in the operations manual.

(3) The minimum flight altitudes determined in accordance with sub regulation (2) shall not be lower than specified in Civil Aviation (Rules of Air and Air Traffic Control) Regulations,

Receiver failure

132. -(1) Where an aircraft radio station is unable to establish communication due to receiver failure, that aircraft shall transmit-

(a) reports at the scheduled times, or positions, on the frequency in use, preceded by the phrase “TRANSMITTING BLIND DUE TO RECEIVER FAILURE”; and

(b) the intended message, following this by a complete repetition, during this procedure, the aircraft shall also advise the time of its next intended transmission.

(2) An aircraft which is provided with air traffic control service or advisory service shall, in addition to complying with sub-regulation (1), transmit information regarding the intention of the pilot-in-command (PIC) with respect to the continuation of the flight of the aircraft.

(3) Where a PIC is unable to establish communication due to airborne equipment failure he shall, when the aircraft is so equipped, select the appropriate secondary surveillance radar (SSR) code 7600 to indicate radio failure

Aircraft performance calculations for all aircrafts

133. -(1) An operator shall ensure that the performance data contained in the Aeroplane Flight Manual, Rotorcraft Flight Manual, or other authorised source is used to determine compliance with the appropriate requirements of these Regulations.

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

General weight and obstruction clearance limitations

134. -(1) A person 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 considering the-

- (a) condition of the take-off and landing areas to be used;
- (b) the gradient of runway to be used for land planes only;
- (c) pressure altitude;

- (d) ambient temperature;
- (e) 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, cannot safely clear all obstacles during all phases of flight, including all points along the intended en-route path or any planned diversions.

Category II and III operations: general operating rules

135. - (1) A person shall not operate an aircraft in a category II or III operations unless-

- (a) the pilot-in-command and co-pilot of the aircraft hold the appropriate authorisations and ratings prescribed in the Civil Aviation (Personnel Licensing) Regulations,
- (b) each flight crew member has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; and
- (c) the instrument panel in front of the pilot who is controlling the aircraft has appropriate instrumentation for the type of flight control guidance system that is being used.

(2) Unless otherwise authorised by the Authority, a person shall not operate an aircraft in a Category II or Category III operations unless each ground component required for that operation and the related airborne equipment is installed and operating.

(3) Where the approach procedure being used provides for and requires the use of a decision height or decision altitude, the authorised decision height or decision altitude is the highest of the following-

- (a) the decision height or decision altitude prescribed by the approach procedure;
- (b) the decision height or decision altitude prescribed for the pilot in command; or
- (c) the decision height or decision altitude for which the aircraft is equipped.

(4) Unless otherwise authorised by the Authority, a pilot operating an aircraft in a Category II or Category III approach that provides and requires use of a decision height or decision altitude shall not continue the approach below the authorised decision height unless-

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

- (b) at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:-
 - (i) the approach light system, except that the pilot shall not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable;
 - (ii) the threshold or the threshold markings;
 - (iii) the threshold lights
 - (iv) the touchdown zone or touchdown zone markings;
 - (v) the touchdown zone lights.

(5) Unless otherwise authorised by the Authority, a pilot operating an aircraft shall immediately execute an appropriate missed approach procedure whenever, prior to touchdown, the requirements of sub-regulation (4) are not met.

(6) A person operating an aircraft using a Category III approach without decision height shall not land that aircraft except in accordance with the provisions of the letter of authorisation issued by the Authority.

(7) Sub-regulations (1) to (6) do not apply to operations conducted by air operator certificate (AOC) holders issued with a certificate under the Civil Aviation (Air Operator Certification and Administration) Regulations,

(8) A person shall not operate an aircraft in a Category II or Category III operations conducted by an AOC holder unless the operation is conducted in accordance with that AOC holder's specific operations specifications.

Category II and
Category III:
operations
manual.

136. - (1) Except as provided in sub-regulation (3), a person shall not operate an aircraft in a Category II or a Category III operation unless-

- (a) there is available in the aircraft a current and approved Category II or Category III manual, as appropriate, for that aircraft;
- (b) the operation is conducted in accordance with the procedures, instructions, and limitations in the appropriate manual; and
- (c) the instruments and equipment listed in the manual that are required for a particular Category II or Category III operation have been inspected and maintained in accordance with the maintenance programme contained in the manual.

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

(3) Sub-regulations (1) and (2) do not apply to operations conducted by an air operator certificate holder issued a certificate under the Civil Aviation (Air Operator Certification and Administration) Regulations,

- (4) An applicant for approval of a Category II or III operations manual or an amendment to an approved Category II operations manual shall submit the proposed manual or amendment to the Authority.
- (5) Where the application made under these Regulations is a request for an evaluation programme, the application shall include the following-
- (a) the location of the aircraft and the place where the demonstrations are to be conducted; and
 - (b) the date the demonstrations are to commence (at least 10 days after filing the application).
- (6) A Category II or III operations manual shall contain-
- (a) the registration number, make, and model of the aircraft to which it applies;
 - (b) a maintenance programme; and
 - (c) the procedures and instructions related to-
 - (i) recognition of decision height or decision altitude;
 - (ii) use of runway visual range information;
 - (iii) approach monitoring;
 - (iv) the decision region, which is the region between the middle marker and the decision height or decision altitude;
 - (v) the maximum permissible deviations of the basic instrument landing system indicator within the decision region;
 - (vi) a missed approach procedure;
 - (vii) use of airborne low approach equipment;
 - (viii) minimum altitude for the use of the autopilot;
 - (ix) instrument and equipment failure warning systems
 - (x) instrument failure; and
 - (xi) other procedures, instructions, and limitations that may be found necessary by the Authority.

Authorization for deviation from certain Category II operations.

137. -(1) The Authority may authorise deviations from the requirements of regulations 135 and 136 for the operation of small aircraft in Category II operations if the Authority finds that the proposed operation can safely be conducted.

(2) The authorisation specified in sub-regulation (1) of this regulation does not permit operation of the aircraft carrying persons or property for compensation or hire.

Aircraft used in Commercial Air Transport Operation

General.

138. -(1) Where full compliance with the requirements of these Regulations cannot be shown due to specific design characteristics, for example, seaplanes, airships, or supersonic aircraft, the operator shall apply approved performance standards that ensure a level of safety not less restrictive than those of relevant requirements of this regulation.

(2) A person shall not operate a multi-engine aircraft used for commercial air transport operation that is unable to comply with any of the performance limitations of regulations 141 up to 145, inclusive, unless that aircraft is continually operated-

- (a) in daylight;
- (b) in visual flight rules; and
- (c) at a weight that shall allow it to climb, with the critical engine inoperative, at least 50 feet a minute when operating at the minimum en-route altitude of the intended route or any planned diversion, or at 5,000 feet above mean sea level, whichever is higher.

(3) A multi-engine aircraft that is unable to comply with sub-regulation (2)(c) shall, for the purpose of this regulation, be considered as a single engine aircraft.

Rules of the air and air traffic control.

139. Every person and every aircraft shall comply with the Civil Aviation (Rules of the Air and Air Traffic Control) Regulations,

Aircraft performance calculations for commercial air transport

140. -(1) A person shall not commence a flight in an aircraft used in commercial air transport operation without ensuring that the applicable operating and performance limitations required by this regulation can be accurately computed based on the aeroplane flight manual, rotorcraft flight manual, or other data source approved by the Authority.

(2) A person calculating performance and operating limitations for an aircraft used in commercial air transport operation shall ensure that performance data used to determine compliance with this regulation can, 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 failure for aircraft having three or more engines, if applicable.

(3) When calculating the performance and limitation requirements of regulations 141 up to 145, inclusive a person performing the calculation shall, for all engines operating and for inoperative engines, accurately account for-

- (a) in all phases of flight-
the effect of fuel and oil consumption on aircraft weight;

- (i) the effect of fuel consumption on fuel reserves resulting from changes in flight paths, winds, and aircraft configuration;
 - (ii) the effect of fuel jettisoning on aircraft mass and fuel reserves, if applicable and approved;
 - (iii) the effect of any ice protection system, if applicable and weather conditions require its use;
 - (iv) ambient temperatures and winds along intended route and any planned diversion; and
 - (v) flight paths and minimum altitudes required to remain clear of obstacles;
- (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 landing site;
 - (vii) the ground handling characteristics, for example 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, compliance may be determined by interpolation or by computing the effects of changes in the specific variables, if the results of the interpolation or computations are substantially as accurate as the results of direct tests.

(5) To allow for wind effect, take-off data based on still air may be corrected by taking into account not more than fifty percent of any reported headwind component and not less than one hundred and fifty per cent of any reported tailwind component.

Take-off
limitations

141. -(1) A person shall not commence a flight in an aeroplane used in commercial air transport operation 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 $\frac{1}{2}$ the length of the runway; and
- (ii) the accelerate-stop distance shall not exceed the length of the runway, plus the length of any stopway, at any time during take-off until reaching V_1 ;
- (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 V_1 ; and
- (d) where the critical engine fails at any time after the aeroplane reaches V_1 , to continue the take-off and clear all obstacles either-
 - (i) by a height of at least 9.1 m (35 ft) vertically for turbine engine powered aeroplanes or 15.2 m (50 ft) for reciprocating engine powered aeroplanes; and
 - (ii) by at least 60 m (200 ft) horizontally within the aerodrome boundaries and by at least 90 meters (300 ft) horizontally after passing the boundaries, without banking more than fifteen degrees at any point on the take-off flight path.
- (2) A person shall not take-off a helicopter used in commercial air transport that, in the event of a critical engine failure, shall not-
 - (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 flight path, until a suitable landing site is found.
 - (c) for performance Class 3 helicopters-
 - (i) clear the obstacles along its flight path by an adequate margin; or
 - (ii) maintain minimum flight altitude; or
 - (iii) at engine failure permit a safe, forced landing.

En-route
limitations: all
engines operating

142. -(1) A person shall not commence a flight in a reciprocating engine powered aeroplane used in commercial air transport operation at a weight that does not allow a rate of climb of at least 6.9 V_{so} with all engines operating, at an altitude of at least 300 m (1,000 ft) above all terrain and obstructions within ten miles of each side of the intended track.

(2) In this regulation the term “6.9 V_{so} ” 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

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

(2) The net flight path shall have a positive gradient at 1500 ft 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 gradient of the net flight path shall be positive at least 1000 ft above all terrain and obstructions along the route within 9.3 km (5 nm) on either side of the intended track.

(4) The net flight path shall permit the aeroplane to continue flight from the cruise altitude to an aerodrome where a landing can be made in accordance with regulation 145 as appropriate, the net flight path clearing vertically, by at least 2000 ft, all terrain and obstructions along the route within 9.3 km (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 are met; 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) An operator shall increase the width margins of sub-regulation (4) to 18.5 km (10 nm) if the navigational accuracy does not meet the 95% containment level.

(6) A person shall not commence a flight in commercial air transport operation helicopter having two engines unless that helicopter can, in the event of the critical engine failing and any point in the en-route phase, continue the flight to the destination or alternate landing site without flying below the minimum flight altitude at any point and clearing all obstacles in the approach path by a safe margin.

En-route
limitations: three
or more engines,
two engines
inoperative.

144. -(1) A person may not take-off an aeroplane used in commercial air transport operation having three or more engines at such a weight where there is no suitable landing aerodrome within 90 minutes at any point along the intended route, with all engines operating at cruising power, unless that aircraft can, in the event of simultaneous power failure of two critical engines at the most critical point along that route, continue to a suitable landing aerodrome while complying with the requirements of sub-regulations (2) up to (6).

(2) The two engines inoperative en-route net flight path data shall permit the aeroplane 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 net flight path referred to in sub-regulation (2) shall clear vertically, by at least 2000 ft all terrain and obstacles along the route within 9.3 km (5 nm) , on either side of the intended track.

(4) At altitudes and in meteorological conditions requiring ice protection systems to be operable, the effect of their use on the net flight path data must be taken into account, and if the navigational accuracy does not meet the 95% containment level, an operator must increase the width margin given above to 18.5 km (10 nm).

(5) The two engines are assumed to fail at the most critical point of that portion of the route where the aeroplane is more than ninety 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 net flight path shall have a positive gradient at 1500 ft 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 expected mass of the aeroplane at the point where the two engines are assumed to fail shall 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 ft directly over the landing area and thereafter to fly level for fifteen minutes.

(9) A person shall not commence a flight in a performance class 1 or performance class 2 helicopter used in commercial air transport operation having three or more engines unless that helicopter can, in the event of two critical engines failing simultaneously at any point in the en-route phase, continue the flight to a suitable landing site.

Landing
limitations

145. -(1) A person shall not commence a flight in an aeroplane used in commercial air operations unless the aeroplane 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, sixty percent of the effective length of each runway; and
- (b) for reciprocating engine powered aeroplanes, seventy 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 landing distance available shall be at least one hundred and fifteen percent 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 sub-regulation (1) has been approved for a specific type and model of aeroplane; and
- (b) this information is included in the aircraft flight manual.

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

(5) A person shall not commence a flight in a helicopter used in commercial air transport operation unless, with all engines operating on arrival at the intended destination landing site or any planned alternate landing, it can clear all obstacles on the approach path and can land and stop within the landing distance available.

(6) A person shall not commence a flight in a helicopter used in commercial air transport operation unless, in the event of any engine becoming inoperative in the approach and landing phase on arrival at the intended destination landing site or any planned alternate landing, can-

- (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 bailed 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;
- (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 sub-regulation (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) in the plane view, the centreline of the specified area coincides with the centreline of the runway, beginning at the point where the obstruction clearance plane intersects the centreline of the runway and proceeding to a point at least 1,500 feet from the beginning point;
- (c) the centreline coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings), or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4,000 foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions; and
- (d) this area extends laterally 200 feet on each side of the centreline 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 centreline 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 centreline.

PART VIII

PASSENGER AND PASSENGER HANDLING

All Passenger- Carrying Operations

Unacceptable conduct.

146. A person on board an aircraft shall not-

- (a) interfere with a crew member in the performance of that crew members' duties;
- (b) refuse to fasten his seat belt and keep it fastened while the seat belt sign is lighted;
- (c) wilfully, recklessly or negligently act or omit to act-
 - (i) so as to endanger an aircraft or persons and property therein; and
 - (ii) so as to cause or permit an aeroplane to endanger any person or property;
- (d) secrete himself 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) wilfully, 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

Refuelling or defuelling with passengers on board.

147. -(1) A pilot-in-command shall not allow an aeroplane to be refuelled or defuelled 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) 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 person shall not allow a helicopter to be refuelled or defuelled when-

- (a) passengers are embarking, on board, or disembarking; or
- (b) the rotors are turning.

Passenger seats, safety belts and shoulder harnesses

148. -(1) A pilot-in-command (PIC) shall ensure that each person onboard the aircraft from the age of 2 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 seatbelt securely fastened at any other time the PIC determines it is necessary for safety.

(3) When cabin crew members are required in a commercial air transport operation, the PIC may delegate the responsibility specified in sub-regulation (1) to the cabin crew member, but shall ascertain that the proper briefing has been conducted prior to take-off.

Passenger briefing: non AOC holder aircraft.

149. -(1) A pilot-in-command (PIC) of a non air operator certificate (AOC) holder aircraft shall ensure that crew members and passengers are made familiar, by means of an oral briefing or by other means, with the location and use of the following items, if appropriate.

- (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) The PIC of a non AOC holder 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 PIC of a non AOC holder aircraft may delegate the responsibility of briefing passengers under this regulation to any other crew member on board the aircraft, and shall ascertain that the briefing has been conducted prior to take-off.

In-flight emergency instruction.

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

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

(3) A PIC shall, for each type of aeroplane, assign to all flight crew members the necessary functions to perform in an emergency or in a situation requiring emergency evacuation.

(4) In accomplishing function referred to in sub regulation (3), annual training shall be contained in the operator's training programme and shall include instruction in the use of all emergency and lifesaving equipment required to be carried and drills in the emergency evacuation of the aeroplane.

Passenger oxygen: minimum supply and use.

151. A PIC 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 harmfully affect 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 15,000 feet.

Alcohol or drugs

152. -(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) while on board the aircraft be served alcohol.

(2) A person shall not:

- (a) board an aircraft while intoxicated or under the influence of drugs; or
- (b) while on board the aircraft, be intoxicated or under the influence of drugs.

Use of psychoactive substances

153. -(1) A holder of a licence, rating or a certificate issued under these Regulations shall not exercise the privileges of the licence, rating or certificate while under the influence of any psychoactive substance, by reason of which human performance is impaired.

(2) A person whose function is critical to the safety of aviation (safety-sensitive personnel) shall not undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired.

(3) The person referred to in sub-regulation (1) and (2) shall not engage in any kind of problematic use of substances.

Commercial Air Transport Passenger Carrying Operations

Passenger compliance with instructions.

154. A passenger on a commercial air transport operation flight shall comply with instructions given by a crew member in compliance with these Regulations.

Denial of transportation.

155. An air operator certificate holder 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 158.

Carriage of
Persons Without
Compliance with
Passenger-
Carrying
Requirements

- 156.** A pilot-in-command or an operator shall not allow a person to be carried without compliance to the passenger carrying requirements unless there is an approved seat with an approved seat belt for that 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 that person when smoking is prohibited and when seat belts shall be fastened; and
 - (d) that person has been orally briefed by a crew member on the use of emergency equipment and exits.

Cabin crew at
duty stations.

- 157.** - (1) During taxi, of an aircraft a cabin crew member shall remain at his duty station with 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 egress of passengers in event of an emergency evacuation
- (3) When passengers are on board a parked aircraft, cabin crew members or another 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.
- (4) Cabin crew seats shall be located near floor level and other emergency exits as required by the State of Registry for emergency evacuation.

Evacuation
capability.

158. A pilot-in-command or other person assigned by the air operator certificate holder shall ensure that, when passengers are on board the aircraft prior to movement on the surface, at least one floor-level exit provides for egress of passengers through normal or emergency means.

Arming of
automatic
emergency exits.

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

- Accessibility of emergency exits and equipment. **160.** 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 **161.** -(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) Where refuelling with passengers on board, the PIC or a designated air operator certificate (AOC) holder's representative shall ensure that the AOC holder's operations manual procedures are followed.
- Carriage of persons with reduced mobility **162.** A person shall not allow a person of reduced mobility to occupy seats where his presence could-
- (a) impede the crew in their duties;
 - (b) obstruct access to emergency equipment; or
 - (c) impede the emergency evacuation of the aircraft.
- Exit row seating. **163.** -(1) A pilot-in-command (PIC) shall ensure that no passenger sits in an emergency exit row if the PIC 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 PIC shall ensure that a person is not seated in a passenger exit seat if it is likely that the person would be unable to perform one or more of the applicable functions listed below-
- (a) lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs 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;
 - (x) assist others in getting off an escape slide;
- (b) is less than fifteen 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 (AOC) 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 paragraph (a) up 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 caring for small children, that might prevent the person from performing one or more of the functions listed above or a condition that might cause the person harm if he performs one or more of the functions listed above.
- (3) Determination by a crew member as to the suitability of each person permitted to occupy an exit seat shall be made by the cabin crew members.
- (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 AOC holder shall ensure that a ticket agent shall, prior to boarding, assign seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible.
- (7) An AOC holder 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 in regard to exit row seating.

- (8) A cabin crew member shall include in their passenger briefings a request that a passenger identify himself to allow reseating if that passenger-
- (a) cannot meet the selection criteria;
 - (b) has a non-discernible condition that shall prevent them 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 their 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 crew member or other authorised employee of the AOC holder implementing exit seating restrictions.
- (11) A PIC shall not allow taxi or pushback of an aircraft unless at least one required crew member has verified that all exit rows and escape paths are unobstructed and that no exit seat is occupied by a person the crew member determines is likely to be unable to perform the applicable evacuation functions.
- (12) In order to comply with this regulation an AOC holder 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 AOC holder's procedures.

Carriage of
munitions of war

164. - (1) An aircraft shall not carry munitions of war.

(2) A person shall not take or cause to be taken on board an aircraft, or deliver or cause to be delivered for carriage thereon, any goods which that person knows or has reason to believe or suspect to be munitions of war.

(3) For the purpose of this regulation, “munitions of war” means such weapons, ammunition, articles, materials or devices as are intended or adapted for use in warfare.

(4) Without prejudice to sub-regulations (1) and (2), a person shall not carry or have in his charge any weapon on board an aircraft registered in [State], provided that a weapon, not being munitions of war, may be carried as passenger’s baggage if it is stowed in the part of the aircraft inaccessible to passengers and, in the case of a firearm, it is not loaded.

(5) Nothing in this regulation shall apply to weapons or ammunition taken or carried on board an aircraft if the weapons or ammunition may, under the law of the State in which the aircraft is registered, be lawfully taken or carried on board for the purpose of ensuring the safety of the aircraft or of the persons on board.

Prohibition against carriage of weapons.

165. A person shall not, while on board an aircraft being operated in commercial air transport operation, carry on or about that person a deadly or dangerous weapon, either concealed or unconcealed.

Oxygen for medical use by passengers

166. -(1) An air operator certificate (AOC) holder 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 person shall not smoke, and no crew member shall allow any person to smoke within 10 feet of oxygen storage and dispensing equipment carried for the medical use of a passenger

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

Carry-on baggage.

167. -(1) A person shall not allow-

- (a) the boarding of carry-on baggage unless it can be adequately and securely stowed in accordance with the air operator certificate (AOC) holder's operations manual procedures.
- (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 in sub-regulation (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.

168. -(1) A person shall not allow the carriage of cargo in the passenger compartment of an aircraft except as prescribed by the Authority.

(2) Cargo may 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 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 be fully enclosed and made of material that is at least flame resistant;
- (f) suitable safeguards shall be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and
- (g) the bin may not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

(3) Cargo, including carry-on baggage, may be carried anywhere in the passenger compartment of a small aircraft if it is carried in an approved cargo rack, bin, or compartment installed in or on the aircraft, if it is secured by an approved means, or if it is carried in accordance with each of the following-

- (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, or for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;
- (b) it is packaged or covered to avoid possible injury to occupants;
- (c) it does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;

- (d) it is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or is located in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign or placard, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passengers is provided;
- (e) it is not carried directly above seated occupants;
- (f) it is stowed in compliance with these restrictions during take-off and landing; and
- (g) for cargo-only operations, if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft if an emergency occurs.

Passenger information signs.

169. A PIC of an aircraft 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: AOC holder.

170. -(1) A person shall not commence a take-off unless the passengers are briefed prior to take-off in accordance with the air operator certificate (AOC) 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) if flight is above 12,000 feet above mean sea level , the normal and 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 (PIC) shall ensure that the passengers are briefed to keep their seat belts fastened while seated, even when the seat belt sign is off.

(3) Before take-off, the PIC 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) The PIC operating a commercial air transport operations flight 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) The operator 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 aeroplane shall be secured in their seats by means of seat belts or harnesses provided.

Passenger briefing: extended over water operations.

171. A pilot-in-command shall not commence extended over water operations unless all passengers have been orally briefed on the location and operations of life preservers, life rafts and other flotation means, including a demonstration of the method of donning and inflating a life preserver.

Passenger seat belts.

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

(2) A passenger safety belt shall not be used by more than one occupant during take-off and landing.

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

(4) A person who is not two years of age may be held by an adult who is occupying a seat or berth.

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

Passenger seat backs.

173. -(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) Exceptions to this requirement shall only be made in accordance with procedures in the air operator certificate holder'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

174. 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

- 175.** A person 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.

*Crew member and Flight Operations Officer Qualifications:
Commercial Air Transport Operation*

Age restriction

176. A person shall not serve nor shall any air operator certificate holder use a person as a required pilot on an aircraft engaged in international commercial air transport operations if that person has attained the age of sixty five years.

PIC licence requirements: turbojet, turbofan or large aircraft

177. A pilot shall not act as pilot-in-command of a turbojet, turbofan or large aircraft in commercial air transport operations unless that pilot holds an Airline Transport Pilot Licence and a type rating for that aircraft.

PIC licence requirements: non turbojet or turbofan small aircraft

178. A pilot shall not act as pilot-in-command of a non-turbojet or turbofan small aircraft in commercial air transport operations during-

- (a) instrument flight rules operations unless that pilot holds a Commercial Pilot Licence (CPL) with appropriate category class ratings for the aircraft operated, and an instrument rating and meets the experience requirements for operation; or
- (b) day visual flight rules operations unless that pilot holds a CPL with appropriate category and class ratings for the aircraft operated.

PIC aeronautical experience: Small aircraft

- 179.** An operator shall ensure that-
- (a) a Commercial Pilot Licence holder does not operate as a pilot-in-command (PIC) certificated in the Aircraft Flight Manual for single pilot operations unless-
 - (i) when conducting passenger carrying operations under visual flight rules outside a radius of 50 nm from an aerodrome of departure, the pilot has a minimum of 500 hours total flight time on aeroplanes or holds a valid instrument rating; or

- (ii) when operating on a multi-engine type under instrument flight rules (IFR), the pilot has a minimum of 700 hours total flight time on aeroplanes which includes 400 hours as PIC of which 100 hours have been under IFR including 40 hours multi-engine operation; and
 - (iii) the 400 hours referred to sub-paragraph (ii) are substituted by hours operating as co-pilot on the basis that two hours co-pilot is equivalent to one hour as PIC provided that those hours were gained within an established multi-pilot crew system prescribed in the Operations Manual specified in the Civil Aviation (Air Operator Certification and Administration) Regulations.
- (b) in addition to paragraph (a)(ii), when operating under IFR as a single pilot, requirements prescribed in regulation 33 are satisfied; and
- (c) in multi-pilot crew operations, in addition to sub-paragraph (a), and prior the pilot operating as PIC, the command course prescribed in the Operations Manual specified in the Civil Aviation (Air Operator Certification and Administration) Regulations, is completed.

Co-pilot licence requirements

180. A pilot shall not act as co-pilot of an aircraft in commercial air transport operations unless that pilot holds-

- (a) a Commercial Pilot Licence with appropriate category class and type ratings for the aircraft operated; and
- (b) an instrument rating.

Flight engineer licence requirements.

181. A person shall not act as the flight engineer of an aircraft unless that person holds a flight engineer licence with the appropriate type rating.

One pilot qualified to perform flight engineer functions

182. An air operator certificate holder shall ensure that, on all flights requiring a flight engineer, there is assigned at least one other flight crew member qualified to perform the flight engineer duties in the event the flight engineer becomes incapacitated.

Persons qualified in flight release.

183. A person shall not act as a flight operations officer in releasing a scheduled passenger-carrying commercial air transport operation aircraft unless that person holds a flight operations officer licence or an Airline Transport Pilot Licence, and is currently qualified by the air operator certificate holder for the operation and type of aircraft used.

Company
procedures
indoctrination

184. -(1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a crew member or flight operations officer unless that person has completed the company procedures indoctrination curriculum approved by the Authority, which shall include a complete review of operations manual procedures pertinent to the crew member or flight operation officer's duties.

(2) An AOC holder shall ensure that all operations personnel are provided with company indoctrination training that covers the following areas-

- (a) AOC holder's organisation, scope of operation, and administrative practices as applicable to crew member assignments and duties;
- (b) appropriate provisions of civil aviation regulations and other applicable regulations and guidance materials;
- (c) AOC holder policies and procedures;
- (d) applicable crew member manuals; and
- (e) appropriate portions of the AOC holder's operations manual.

(3) An AOC holder shall provide a minimum of forty 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

185. -(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 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 which covers as a minimum, the areas identified in Column 1 of Table 4 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, passenger handling staff, and security staff used by an AOC holder to deal with the screening of passengers and their baggage, have received training which covers as a minimum, the areas identified in Column 2 of Table 4 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.

TABLE 4– TRAINING: CREW MEMBER AND OTHERS

Areas of Training	Column 1	Column 2
General philosophy	X	X
Limitations on dangerous goods in air transport		X
Package marking and labelling	X	X
Dangerous goods in passengers baggage	X	X
Emergency procedures	X	X

Note: 'X' indicates an area to be covered.

- (3) An operator or owner holding a permanent approval to carry dangerous goods shall ensure that-
- (a) staff who are engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties which covers as a minimum, the areas identified in Column 1 of Table 5 to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;
 - (b) staff who are engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in Column 2 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;
 - (c) staff who are engaged in general cargo handling have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in Column 3 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;
 - (d) flight crew members have received training which covers as a minimum, the areas identified in Column 4 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on an aircraft;

- (e) passenger handling staff and security staff used by the operator who deal with the screening of passengers and their baggage and crew members, other than flight crew members, have received training which covers as a minimum, the areas identified in Column 5 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and the requirements that apply to the carriage of such goods by passengers or, more generally, their carriage on an aircraft.

TABLE 5 – TRAINING: STAFF OTHER THAN CREW MEMBERS					
Areas Of Training	Column 1	Column 2	Column 3	Column 4	Column 5
General philosophy	X	X	X	X	X
Limitations on dangerous goods in the air transport	X	X		X	X
Classification and list of dangerous goods	X	X		X	
General packing requirements and packing instructions	X				
Packaging specifications marking	X				
Package marking and labelling	X	X	X	X	X
Documentation from the shipper	X				
Acceptance of dangerous goods, including the use of a checklist	X				
Loading, restrictions on loading and segregation	X	X	X	X	
Inspections for damage or leakage and decontamination procedures	X	X			
Provision of information to the PIC	X	X		X	
Dangerous goods in passengers' baggage	X			X	X
Emergency procedures	X	X	X	X	X
Note: "X" indicates an area to be covered					

- (4) An operator or owner shall ensure that-
 - (a) all staff who require dangerous goods training receive recurrent training at intervals of not longer than two years;
 - (b) the records of dangerous goods training are maintained for all staff trained in accordance with the provisions of this regulation; and
 - (c) his handling agent's staff are trained in accordance with the applicable column of Table 4 or Table 5.

Security training programmes

186. An operator shall establish and maintain an approved security training programme which ensures crew members act in the most appropriate manner to minimize 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 authorized by the State of the Operator;
- (e) cockpit procedures to protect the aircraft; and
- (f) aircraft search procedures and guidance on least-risk bomb locations where practicable.

Initial emergency equipment drills

187. -(1) A person shall not serve nor shall any AOC holder use a person as a crew member or flight operations officer unless that person has completed the initial crew resource management (CRM) curriculum approved by the Authority.

(2) An AOC holder 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 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.

188. - (1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a crew member unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crew member position approved by the Authority for the emergency equipment available on the aircraft to be operated.

(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 crew 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-
 - (i) locate the source of fire or smoke for an actual or simulated fire;
 - (ii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about the fire situation;
 - (iii) don and activate installed protective breathing equipment or approved protective breathing equipment simulation device;
 - (iv) manoeuvre in limited space with reduced visibility;
 - (v) effectively use the aircraft's communication system;

- (vi) identify the class of fire;
- (vii) select the appropriate extinguisher;
- (viii) properly remove the extinguisher from the securing device;
- (ix) prepare, operate and discharge the extinguisher properly; and
- (x) utilise the correct fire-fighting techniques for type of fire;

(b) emergency evacuation drill-

- (i) recognise and evaluate an emergency;
- (ii) assume the appropriate protective position;
- (iii) command passengers to assume protective position;
- (iv) implement crew co-ordination procedures;
- (v) ensure activation of emergency lights;
- (vi) assess aircraft condition;
- (vii) initiate evacuation, dependent on signal or decision;
- (viii) command passengers to release their seatbelts and evacuate;
- (ix) assess exit and redirect passengers, if necessary, to open exits, including deploying slides and commanding helpers to assist;
- (x) command the passengers to evacuate at exit and run away from the aircraft;
- (xi) assist special need passengers, such as handicapped, elderly, and persons in a state of panic; and
- (xii) actually exit the aircraft or training device using at least one of the installed emergency evacuation slides.

(4) In the case of an emergency evacuation drill, the 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) An aircraft crew member shall accomplish additional emergency drills during initial and recurrent training, including performing the following emergency drills-

(a) emergency exit drill:

- (i) correctly pre-flight each type of emergency exit and evacuation slide or slide raft, if part of cabin crew member's assigned duties;
- (ii) disarm and open each type of door exit in normal mode;
- (iii) close each type of door exit in normal mode;

- (iv) arm each type of door exit in emergency mode;
- (v) open each type of door exit in emergency mode;
- (vi) use the manual slide inflation system to accomplish or ensure slide or slide raft inflation;
- (vii) open each type of window exit;
- (viii) remove the escape rope and position it for use;
- (b) hand fire extinguisher drill fighting an actual or a simulated fire is not necessary during this drill-
 - (i) pre-flight each type of hand fire extinguisher;
 - (ii) locate the source of fire or smoke and identify class of fire;
 - (iii) select the appropriate extinguisher and remove from securing device;
 - (iv) prepare the extinguisher for use;
 - (v) actually operate and discharge each type of installed hand fire extinguisher;
 - (vi) utilise correct fire-fighting techniques for the type of fire; and
 - (vii) implement procedures for effective crew coordination and communication, including notification of crew members about the type of fire situation;
- (c) emergency oxygen system drill;
 - (i) actually operate portable oxygen bottles, including masks and tubing;
 - (ii) verbally demonstrate operation of chemical oxygen generators;
 - (iii) prepare for use and properly operate an oxygen device, including donning and activation;
 - (iv) administer oxygen to self, passengers, and to those persons with special oxygen needs;
 - (v) utilise proper procedures for effective crew coordination and communication;
 - (vi) activate protective breathing equipment;
 - (vii) manually open each type of oxygen mask compartment and deploy oxygen masks;
 - (viii) identify compartments with extra oxygen masks;
 - (ix) implement immediate action decompression procedures; and
 - (x) reset the oxygen system, if applicable.
- (d) flotation device drill-
 - (i) don and inflate life vests;
 - (ii) remove and use flotation seat cushions; and
 - (iii) demonstrate swimming techniques using a seat cushion.
- (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-

- (i) implement crew coordination procedures, including a briefing with the captain to obtain pertinent ditching information and briefing cabin crew members;
- (ii) coordinate time-frame for cabin and passenger preparation;
- (iii) adequately brief passengers on ditching procedures;
- (iv) ensure the cabin is prepared, including the securing of carry-on baggage, lavatories, and galleys;
- (v) demonstrate how to properly deploy and inflate slide rafts;
- (vi) remove, position and attach slide rafts to aircraft;
- (vii) inflate the rafts;
- (viii) use escape ropes at over wing exits;
- (ix) command any helpers to assist;
- (x) use slides and seat cushions as flotation devices;
- (xi) remove appropriate emergency equipment from the aircraft;
- (xii) board rafts properly;
- (xiii) initiate raft management procedures, such as disconnecting rafts from aircraft, applying immediate first aid, rescuing persons in water, salvaging floating rations and equipment, deploying sea anchor, tying rafts together, and activating or ensuring operation of emergency locator transmitter;
- (xiv) initiate basic survival procedures, such as removing and utilising survival kit items, repairing and maintaining raft, ensuring protection from exposure, erecting canopy, communicating location, providing continued first aid, and providing sustenance;
- (xv) use heaving line to rescue persons in the water;
- (xvi) tie slide rafts or rafts together;
- (xvii) use life line on edge of slide raft or raft as a handhold; and
- (xviii) secure survival kit items.

(6) An aircraft 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-
 - (i) removal of a life raft from the aircraft or training device; and
 - (ii) inflation of a life raft;
- (b) slide raft transfer drill-
 - (i) transfer each type of slide raft pack from an unusable door to a usable door;
 - (ii) disconnect the slide raft at an unusable door;
 - (iii) redirect passengers to the usable slide raft; and

- (iv) install and deploy the slide raft at a usable door.
- (c) slide and slide raft deployment, inflation, and detachment-
 - (i) engage slide girt bar in floor brackets;
 - (ii) inflate slides with and without quick-release handle, manually and automatically;
 - (iii) disconnect slide from aircraft for use as a flotation device;
 - (iv) arm slide rafts for automatic inflation; and
 - (v) disconnect slide raft from the aircraft.
- (d) emergency evacuation slide drill-
 - (i) open armed exit with slide or slide raft deployment and inflation; and
 - (ii) egress from aircraft via the evacuation slide and run away to a safe distance.

Initial aircraft
ground training:
flight crew

189. -(1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person 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 flight crew members shall include the pertinent portions of the operations manuals relating to aircraft-specific performance, mass and balance, operational policies, systems, limitations, normal, abnormal and emergency procedures on the aircraft type to be used.

(3) An AOC holder 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) AOC holder'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 followed when operating in the following conditions-
 - (i) icing;
 - (ii) fog;
 - (iii) Turbulence;
 - (iv) heavy precipitation;
 - (v) thunderstorms;
 - (vi) low-level wind shear and microburst;
 - (vii) low visibility;
 - (d) normal and emergency communications procedures and navigation equipment including the AOC holder's communications procedures and air traffic control clearance requirements;

- (e) navigation procedures used in area departure, en route, area arrival, approach and landing phases;
- (f) approved crew resource management (CRM) training;
- (g) air traffic control systems, procedures, and phraseology;
- (h) aircraft performance characteristics during all flight regimes, including-
 - (i) the use of charts, tables, tabulated data and other related manual information;
 - (ii) normal, abnormal, and emergency performance problems;
 - (iii) meteorological and weight limiting performance factors, such as temperature, pressure, contaminated runways, precipitation, climb and runway limits;
 - (iv) inoperative equipment performance limiting factors, such as minimum equipment list or configuration deviation list, inoperative antiskid; and
 - (v) special operational conditions, such as unpaved runways, high altitude aerodromes and drift down requirements.

(5) An OAC holder 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-

- (a) aircraft-
 - (i) aircraft dimensions, turning radius, panel layouts, cockpit and cabin configurations; and
 - (ii) other major systems and components or appliances of the aircraft;
- (b) power plants-
 - (i) basic engine description;
 - (ii) engine thrust ratings;
 - (iii) engine components such as accessory drives, ignition, oil, fuel control, hydraulic, and bleed air features;
- (c) electrical-
 - (i) sources of aircraft electrical power, such as engine driven generators, auxilliary power unit (APU) generator, and external power;
 - (ii) electrical buses;
 - (iii) circuit breakers;
 - (iv) aircraft battery;
 - (v) standby power systems.
- (d) hydraulic-
 - (i) hydraulic reservoirs, pumps, accumulators, filters, check valves, interconnects and actuators;
 - (ii) other hydraulically operated components.
- (e) fuel-

- (i) fuel tanks, including location and quantities;
 - (ii) engine driven pumps;
 - (iii) boost pumps;
 - (iv) system valves and crossfeeds;
 - (v) quantity indicators;
 - (vi) quantity indicators;
 - (vii) provisions for fuel jettisoning;
- (f) pneumatic-
- (i) bleed air sources, auxiliary power unit or external ground air;
 - (ii) means of routing, venting and controlling bleed air via valves, ducts, chambers, and temperature and pressure limiting devices;
- (g) air conditioning and pressurisation-
- (i) heaters, air conditioning packs, fans, and other environmental control devices;
 - (ii) pressurisation system components such as outflow and negative pressure relief valves;
 - (iii) automatic, standby, and manual pressurisation controls and annunciations;
- (h) flight controls-
- (i) primary controls, including yaw, pitch, and roll devices;
 - (ii) secondary controls, including leading or trailing edge devices, flaps, trim, and damping mechanisms;
 - (iii) means of actuation, whether direct or indirect or fly by wire;
 - (iv) redundancy devices;
- (i) landing gear-
- (i) landing gear extension and retraction mechanism including the operating sequence of struts, doors, and locking devices, and brake and antiskid systems, if applicable;
 - (ii) steering, including nose or body steering gear;
 - (iii) bogie arrangements;
 - (iv) air or ground sensor relays;
 - (v) visual downlock indicators;
- (j) ice and rain protection-
- (i) rain removal systems; and
 - (ii) anti-icing or de-icing systems affecting flight controls, engines,
 - (iii) pitot static probes, fluid outlets, cockpit windows, and aircraft structures;
- (k) equipment and furnishings-

- (i) exits;
- (ii) galleys;
- (iii) water and waste systems;
- (iv) lavatories;
- (v) cargo areas;
- (vi) crew member and passenger seats;
- (vii) bulkheads;
- (viii) seating and cargo configurations;
- (ix) non-emergency equipment and furnishings;
- (l) navigation equipment-
 - (i) flight directors;
 - (ii) horizontal situation indicator;
 - (iii) radio magnetic indicator;
 - (iv) navigation receivers such as global positioning system, automatic direction finder (ADF), very high frequency omni-directional radio range (VOR), OMEGA, long range navigation (LORAN-C), area navigation (RNAV), marker beacon, distance measuring equipment (DME);
 - (v) inertial systems such as inertia navigation system (INS) and inertia reference (IRS);
 - (vi) functional displays;
 - (vii) fault indications and comparator systems;
 - (viii) aircraft transponders;
 - (ix) radio altimeters;
 - (x) weather radar;
 - (xi) cathode ray tube or computer generated displays of aircraft position and navigation information;
- (m) auto flight system-
 - (i) autopilot;
 - (ii) auto throttles;
 - (iii) flight director and navigation systems;
 - (iv) automatic approach tracking;
 - (v) auto land;
 - (vi) automatic fuel and performance management systems;
- (n) flight instruments-
 - (i) panel arrangement;
 - (ii) flight instruments, including attitude indicator, directional gyro, magnetic compass, airspeed indicator, vertical speed indicator, altimeters, standby instruments;
 - (iii) instrument power sources, and instrument sensory sources, such as pitot static pressure;
- (o) display systems-

- (i) weather radar;
 - (ii) other Cathode ray tube (CRT) displays, such as checklist, vertical navigation or longitudinal navigation displays;
- (p) communication equipment-
 - (i) very high frequency (VHF) or high frequency (HF);
 - (ii) audio panels;
 - (iii) in flight interphone and passenger address systems;
 - (iv) voice recorder;
 - (v) aircraft communication addressing and reporting system (ACARS);
- (q) warning systems-
 - (i) aural, visual, and tactile warning systems, including the character and degree of urgency related to each signal;
 - (ii) warning and caution annunciator systems, including ground proximity and take-off warning systems;
- (r) fire protection-
 - (i) fire and overheat sensors, loops, modules, or other means of providing visual or aural indications of fire or overheat detection;
 - (ii) procedures for the use of fire handles, automatic extinguishing systems and extinguishing agents;
 - (iii) power sources necessary to provide protection for fire and overheat conditions in engines, auxiliary power unit, cargo bay or wheel well, cockpit, cabin and lavatories;
- (s) oxygen-
 - (i) passenger, crew, and portable oxygen supply systems;
 - (ii) sources of oxygen such as gaseous or solid;
 - (iii) flow and distribution networks;
 - (iv) automatic deployment systems;
 - (v) regulators, pressure levels and gauges;
 - (vi) servicing requirements.
- (t) lighting-
 - (i) cockpit, cabin, and external lighting systems;
 - (ii) power sources;
 - (iii) switch positions;
 - (iv) spare light bulb locations.
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 - (i) cockpit, cabin, and external lighting systems;
 - (ii) power sources;
 - (iii) switch positions;
 - (iv) spare light bulb locations.

- (v) lighting-
 - (i) cockpit, cabin, and external lighting systems;
 - (ii) power sources;
 - (iii) switch positions;
 - (iv) spare light bulb locations;
- (w) emergency equipment-
 - (i) fire and oxygen bottles;
 - (ii) first aid kits;
 - (iii) life rafts and life preservers;
 - (iv) crash axes;
 - (v) emergency exits and lights;
 - (vi) slides and slide rafts;
 - (vii) escape straps or handles;
 - (viii) hatches, ladders and movable stairs;
- (v) auxiliary power unit-
 - (i) electric and bleed air capabilities;
 - (ii) interfaces with electrical and pneumatic systems;
 - (iii) inlet doors and exhaust ducts;
 - (iv) fuel supply;

(6) An AOC holder 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:
 - (i) safety chocks;
 - (ii) cockpit preparation (switch position and checklist flows);
 - (iii) checklist callouts and responses;
 - (iv) checklist sequence;
- (b) flight planning:
 - (i) performance limitations, including meteorological, weight, minimum equipment list and configuration deviation list items;
 - (ii) required fuel loads;
 - (iii) weather planning, lower than standard take-off minimums or alternate requirements;
- (c) navigation systems:
 - (i) pre-flight and operation of applicable receivers;
 - (ii) onboard navigation systems;
 - (iii) flight plan information input and retrieval;
- (d) auto flight: autopilot, auto thrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and enunciators;

- (e) cockpit familiarisation-
 - (i) activation of aircraft system controls and switches to include normal, abnormal and emergency switches; and
 - (ii) control positions and relevant enunciators, lights, or other caution and warning systems.

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

Initial aircraft
ground training:
cabin crew

190. - (1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a cabin crew member unless that person has completed the initial ground training approved by the Authority for aircraft type.

(2) Initial aircraft ground training for cabin crew members shall include the pertinent portions of the operations manuals relating to aircraft specific configuration, equipment, normal and emergency procedures for the aircraft types within the fleet.

(3) An AOC holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following general subjects-

- (a) aircraft familiarisation-
 - (i) aircraft characteristics and description;
 - (ii) cockpit configuration;
 - (iii) cabin configuration;
 - (iv) galleys;
 - (v) lavatories;
 - (vi) stowage areas;
- (b) aircraft equipment and furnishings-
 - (i) cabin crew member stations;
 - (ii) cabin crew member panels;
 - (iii) passenger seats;
 - (iv) passenger service units and convenience panels;
 - (v) passenger information signs;
 - (vi) aircraft markings;
 - (vii) aircraft placards;
- (c) aircraft systems-
 - (i) air conditioning and pressurisation system;
 - (ii) aircraft communication systems (call, interphone and passenger address);
 - (iii) lighting and electrical systems;
 - (iv) oxygen systems (flight crew, observer and passenger);
 - (v) water system;

- (d) aircraft exits:
 - (i) general information;
 - (ii) exits with slides or slide rafts for pre-flight and normal operation;
 - (iii) exits without slides pre-flight and normal operations;
 - (iv) window exits;
- (e) crew member communication and coordination:
 - (i) authority of pilot-in-command;
 - (ii) routine communication signals and procedures;
 - (iii) crew member briefing;
- (f) routine crew member duties and procedures-
 - (i) crew member general responsibilities;
 - (ii) reporting duties and procedures for specific aircraft;
 - (iii) pre-departure duties and procedures prior to passenger boarding;
 - (iv) passenger boarding duties and procedures;
 - (v) prior-to-movement-on-the-surface duties and procedures;
 - (vi) prior-to-take-off duties and procedures applicable to specific aircraft;
 - (vii) in-flight duties and procedures;
 - (viii) prior-to-landing duties and procedures;
 - (ix) movement on the surface and arrival duties and procedures;
 - (x) after-arrival duties and procedures; and
 - (xi) intermediate stops.
- (g) passenger handling responsibilities:
 - (i) crew member general responsibilities;
 - (ii) infants, children, and unaccompanied minors;
 - (iii) passengers needing special assistance;
 - (iv) passengers needing special accommodation;
 - (v) carry-on stowage requirements;
 - (vi) passenger seating requirements;
 - (vii) smoking and no-smoking requirements and;
 - (viii) approved Crew Resource Management (CRM) training.

(4) An AOC holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following aircraft specific emergency subjects-

- (a) emergency equipment:
 - (i) emergency communication and notification systems;
 - (ii) aircraft exits;
 - (iii) exits with slides or slide rafts, emergency operation;
 - (iv) slides and slide rafts in a ditching;
 - (v) exits without slides emergency operation;
 - (vi) window exits emergency operation;
 - (vii) exits with tail cones (emergency operation);
 - (viii) cockpit exits emergency operation;
 - (ix) ground evacuation and ditching equipment;
 - (x) first-aid equipment;
 - (xi) portable oxygen systems, oxygen bottles, chemical oxygen generators, protective breathing equipment;
 - (xii) fire-fighting equipment;
 - (xiii) emergency lighting systems; and
 - (xiv) additional emergency equipment.
- (b) emergency assignments and procedures:
 - (i) general types of emergencies specific to aircraft;
 - (ii) emergency communication signals and procedures;
 - (iii) rapid decompression;
 - (iv) insidious decompression and cracked window and pressure seal leaks;
 - (v) fires;
 - (vi) ditching;
 - (vii) ground evacuation;
 - (viii) unwarranted evacuation for example, passenger initiated;
 - (ix) illness or injury;
 - (x) abnormal situations involving passengers or crew members;
 - (xi) unlawful interference;
 - (xii) bomb threat;
 - (xiii) turbulence;
 - (xiv) other unusual situations; and
 - (xv) previous aircraft accidents and incidents; and

- (c) aircraft specific emergency drills:
 - (i) emergency exit drill;
 - (ii) hand fire extinguisher drill;
 - (iii) emergency oxygen system drill;
 - (iv) flotation device drill;
 - (v) ditching drill, if applicable;
 - (vi) life raft removal and inflation drill, if applicable;
 - (vii) slide raft pack transfer drill, if applicable;
 - (viii) slide or slide raft deployment, inflation, and detachment drill, if applicable; and
 - (ix) emergency evacuation slide drill, if applicable.

(5) An AOC holder shall ensure that initial ground training for cabin crew members includes a competence check to determine that person's ability to perform assigned duties and responsibilities.

(6) An OAC holder shall ensure that initial ground training for cabin crew members consists of at least the following programmed hours of instruction-

- (a) multi-engine turbine: thirty two hours; and
- (b) multi-engine reciprocating: sixteen hours.

Competence
checks: cabin
crew members

191. -(1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a cabin crew member unless, within the preceding twelve months before that service, that person has passed the competency check approved by the Authority performing the emergency duties appropriate to that person's assignment.

(2) Evaluators shall conduct competency checks for cabin crew members to demonstrate that the candidate's proficiency level is sufficient to successfully perform assigned duties and responsibilities.

(3) A qualified supervisor or inspector approved by the Authority shall observe and evaluate competency checks for cabin crew members.

(4) Evaluators shall include during each cabin crew member competency check a demonstrated knowledge of-

- (a) emergency equipment: emergency communication and notification systems;

- (i) aircraft exits;
 - (ii) exits with slides or slide rafts (emergency operation);
 - (iii) slides and slide rafts in a ditching;
 - (iv) exits without slides (emergency operation);
 - (v) window exits (emergency operation); exits with tail cones (emergency operation);
 - (vi) cockpit exits (emergency operation);
 - (vii) ground evacuation and ditching equipment;
 - (viii) first-aid equipment;
 - (ix) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
 - (x) fire-fighting equipment;
 - (xi) emergency lighting systems;
 - (xii) additional emergency equipment.
- (b) emergency procedures-
- (i) general types of emergencies specific to aircraft;
 - (ii) emergency communication signals and procedures;
 - (iii) rapid decompression;
 - (iv) insidious decompression and cracked window and pressure seal leaks;
 - (v) fires;
 - (vi) ditching;
 - (vii) ground evacuation;
 - (viii) unwarranted evacuation, for example that is passenger initiated;
 - (ix) illness or injury;
 - (x) abnormal situations involving passengers or crew members;
 - (xi) turbulence;
 - (xii) other unusual situations;
- (c) emergency drills-
- (i) location and use of all emergency and safety equipment carried on the aircraft;
 - (ii) the location and use of all types of exits;
 - (iii) actual donning of a lifejacket where fitted;
 - (iv) actual donning of protective breathing equipment;
 - (v) actual handling of fire extinguishers;
- (d) crew resource management:
- (i) decision making skills-
 - (ii) briefings and developing open communication;
 - (iii) inquiry, advocacy, and assertion training;
 - (iv) workload management;
- (e) dangerous goods-

- (i) recognition of and transportation of dangerous goods;
 - (ii) proper packaging, marking, and documentation; and
 - (iii) instructions regarding compatibility, loading, storage and handling characteristics;
- (f) security-
- (i) unlawful interference; and
 - (ii) disruptive passengers.

Initial training:
flight operations
officer.

192. - (1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a flight operations officer unless that person has completed the initial training approved by the Authority.

(2) Aircraft initial flight operations officer training shall include the pertinent portions of the operations manual relating to aircraft specific flight preparation procedures, performance, mass and balance, systems, limitations for the aircraft types within the fleet.

(3) An AOC holder shall provide initial aircraft training for flight operations officers that include instruction in at least the following general dispatch subjects-

- (a) normal and emergency communications procedures;
- (b) available sources of weather information;
- (c) actual and prognostic weather charts;
- (d) interpretation of weather information;
- (e) adverse weather phenomena, such as clear air turbulence, wind shear, and thunderstorms;
- (f) Notice to Airmen (NOTAM) system;
- (g) navigational charts and publications;
- (h) air traffic control and instrument flight rules procedures;
- (i) familiarisation with operational area;
- (j) characteristics of special aerodromes and other operationally significant aerodromes which the operator uses, such as terrain, approach aids, or prevailing weather phenomena;
- (k) joint flight operations officer and group responsibilities; and
- (l) approved crew resource management (CRM) training for flight operations officers.

(4) An AOC holder shall provide initial aircraft training for flight operations officers that include instruction in at least the following aircraft characteristics

- (a) general operating characteristics of the AOC holder's aircraft;
- (b) aircraft specific training with emphasis on the following topics-
 - (i) aircraft operating and performance characteristics;
 - (ii) navigation equipment;
 - (iii) instrument approach and communications equipment; and
 - (iv) emergency equipment.
- (c) flight manual training; and

(d) equipment training.

(5) An AOC holder shall provide initial aircraft training for flight operations officers that include instruction in at least the following emergency procedures-

(a) assisting the flight crew in an emergency; and

(b) alerting of appropriate governmental, company and private agencies.

(6) An AOC holder shall ensure that initial ground training for flight operations officers includes a competence check given by an appropriate supervisor or ground instructor that demonstrates the required knowledge and abilities.

Initial flight
training: flight
crew member

193. - (1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a flight crew member unless that person has completed the initial flight training approved by the Authority for the aircraft type.

(2) Initial flight training of a flight crew member shall focus on the manoeuvring and safe operation of the aircraft in accordance with AOC holder's normal, abnormal and emergency procedures.

(3) An AOC holder may have separate initial flight training curriculum which recognise the experience levels of flight crew members approved by the Authority.

(4) Flight training may be conducted in an appropriate aircraft or adequate synthetic flight trainer:

(a) having landing capability; and

(b) qualified for training or checking on circling manoeuvres.

(5) An AOC holder shall ensure that pilot initial flight training includes at least the following-

(a) preparation-

(i) visual inspection, and use authorised of pictorial display for aircraft with a flight engineer, ;

(ii) pre-taxi procedures;

(iii) performance limitations;

(b) surface operation:

(i) pushback;

(ii) powerback taxi, if applicable to type of operation to be conducted;

(iii) starting;

(iv) taxi;

(v) pre-take-off checks;

(c) take-off-

- (vi) normal;
 - (vii) crosswind;
 - (viii) rejected;
 - (ix) power failure after v_1 ;
 - (x) lower than standard minimum, if applicable to type of operation to be conducted;
- (d) climb-
- (i) normal;
 - (ii) one-engine inoperative during climb to en route altitude;
- (e) en-route-
- (i) steep turns;
 - (ii) approaches to stalls (take-off, en route, and landing configurations);in
 - (iii) flight power plant shutdown;
 - (iv) in-flight power plant restart;
 - (v) in-flight power plant restart;
 - (vi) high speed handling characteristics;
- (f) descent:
- (i) normal;
 - (ii) maximum rate.
- (g) approaches:
- (i) visual flight rules (VFR) procedures;
 - (ii) visual approach with 50% loss of power on one-engine (2 engines inoperative on 3-engine aircraft for pilot-in-command only);
 - (iii) visual approach with slat or flap malfunction;
 - (iv) instrument flight rules (IFR) precision approaches such as instrument landing system normal and instrument landing system with one-engine inoperative;
 - (v) IFR non-precision approaches non-directional radio beacon (NDB) normal and VHF omni-directional radio range beacon (VOR) normal;
 - (vi) non-precision approach with one engine inoperative (Localizer backcourse procedures, SDF or localizer type directional aid, a global positioning system, TACAN and circling approach procedures);
 - (vii) missed approach from precision approach;
 - (viii) missed approach from non-precision approach; and
 - (ix) missed approach with engine failure;
- (h) landings-
- (i) normal with a pitch mis-trim (small aircraft only);
 - (ii) normal from precision instrument approach;

- (iii) normal from precision instrument approach with most critical engine inoperative;
- (iv) normal with 50% loss of power on one side (2 engines inoperative on 3-engine aircraft);
- (v) normal with flap or slat malfunction;
- (vi) rejected landings;
- (vii) crosswind;
- (viii) manual reversion or degraded control augmentation;
- (ix) short or soft field small aircraft, land amphibian aircraft only; and
- (x) glassy or rough water, seaplanes only.
- (i) after landing:
 - (i) parking;
 - (ii) emergency evacuation;
 - (iii) docking, mooring, and ramping, seaplanes only;
 - (iv)
- (j) other flight procedures during any airborne phase:
 - (i) holding;
 - (ii) ice accumulation on airframe;
 - (iii) air hazard avoidance;
 - (iv) wind shear or microburst;
- (k) normal, abnormal and alternate systems procedures during any phase-
 - (i) pneumatic or pressurisation;
 - (ii) air conditioning;
 - (iii) fuel and oil;
 - (iv) electrical;
 - (v) hydraulic;
 - (vi) flight controls;
 - (vii) anti-icing and de-icing systems;
 - (viii) autopilot;
 - (ix) flight management guidance systems and automatic or other approach and landing aids;
 - (x) stall warning devices, stall avoidance devices, and stability augmentation systems;
 - (xi) airborne weather radar;
 - (xii) flight instrument system malfunction;
 - (xiii) communications equipment;
 - (xiv) navigation systems;
- (l) emergency systems procedures during any phase-

- (i) aircraft fires;
- (ii) smoke control;
- (iii) power plant malfunctions;
- (iv) fuel jettison;
- (v) electrical, hydraulic, pneumatic systems;
- (vi) flight control system malfunction; and
- (vii) landing gear and flap system malfunction.

(6) An AOC holder shall ensure that flight engineer training includes at least the following-

- (a) training and practice in procedures related to the carrying out of flight engineer duties and functions, where this training and practice may be accomplished either in flight or, in a synthetic flight trainer;
- (b) training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, human performance including threat and error management and in the transport of dangerous goods; and
- (c) a proficiency check as specified in Regulation 201.

(7) The requirement for recurrent flight training in a particular type of helicopter shall be considered fulfilled by:

- a) the use of flight simulation training devices approved by the Authority for that purpose; or
- b) the completion within the appropriate period of the proficiency check in that type of helicopter.

Initial specialised operations training.

194. - (1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a flight crew member unless that person has completed the appropriate initial specialised operations training curriculum approved by the Authority.

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

- (a) low minima operations, including low visibility take-offs and Category II and III operations;
- (b) extended range operations;
- (c) specialised navigation; and
- (d) pilot-in-command right seat qualification.

(3) An AOC holder 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-

- (i) knowledge of specialised navigation procedures, such as Required Navigation Performance (RNP), Minimum Navigation Performance System (MNPS) and Reduced Vertical Separation Minimum (RVSM); and
- (ii) knowledge of specialised equipment, such as Inertia Navigation System (INS), Long Range Navigation (LORAN), OMEGA;
- (b) Category II and CAT III operations approaches-
 - (i) special equipment, procedures and practice;
 - (ii) a demonstration of competency;
- (c) lower than standard minimum take-offs-
 - (i) runway and lighting requirements;
 - (ii) rejected take-offs at or near V_1 with a failure of the most critical engine;
 - (iii) taxi operations;
 - (iv) procedures to prevent runway incursions under low visibility conditions;
- (d) extended range operations with two turbine engine aeroplanes-
- (e) airborne radar approaches; and
- (f) autopilot instead of co-pilot.

Aircraft differences training.

195. –(1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a crew member on an aircraft of a type for which a differences curriculum is included in the AOC holder’s approved training programme, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

- (2) An operator shall ensure that a crew member completes-
 - (a) differences training which requires additional knowledge and training on an appropriate training device or the aircraft-
 - (i) when operating another variant of an aircraft of the same type or another type of the same class currently operated; or
 - (ii) when changing equipment procedures on types or variants currently operated;
 - (b) familiarisation training which requires the acquisition of additional knowledge-
 - (i) when operating another aircraft of the same type; or
 - (ii) when changing equipment procedures on types of variants currently operated; and
 - (c) the operator referred to in sub-regulation (1) shall specify in the operations manual when such differences training or familiarisation training is required.

(3) An AOC holder shall provide aircraft differences training for flight operations officers when the operator has aircraft variances within the same type of aircraft, which includes at least the following-

- (a) operations procedures;
 - (i) operations under adverse weather phenomena conditions, including clear air turbulence, wind shear, and thunderstorms;
 - (ii) mass and balance computations and load control procedures;
 - (iii) aircraft performance computations, to include take-off mass limitations based on departure runway, arrival runway, and en - route limitations, and also engine-out limitations;
 - (iv) flight planning procedures, to include route selection, flight time, and fuel requirements analysis;
 - (v) dispatch release preparation;
 - (vi) crew briefings;
 - (vii) flight monitoring procedures;
 - (viii) flight crew response to various emergency situations, including the assistance the aircraft flight operations officer can provide in each situation;
 - (ix) minimum equipment list and configuration deviation list procedures;
 - (x) manual performance of required procedures in case of the loss of automated capabilities;
 - (xi) training in appropriate geographic areas;
 - (xii) air traffic control and instrument flight rules procedures, to include ground hold and central flow control procedures; and
 - (xiii) radiotelephony procedures; and
- (b) emergency procedures-
 - (i) actions taken to aid the flight crew; and
 - (ii) AOC holder and Authority notification.
 - (iii)

Use of synthetic flight trainers.

196. A synthetic flight trainer that is used for flight crew member qualification shall-

- (a) be specifically approved by the Authority for the-
 - (i) air operator certificate holder;
 - (ii) type aircraft, including type variations, for which the training or check is being conducted; and
 - (iii) particular manoeuvre, procedure, or flight crew member function involved;
- (b) maintain the performance, functional, and other characteristics that are required for approval;
- (c) be modified to conform with any modification to the aircraft being simulated that results in changes to performance, functional, or other characteristics required for approval;

- (d) be given a daily functional pre-flight check before use;
- (e) have a daily discrepancy logbook kept by the appropriate instructor or check pilot at the end of each training or check flight; and
- (f) for initial aircraft type training, be qualified for training and checking on the circling manoeuvre.

Aircraft and instrument proficiency checks.

197. -(1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a pilot flight crew member unless, since the beginning of the 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 nor shall any AOC holder use a person as a flight crew member in instrument flight rules operations unless, since the beginning of the sixth calendar month before that service, that pilot has passed the instrument competency check prescribed by the Authority.

(3) A flight crew member may complete the requirements of sub-regulations (1) and (2) of this regulation simultaneously in a make and model of the aircraft.

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

- (a) includes all manoeuvres and procedures required for a type rating practical test; and
- (b) is conducted by an examiner.

(5) Aircraft and instrument proficiency checks for PIC and co-pilot shall include the following operations and procedures listed in Table 6.

TABLE 6 – INSTRUMENT PROFICIENCY CHECK

TYPE OF OPERATION OR PROCEDURE	PIC or Co-Pilot	Notes
Ground Operations		
Preflight inspection	PIC/Co-Pilot	
Taxiing	PIC/Co-Pilot	Both pilots may take simultaneous credit.
Powerplant checks	PIC/Co-Pilot	Both pilots may take simultaneous credit.
Take-offs		
Normal	PIC/Co-Pilot	

Instrument	PIC/Co-Pilot	
Crosswind	PIC/Co-Pilot	
With powerplant failure	PIC/Co-Pilot	
Rejected take-off	PIC/Co-Pilot	Both pilots may take simultaneous credit. May be waived.
Instrument Procedures		
Area departure	PIC/Co-Pilot	May be waived.
Area arrival	PIC/Co-Pilot	May be waived.
Holding	PIC/Co-Pilot	May be waived.
Normal ILS approach	PIC/Co-Pilot	
Engine-out ILS	PIC/Co-Pilot	
Coupled ILS approach	PIC/Co-Pilot	Both pilots may take simultaneous credit
Nonprecision approach	PIC/Co-Pilot	
Second nonprecision approach	PIC/Co-Pilot	
Missed approach from an ILS	PIC/Co-Pilot	
Second missed approach	PIC only	
Circling approach	PIC/Co-Pilot	Only when authorized in the AOC holder's Operations Manual. May be waived.
Inflight Maneuvers		
Steep turns	PIC only	May be waived.
Specific flight characteristics	PIC/Co-Pilot	
Approaches to stalls	PIC/Co-Pilot	May be waived.
Powerplant failure	PIC/Co-Pilot	

2 engine inoperative approach (3 and 4 engine aircraft)	PIC/Co-Pilot	
Normal landing	PIC/Co-Pilot	
Landing from an ILS	PIC/Co-Pilot	
Crosswind landing	PIC/Co-Pilot	
Landing with engine-out	PIC/Co-Pilot	
Landing from circling approach	PIC/Co-Pilot	Only if authorized in Operations Manual. May be waived.
Normal And Non-Normal Procedures	PIC/Co-Pilot	
Rejected landing	PIC/Co-Pilot	
2 engine inoperative landing (3 and 4 engine aircraft)	PIC only	
Other Events	PIC or Co-Pilot	Examiner's discretion.

(6) Examiners or check pilots may waive certain events on the proficiency check based on an assessment of the pilot's demonstrated level of performance.

(7) The oral and flight phases of a proficiency check should not be conducted simultaneously.

(8) When the examiner or check pilot determines that an pilot's performance is unsatisfactory, the examiner or check pilot may terminate the immediately.

(9) If the proficiency check must be terminated for mechanical or other reasons, and there are events which still need to be repeated, the examiner or check pilot shall issue a letter of discontinuance, valid for sixty days, listing the specific areas of operation that have been successfully completed.

(10) At least one of the two annual proficiency checks shall be conducted by an examiner.

(11) The other proficiency check may be conducted by a check pilot or the Authority.

Introduction of
new equipment
or procedures.

198. A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a flight crew member when that service would require expertise in the use of new equipment or procedures for which a curriculum is included in the AOC holder's approved training programme, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

Pilot
qualification:
recent
experience

199. - (1) An air operator certificate (AOC) holder shall not use any person nor shall a person serve as a required flight crew member, unless within the preceding ninety days, that person has made at least three take-offs and landings in the aircraft type in which that person is to serve.

(2) The take-offs and landings required by sub-regulation (1) may be performed in a visual synthetic flight trainer approved by the Authority to include take-off and landing manoeuvres and any person who fails to make the three required take-offs and landings within any consecutive ninety-day period shall re-establish recency of experience as provided in sub-regulation (3).

(3) In addition to meeting all applicable training and checking requirements of these Regulations, a required flight crew member who has not met the requirements of sub-regulation (1) shall re-establish recency of experience as follows-

- (a) under the supervision of a check pilot, make at least three take-offs and landings in the type of aircraft in which that person is to serve or if an advanced synthetic flight trainer is used, the requirements of sub-regulation (4) shall be met;
- (b) the take-offs and landings required in this paragraph shall include-
 - (i) at least one take-off with a simulated failure of the most critical engine;
 - (ii) at least one landing from an instrument landing system approach to the lowest instrument landing system minimum authorized for the certificate holder; and
 - (iii) at least one landing to a full stop.

(4) A required flight crew member who performs the manoeuvres prescribed in sub-regulation (3) in a visual synthetic flight trainer shall-

- (a) have previously logged one hundred hours of flight time in the same aircraft type in which the pilot is to serve; and
- (b) be observed on the first two landings made in operations under this Part by an approved check pilot who acts as pilot-in-command and occupies a pilot seat and the landings must be made in weather minima that are not less than those contained in the AOC holder's operation specifications for Category I operations, and shall be made within forty five days following completion of synthetic flight trainer training.

(5) When using a synthetic flight trainer to accomplish any of the requirements of sub-regulation (1) or (3), a required flight crew member position shall be operated as if in a normal in-flight environment without use of the repositioning features of the synthetic flight trainer.

(6) A check pilot who observes the take-offs and landings prescribed in sub-regulation (3)(a) and (4) shall certify that the person being observed is proficient and qualified to perform flight duty in operations under this Part and may require any additional manoeuvres that are determined necessary to make this certifying statement.

Pilot operating
limitations and
pairing
requirements

200. - (1) Where a co-pilot has fewer than one hundred hours of flight time as co-pilot in operations in the aircraft type being flown, and the pilot-in-command (PIC) is not an appropriately qualified check pilot, the PIC shall make all take-offs and landings in the following situations.

- (a) special airports designated by the Authority or special airports designated by the air operator certificate (AOC) holder; and
- (b) in any of the following conditions:
 - (i) the prevailing visibility value in the latest weather report for the airport is at or below 1200 m;
 - (ii) the Runway Visual Range (RVR) for the runway to be used is at or below 4,000 feet;
 - (iii) the runway to be used has water, snow, slush or similar conditions that may adversely affect aircraft performance;
 - (iv) the braking action on the runway to be used is reported to be less than “good”;
 - (v) the crosswind component for the runway to be used is in excess of 15 knots;
 - (vi) wind shear is reported in the vicinity of the airport; or
 - (vii) any other condition in which the PIC determines it to be prudent to exercise the PIC’s prerogative.

(2) A person shall not conduct operations under the Civil Aviation (Air Operator Certification and Administration) Regulations unless, for that type aircraft, either the PIC or the co-pilot has at least seventy five hours of line operating flight time, either as PIC or co-pilot.

(3) The Authority may, upon application by the AOC holder, authorize exemptions from the requirements of this regulation by an appropriate amendment to the operations specifications in any of the following circumstances-

- (a) a newly certificated AOC holder does not employ any pilots who meet the minimum requirements of this regulation;
- (b) an existing AOC holder adds to its fleet an aircraft type not before proven for use in its operations; or

- (c) an existing certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the aircraft operated from that domicile.

Flight engineer
proficiency
checks

201. - (1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a flight engineer on an aircraft unless within the preceding twelve calendar months he has-

- (a) had a proficiency check in accordance with the requirements prescribed by the Authority; or
- (b) 50 hours flight time for the AOC holder as flight engineer in the type aircraft

(2) Examiners shall include during proficiency checks for flight engineers an oral or written examination of the normal, abnormal, and emergency procedures listed below-

- (a) normal procedures
 - (i) interior pre-flight;
 - (ii) panel set-up;
 - (iii) fuel load;
 - (iv) engine start procedures;
 - (v) taxi and before take-off procedures;
 - (vi) take-off and climb pressurization;
 - (vii) cruise and fuel management;
 - (viii) descent and approach;
 - (ix) after landing and securing;
 - (x) crew coordination;
 - (xi) situational awareness;
 - (xii) performance computations;
 - (xiii) anti-ice and de-ice measures;
- (b) abnormal and emergency procedures-
 - (i) troubleshooting;
 - (ii) knowledge of checklist;
 - (iii) crew coordination;
 - (iv) minimum equipment list (MEL);
 - (v) configuration deviation list (CDL); and
 - (vi) emergency or alternate operation of aircraft flight systems.

Competence
checks: flight
operations
officer.

202. - (1) A person shall not serve nor shall any air operator certificate (AOC)holder use a person as a flight operations officer unless, within the preceding twelve months before that service, that person has passed the 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 sub-regulation (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) An authorized person shall observe and evaluate competency checks for flight operations officers.

(4) Each competency check for flight operations officers 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.

(5) 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.

(6) The authorized person may approve a competency check of representative aircraft types when, in his judgement, a check including all types is impractical or unnecessary.

(7) 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

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

(9) A flight operations officer shall not qualify in extended range twin-engine operations (ETOPS) 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

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

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

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

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

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

Supervised line flying: flight engineers.

204. A flight engineer who has qualified on a new type rating on an aircraft shall perform the functions of a flight engineer for a minimum of five flights under the supervision of a flight instructor or qualified flight engineer approved by the air operator certificate holder and accepted by the Authority.

Supervised line experience: cabin crew.

205. 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.

206. A person shall not serve nor shall any air operator certificate holder use a person as a flight operations officer unless within the preceding twelve months before 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

207. .-(1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a pilot unless, within the preceding twelve months, that person has passed a route check in which the person satisfactorily performed his assigned duties in one of the types of aircraft he is to fly.

(2) A person shall not perform pilot-in-command (PIC) duties over a designated special operational area that requires a special navigation system or procedures or in ETOPS operations unless his competency with the system and procedures has been demonstrated to the AOC holder within the past twelve months.

(3) A PIC of an aircraft shall demonstrate special operational competency by navigation over the route or area as PIC 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;

- (e) 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; and
- (f) the meteorological, communication and air traffic facilities, services and procedures.

Low minimums
authorisation:
PIC

208. Where a pilot-in-command (PIC) has not completed-

- (a) fifteen flights performing PIC duties in an aircraft type, including five approaches to landing using Category I or II operations procedures, that PIC shall not plan for or initiate an instrument approach when the ceiling is less than 300 feet and the visibility is less than 2000 m; and
- (b) twenty flights performing PIC duties in an aircraft including five approaches and landing using Category III operations procedures, that PIC shall not plan for or initiate an approach when the ceiling is less than 100 feet or the visibility is less than 400 m runway visual range (RVR).

Designated
special
aerodromes and
heliports: PIC
qualification.

209. -(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 and that certain areas or routes, or both require a special type of navigation qualification.

(2) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as pilot-in-command (PIC) for operations at special airport qualifications aerodromes unless within the preceding twelve months the PIC:

- (a) has been qualified by the AOC holder 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 AOC holder.

Designated
special airport
qualifications
aerodrome
limitations

210. Designated special airport qualifications aerodrome limitations are not applicable if the operation occurs-

- (a) during daylight hours;
- (b) when the visibility is at least 5 km; 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 and
checking: flight
crew members

- 211.** - (1) An operator shall ensure that-
- (a) a flight crew member undergoes recurrent training listed in sub-regulation (2) and checking in sub-regulation (3) and that all such training and checking is relevant to the type or variant of aircraft on which the flight crew member operates; and
 - (b) a recurrent training and checking programme is established in the operations manual and approved by the Authority.
- (2) Recurrent training referred to in sub-regulation (1) shall be conducted by the following personnel:
- (a) ground and refresher training: by suitably qualified personnel;
 - (b) aeroplane synthetic flight trainer training: by a authorized instructor or in the case of the synthetic flight trainer content schedule, a synthetic flight trainer authorized instructor provided that the authorized instructor or synthetic flight trainer authorized instructor satisfied the operator's experience and knowledge requirements sufficient to instruct on the items specified in the operations manual;
 - (c) emergency and safety equipment training: by suitably qualified personnel;
 - (d) crew resource management training: by suitably qualified personnel to integrate elements of crew resource management into all phases of recurrent training; and
 - (e) modular crew resource management training: by at least one Crew Resource Management (CRM) trainer acceptable to the Authority who may be assisted by experts in order to address specific areas.
- (3) The recurrent checking referred to in sub-regulation (1) shall be conducted by the following personnel-
- (a) operator proficiency check: by a check pilot or flight engineer authorized by the AOC holder and accepted by the Authority, as appropriate, or, if the check is conducted in a synthetic flight trainer training device, by check pilot or authorized flight engineer as appropriate; or
 - (b) line checks: by a check pilot of the operator and acceptable to the Authority; and
 - (c) emergency and safety equipment checking by suitably qualified personnel acceptable to the Authority.
- (4) The period of validity of an operator proficiency check shall be-
- (a) six 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 operator proficiency check, extended from the date of issue until six months from the expiry date of that previous operator proficiency check.

(5) An operator shall ensure that each flight crew member undergoes a line check on the aircraft to demonstrate his competence in carrying out normal line operations described in the operations manual.

(6) The period of validity of a line check referred to in sub-regulation shall be-

- (a) twelve 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 until twelve 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 in sub-regulation (7) shall be-

- (a) twelve 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 until twelve months from the expiry date of the previous emergency and safety equipment check.

(9) An operator shall ensure that-

- (a) elements of CRM are integrated into all appropriate phases of the recurrent training; and
- (b) a flight crew member undergoes specific modular CRM training and all major topics of CRM 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 every twelve months, if the training is conducted within three months prior to the expiry of the twelve months period, the next ground and refresher training must be completed within twelve 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 synthetic flight trainer training at least every six months, if the training is conducted within three months prior to the expiry of the twelve months period, the next aircraft or synthetic flight trainer training must be completed within six months of the original expiry date of the previous aircraft or synthetic flight trainer training.

Recurrent
training: cabin
crew members

212. .-(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 twelve 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 shall extend from the date of issue until twelve 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 twelve 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 exits 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 aeroplane or representative training device;
- (b) demonstration of the operation of all other exits including cock pit 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 aeroplane shall include-
 - (i) each cabin crew member extinguishing a fire characteristic of an aeroplane interior fire except that, in the case of Halon 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) use of pyrotechnics, actual or representative devices; and
- (e) 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: flight
operations
officers

213. -(1) A person shall not serve nor shall an air operator certificate (AOC) holder use a person as a flight operations officer unless within the preceding twelve months that person has completed the recurrent ground curricula approved by the Authority.

(2) An AOC holder shall establish and maintain a recurrent training programme, approved by the Authority and established in the AOC holder'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 AOC holder.

(4) An AOC holder shall conduct all recurrent training, of flight operations officers, by suitably qualified personnel.

(5) An AOC holder shall ensure that, every twelve months, each flight operations officer receive 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 AOC holder may administer each of the recurrent ground and flight training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

Check pilot
training

214. -(1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a check pilot in an aircraft or check pilot in a synthetic flight trainer 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 (PIC) .

(2) An AOC holder shall ensure that initial ground training for check pilots includes-

- (a) check pilot duties, functions, and responsibilities;
- (b) applicable regulations and the AOC 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,
 - (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) Transition ground training for all check pilots 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 AOC holder 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 AOC holder shall ensure that the initial and transition flight training for check pilots in a synthetic flight trainer 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 AOC holder shall accomplish flight training for check pilot in full or in part in an aircraft, in flight in a synthetic flight trainer, as appropriate.

Authorised instructor or synthetic flight trainer and authorised instructor training

215. - (1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as an authorised instructor or a synthetic flight trainer authorised instructor in a training programme unless-

- (a) that person has satisfactorily completed initial or transition authorised instructor or a synthetic flight trainer authorised instructor training, as appropriate; and
- (b) within the preceding twenty four months, that person satisfactorily conducts instruction under the observation of an authorized person, an AOC holder's check pilot, an authorised flight engineer, as appropriate, or an examiner employed by the AOC holder.

(2) An AOC holder shall accomplish the observation check for a authorized instructor or a synthetic flight trainer authorised instructor, in part or in full, in an aircraft, or a synthetic flight trainer; as appropriate.

(3) An AOC holder shall ensure that initial ground training for an authorised instructor and synthetic flight trainer authorised instructor includes the following-

- (a) the duties, functions, and responsibilities;
- (b) applicable regulations and the AOC holder's policies and procedures;
- (c) appropriate methods, procedures, and techniques for conducting the required checks;
- (d) proper evaluation of trainee performance including the detection of-
 - (i) improper and insufficient training,
 - (ii) personal characteristics of an applicant that could adversely affect safety;
- (e) appropriate corrective action in the case of unsatisfactory checks;
- (f) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft; and
- (g) except for holders of a flight instructor licence-
 - (i) the fundamental principles of the teaching-learning process;
 - (ii) teaching methods and procedures; and
 - (iii) the instructor-trainee relationship.

(4) An AOC holder shall ensure that the transition ground training for an authorised instructor and synthetic flight trainer authorised instructor includes the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the authorised instructor is in transition.

(5) An AOC holder shall ensure that the initial and transition flight training for an authorised instructor and synthetic flight trainer authorised instructor includes the following-

- (a) the safety measures for emergency situations that are likely to develop during instruction
- (b) the potential results of improper, untimely, or non-execution of safety measures during instruction;
- (c) for pilot authorised instructor
 - (i) in-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence as an instructor; and
 - (ii) the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction; and
- (d) for authorised flight engineer instructor , in-flight training to ensure competence to perform assigned duties.

(6) An AOC holder shall accomplish the flight training requirements for an authorised instructor in full or in part in an aircraft, in flight or in a synthetic flight trainer.

(7) An AOC holder shall ensure that the initial and transition flight training for synthetic flight trainer authorised instructor includes the following-

- (a) training and practice in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight instruction required by this regulation, where the training and practice are accomplished in full or in part in a synthetic flight trainer; and
- (b) training in the operation of synthetic flight trainers, to ensure competence to conduct the flight instruction required by this regulation.

Authorised
instructor
qualifications

216. An air operator certificate (AOC) holder shall not use a person nor shall any person serve as an instructor in an established training programme unless, with respect to the aircraft type involved, that person-

- (a) holds licences and ratings required to serve as a pilot-in-command (PIC) or a flight engineer;
- (b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a PIC 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 PIC 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 certificate.

Check pilot and
authorised flight
engineer
qualifications

217. An air operator certificate (AOC) holder shall not use a person, nor shall any person serve as a check pilot or an flight engineer authorised by the AOC holder and accepted by the Authority in an established training programme unless, with respect to the aircraft type involved, that person-

- (a) holds the pilot licences and ratings required to serve as a pilot-in-command (PIC) or a flight engineer;
- (b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a PIC or a flight engineer;
- (c) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a PIC or a flight engineer;

- (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check;
- (e) holds 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.

218. A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a check pilot for any flight check unless that person has been designated by name for specified function by the Authority within the preceding twelve months.

Check pilot authorizations and limitations

219. -(1) A person shall not serve nor shall any air operator certificate (AOC) holder use a person as a check pilot for any check-

- (a) in an aircraft as a required flight crew member unless that person holds the required flight crew licence and ratings and has completed for the AOC holder all applicable training, qualification and currency requirements under these Regulations applicable to the crew position and the flight operations being checked;
- (b) in an aircraft as an observer check pilot unless that person holds the pilot licences and ratings and has completed all applicable training, qualification and line observation requirements under these Regulations applicable to the position and the flight operations being checked; or
- (c) in a synthetic flight trainer unless that person has completed or observed with the AOC holder all training, qualification and line observation requirements under these Regulations applicable to the position and flight operations being checked.

- (2) For purposes of sub-regulation (1), a check pilot is authorized to-
 - (a) conduct proficiency or competency checks, line checks, and special qualification checks;
 - (b) supervise the re-establishment of landing currency; and
 - (c) supervise any initial operating experience requirements prescribed by the regulations or the Authority.

Synthetic flight trainer approval.

220. An air operator certificate (AOC) holder shall not use a synthetic flight trainer for-

- (a) training or checking unless that synthetic flight trainer has been specifically approved for the AOC holder in writing by the Authority; or
- (b) any purpose other than that specified in the Authority's approval.

Line qualification: check pilot and instructor.	<p>221. A person shall not serve nor shall any air operator certificate holder use a person as a check pilot or synthetic flight trainer instructor unless, within the preceding twelve months before that service, that person has-</p> <ul style="list-style-type: none"> (a) flown at least five flights as a required flight crew member for the type of aircraft involved; or (b) observed, in the cockpit, the conduct of two complete flights in the aircraft type to which the person is assigned.
Termination of a proficiency, competence or line check.	<p>222. An air operator certificate holder shall not use a crew member or flight operations officer in whose check was terminated in commercial air transport operations until the completion of a satisfactory recheck of that crew member or flight operations officer has been carried out.</p>
Recording of crew member qualifications.	<p>223. -(1) The air operator certificate holder shall record and maintain for each crew member and flight operations officer, a record of each test and check as required by these Regulations.</p> <p>(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.</p>
Monitoring of training and checking activities	<p>224. -(1) To enable adequate supervision of its training and checking activities, an air operator certificate (AOC) 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-</p> <ul style="list-style-type: none"> (a) training for which a curriculum is approved in the AOC holder's training programme; and (b) proficiency, competence and line checks. <p>(2) Failure to provide the information required by sub-regulation (1) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.</p>
Eligibility period	<p>225. -(1) A crew member who is required to take a proficiency check, a test or competency check, or recurrent training to maintain qualification for commercial air transport operations shall complete those requirements at any time during the eligibility period.</p> <p>(2) The eligibility period is defined as the three month period including the month prior, the month due, and the month after any due date specified by these Regulations.</p> <p>(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.</p>

PART IX
FATIGUE OF CREW AND PROTECTION OF FLIGHT
CREW FROM COSMIC RADIATION

Fatigue of Crew

Application,
interpretation
and
modification

226. .-(1) This Sub-Part shall apply to an aircraft registered in [State] which is-

- (a) engaged on a flight for the purpose of commercial air transport; or
- (b) operated by a commercial air transport operation undertaking.

(2) This Sub-Part, shall not apply in relation to a flight made only for the purpose of instruction in flying given by or on behalf of a flying club or a flying school or a person, who is not a commercial air transport operation undertaking.

(3) In this Sub-Part, unless the context otherwise requires-

“flight time,” in relation to any person, means all the time spent by that person in an aircraft, whether or not registered in [State] , other than an aircraft of which the maximum total weight authorized does not exceed 1,600 kg, which is not flying for the purpose of commercial air transport operation or aerial work, while it is in flight and the person is carried therein as a crew member crew; and in respect of this Sub-Part, only in the calculation of flight, flying at night shall be counted at the rate of one and one quarter times the actual flight time;

“duty period,” in relation to any person who flies in an aircraft as a member of the flight crew, means any continuous period throughout which he is, under the provisions of sub-regulation (4) or (5), to be treated as being on duty: Provided that where two or more periods which are separated by an interval of less than 10 hours, the period starting when the first of those duty periods began and finishing when the last of them ended shall be treated as constituting a single continuous duty period; and “rest period,” in relation to any person, means any continuous period no part of which forms part of a duty period of that person.

(4) For the purpose of this sub-Part, a person who is employed under a contract of service to fly in an aircraft as a crew member of the flight crew shall be treated as being on duty at any time when in the course of that employment he flies in any aircraft whether as a crew member of its crew or as a passenger and whether or not the aircraft is such an aircraft as is referred to in sub-regulation (1) or he is otherwise acting in the course of that employment-

Provided that when that person is not flying in an aircraft:

- (a) subject to paragraph (c), he shall not be treated as being on duty during any period which he is allowed to rest;

- (b) subject to paragraph (c), he shall not be treated as being on duty at any time by reason only of his being required at that time to be available at a particular place to report for duty if required to do so; and
- (c) he shall be treated as being on duty at any time when he is required to be available at 'a particular place to report for duty if required to do so if-
 - (i) that place is at an aerodrome; or
 - (ii) that place, not being at an aerodrome, is a place at which his employer requires persons, similarly, employed to be available and adequate facilities for rest are not available for his use while he is required to be so available.

(5) For the purposes of this sub-Part, a person who flies in an aircraft as a crew member, otherwise than in the course of his employment under a contract of service to fly, shall be treated as being on duty at any time when, in connection with any business of operating an aircraft, he flies in any aircraft whether as a crew member or as a passenger and whether, or not the aircraft is such an aircraft as is referred to in sub-regulation (1) or does any work.

(6) For the purposes of this sub-Part, references to a person flying in an aircraft as a crew member include references to the operator of the aircraft who himself flies in the aircraft in any such, capacity, and references to the work and other duties which a person is required or permitted by an operator to carry out shall in any such case be construed as references to any work carried out by that operator in connection with the management of aircraft or with any business which includes the flying of aircraft.

(7) Notwithstanding this sub-Part, the Authority may, in respect of scheduled services, approve schedules and crew roster programmes where the Authority considers that special circumstances justify an extension of the duty period but in any event the flight time involved shall not exceed 50 percent of the maximum duty period.

Establishment of limits on flight times, flight duty periods and rest periods

227. .-(1) Notwithstanding Regulation 228, and for the purposes of ensuring that the requirements of those provisions are complied with, every operator of an aircraft to which this regulation applies shall establish for every person flying in that aircraft as a crew member-

- (a) limits on the aggregate of all that persons flight times during every period of twenty-eight consecutive days;
- (b) limits on that person flight duty period ; and
- (c) minimum rest periods which that person is to have immediately before any duty period in the course of which he makes any flight

(2) The limits and minimum rest periods referred to in sub-regulation (1) shall be limits and minimum rest periods which the operator is satisfied, after taking into account the matters mentioned in sub-regulation (3), are such that, if every crew member observes those limits and has those minimum rest periods, the safety of the aircraft on any flight is not likely to be endangered by reason of any fatigue which may be caused by the work or other duties which the crew members are required or permitted by that operator to carry out; and different limits and different minimum rest periods may be established either for different persons or for different classes of persons and for different circumstances.

(3) The matters which an operator shall take into account in establishing the limits and minimum rest periods referred to in sub-regulation (1) are, the nature of the work and other duties which those persons will carry out, and all the circumstances arising out of the carrying out of that work and those duties, which may affect the degree of fatigue from which those persons may suffer while they are making a flight in an aircraft to which this regulation applies in any such capacity as is mentioned in sub-regulation (1) including-

- (a) the area in which the flight will be made;
- (b) the number of landings which will be made during the course of each flight duty period ;
- (c) the amount of night flying during each flight duty period ; and
- (d) the number of consecutive occasions on which each crew member will be required to fly for the maximum period permitted under this sub-Part.

(4) No limits or minimum rest periods may be established under sub-regulation (1) which would require or permit any person to fly in any aircraft at a time when such flying would constitute a contravention of any of the provisions of regulations 222, 223 and 225, or would require or permit any person to fly in any aircraft as a crew member thereof within the period of one hour immediately preceding the end of the specified time referred to in sub-regulation (2) of regulation 222 or, when the specified time is twenty-four hours, within the period of two hours immediately preceding the end of the specified time.

(5) An operator of an aircraft holder to which this regulation applies shall not permit that aircraft to make a flight unless limits and minimum rest periods have been established in accordance with the provisions of this regulation so as to apply to every crew member.

(6) An operator of an aircraft to which this regulation applies shall take all such steps as are reasonably practicable to ensure that all limits for the time being established by that operator in accordance with the provisions of this regulation are observed, and that no person for whom minimum rest periods are for the time being so established makes any flight in an aircraft to which this regulation applies, unless immediately before the duty period in the course of which that person makes the flight, the person has had the appropriate rest period so established.

(7) Notwithstanding anything contained in this regulation, an operator of an aircraft to which this regulation applies may confer upon the pilot-in-command (PIC) a discretion to make, or authorize any person to make, a flight in that aircraft in such circumstances that the PIC or that other person will not observe the limits or will not have had the minimum rest periods established by that operator under this regulation and applicable to the PIC or that other person.

(8) The discretion set out in sub-regulation (7) shall not be exercisable unless-

(a) it appears to the PIC that:

(i) arrangements had been made for the flight to be made with such a crew and so as to begin and end at such times that if the flight had been made in accordance with those arrangements each member of the crew would have observed the limits and have had the minimum rest periods established by the operator and applicable to them, and that since those arrangements were made the flight has been or will be prevented from being made in accordance with those arrangements by reason of circumstances which were not foreseen, as likely to prevent that flight from being so made; or

(ii) the flight is one which ought to be carried out in the interests of the safety or health of any person; and

(b) the PIC is satisfied that the safety of the aircraft on that flight will not be endangered if the PIC or that other person makes that flight.

(9) An operator of an aircraft to which this regulation applies shall include in every operations manual to be provided under the Civil Aviation (Air Operator Certificate and Administration) Regulations, for the use and guidance of the crew members of that aircraft, or in any case where no such manual is required, in a document to be provided for the use and guidance of those members, full particulars of all limits and minimum rest periods for the time being established under this regulations which may affect any of those members, and of any discretion conferred upon the PIC of that aircraft under sub-regulation (7) and (8).

(10) Subject to sub-regulation (9) and without prejudice to any other provisions of the Civil Aviation (Air Operator Certification and Administration) Regulations, an operator shall, whenever requested to do so by a person authorized, in that behalf by the Authority, furnish that person with a copy of all particulars from time to time included in any such operations manual or document in accordance with the requirements referred to in sub-regulation (9).

Maximum
flight duty
periods for
crew member

228. - (1) A person shall not fly in an aircraft to which this regulation applies as a crew member in the course of any duty period of that person after more than the specified time has elapsed since the beginning of that duty period.

- (2) In sub-regulation (1), the expression “specified time” means-
 - (a) in relation to a pilot, whenever paragraph (b) does not apply, eleven hours; except that, if during the duty period there has been a period of not less than five continuous hours throughout which that person has not flown in any aircraft to which this regulation applies, or performed any duties, this paragraph shall have effect as if twelve hours were substituted for eleven hours;
 - (b) in relation to a person who, at all times when that person flies as a pilot in the course of his duty period, is one of two or more persons carried as pilots of an aircraft undertaking-
 - (i) an international flight or service - fifteen hours;
 - (ii) a flight within the [State] - twelve hours;
 - (iii) except that if during the duty period there has been a period of not less than five continuous hours throughout which that person has not flown in any aircraft to which this regulation applies or performed any duties, this paragraph shall have effect as if fifteen hours were substituted for twelve hours and twenty hours were substituted for fifteen hours if that person is one of three or more persons carried as pilots of the aircraft and the following conditions are fulfilled-
 - (aa) at least two of the pilots are qualified to act as pilot-in-command in the circumstances both by their respective licences and in accordance with the requirements of regulation 40 (except in respect of their knowledge of the aerodromes of take-off and landing and any alternate aerodromes);
 - (bb) at least one of the pilots is carried in addition to those flight crew members who are required to be carried in the circumstances by or under these Regulations;
 - (cc) one suitable bunk is always available for the use only of pilots;

- (dd) each of the pilots has, during the duty period, been afforded opportunities of resting for a reasonable time;
- (c) in relation to a flight engineer fifteen hours; except that this paragraph shall have effect as if twenty four hours were substituted for fifteen hours in relation to a person who, at all times when that person flies as a flight engineer in the course of his duty period, is one of two or more persons carried as flight engineers of the aircraft, if the following conditions are fulfilled-
 - (i) at least one of the flight engineers is carried in addition to the crew members who are required to be carried in the circumstances by or under these Regulations;
 - (ii) one suitable bunk is always available for the use only of flight engineers; and
 - (iii) each of the flight engineers has, during the duty period, been afforded opportunities of resting for a reasonable time; and
 - (iv) which shall apply to cabin crew member as it applies to flight engineers.
 - (v) in relation to a cabin crew—fifteen hours;

(3) The maximum total hours associated with the duty periods undertaken by any crew member shall not exceed one hundred and sixty hours during any period of twenty-eight days; except that whenever a crew member exceeds one hundred and twenty hours “non-flying time” that member shall not, because of this, be disqualified from further flying duties providing all other requirements are met.

Minimum rest periods for crew members.

229. - (1) Notwithstanding Regulation 227 a person shall not fly in an aircraft to which this regulation applies as a crew member unless immediately before the duty period in the course of which that person makes that flight the person has had a sufficient rest period, as set out in Table 7 .

TABLE 7 – MINIMUM REST PERIODS FOR FLIGHT CREW

Length of immediately preceding duty period	Minimum length of sufficient rest period
Not exceeding 10 hours	11 hours
Exceeding 10 but not exceeding 11 hours	12 hours
Exceeding 11 but not exceeding 12 hours	13 hours

Exceeding 12 but not exceeding 13 hours	14 hours
Exceeding 13 but not exceeding 14 hours	15 hours
Exceeding 14 but not exceeding 15 hours	16 hours
Exceeding 15 but not exceeding 16 hours	17 hours
Exceeding 16 but not exceeding 17 hours	19 hours
Exceeding 17 but not exceeding 18 hours	21 hours
Exceeding 18 but not exceeding 19 hours	23 hours
Exceeding 19 but not exceeding 20 hours	25 hours
Exceeding 20 but not exceeding 21 hours	27 hours
Exceeding 21 but not exceeding 22 hours	29 hours
Exceeding 22 but not exceeding 23 hours	31 hours
Exceeding 23 hours	33 hours

(2) Where a rest period is taken by a person at a place which is not within 50 miles away that person's ordinary place of residence, it shall be deemed to be a sufficient rest period if it includes a period of eight hours falling between 2200 and 0800 hours local time as set out in Table 8.

Table 8. – Minimum rest period: distance not within 50 miles of place of residence

Length of immediately preceding duty period	Minimum length of sufficient rest period
Exceeding 10 but not exceeding 11 hours	10 hours
Exceeding 11 but not exceeding 12 hours	12 hours

Exceeding 12 but not exceeding 14 hours	13 hours
Exceeding 14 but not exceeding 17 hours	15 hours
Exceeding 17 but not exceeding 20 hours	16 hours
Exceeding 20 but not exceeding 23 hours	17 hours
Exceeding 23 hours	18 hours

(3) The length of the duty periods established in this regulation are adjusted to allow for duty time before and after a flight or series of flights which make up one duty period.

Duty and rest periods for flight operations officers

230. .-(1) An air operator certificate (AOC) holder shall not schedule a flight operations officer for more than 10 consecutive hours of duty within a 24 consecutive hour period, unless that person is given an intervening rest period of at least 8 hours at or before the end of the 10 hours duty.

(2) Each AOC holder shall establish the daily duty period for a flight operations officer so that it includes a time that allows him or her to become thoroughly familiar with existing and anticipated weather conditions along the route before he or she dispatches any aircraft.

Records of flight times and duty periods

231. -(1) An operator of an aircraft to which this regulation applies shall not cause or permit any person to fly as a crew member unless the operator has in his possession an accurate and up-to-date record maintained by him or by another operator of aircraft in respect of that person and in respect of the twenty-eight days immediately preceding the flight showing-

- (a) the times of the beginning and end of each flight in any aircraft made by that person as a crew member in the course of any of his duty periods;
- (b) the times of the beginning and end of each duty period of that person in the course of which he made a flight as a crew member;

- (c) the times of the beginning and end of each duty period of that person ending within a period of seventy-two hours immediately preceding the beginning of any duty period of that person in the course of which he made a flight in any aircraft as a crew member; and
- (d) brief particulars of the nature of the work or other duties carried out by that person during each of the crew member's duty periods of which a record is required to be kept under this sub-regulation (2) and the Authority may notify the form and manner in which any records required to be kept under sub-regulation (1) shall be kept and, where the Authority has so notified, the records shall be kept accordingly.

(2) Subject to regulation 12, an operator of an aircraft shall preserve the records referred to in this regulation for a period of at least six months after the end of the flight duty period or rest period to which they relate.

Maximum flight times for crew member

232. -(1) A person shall not fly in any aircraft registered in [State] as a crew member at any time on any day after the aggregate of all his flight times, whether arising from flight in an aircraft to which this regulation applies or in any other aircraft, during the period of twenty-eight consecutive days expiring at the end of that day amounts to one hundred and five hours or more.

- (2) The prohibition referred to in sub-regulation (1) shall not apply to-
 - (a) a flight made in an aircraft of which the maximum total take-off mass authorized does not exceed 1,600 kg. and which is not flying for the purpose of commercial air transport operation or aerial work; or
 - (b) a flight made in an aircraft not flying for the purpose of commercial air transport operation but excluding aerial work if at the time of the flight the aggregate of all the flight times of the person making the flight since the person was last medically examined under these Regulations and found fit does not exceed one hundred and fifty hours.

Provision for particular cases

233. -(1) Notwithstanding anything contained in regulations 222, 223 and 225, a person shall be deemed not to have contravened any of the provisions of these Regulations by reason of a flight made at any time by that person or by another person if the first mentioned person proves that-

- (a) it was due to an unavoidable delay in the completion of the flight that the person so flying was flying at that time; and
- (b) the first mentioned person could not reasonably be expected to have foreseen before the flight began that the delay was likely to occur.

(2) Notwithstanding regulation 245 (2) and anything contained in regulation 222, 223 and 225, the pilot-in-command (PIC) of an aircraft may make, or authorize any other person to make, and that other person if so authorized may make, a flight in that aircraft which he would, but for this sub-regulation, be prohibited from making by virtue of any provision contained in the regulations 222, 223 and 225, if-

(a) it appears to the PIC that-

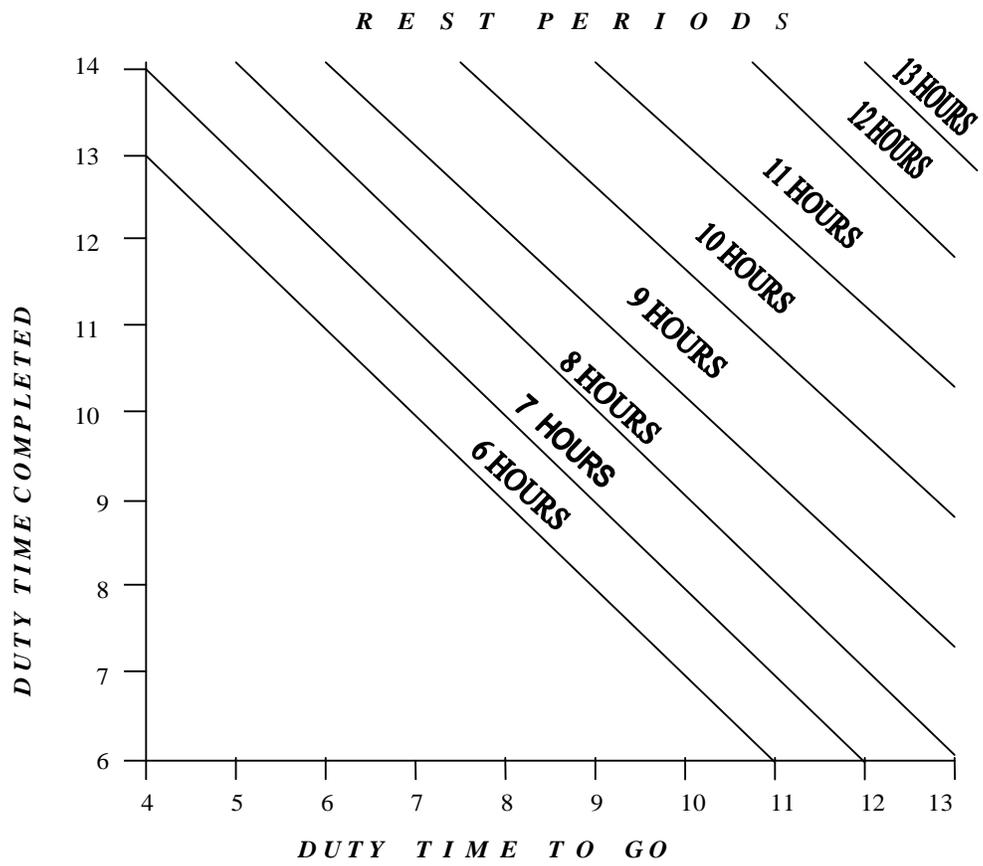
(i) arrangements had been made for the flight to be made with such a crew member and so as to begin and end at such times that no crew member would have been prohibited from making the flight in accordance with those arrangements by any provision contained in the regulations 222, 223 and 225, and that since those arrangements were made the flight has been or will be prevented from being in accordance with those arrangements by reason of circumstances which were not foreseen as likely to prevent that flight from being so made; or

(ii) the flight is one which ought to be carried out in the interest of the safety or health of any person; and

(b) the PIC is satisfied that the safety of the aircraft on that flight will not be endangered if the PIC or that other person makes that flight.

(3) Where the PIC or any other person makes a flight in an aircraft which he or that other person is permitted to make under sub-regulation (2), a report in writing that he or that other person has made that flight, giving full particulars of the circumstances in which it was made and the reasons why the PIC made that flight or authorized that other person to do so, shall be made as soon as is reasonably practicable by the PIC to the operator of the aircraft and in any event by the operator to the Authority; and the operator and the PIC shall furnish any authority with such further information in his possession relating to the flight and to the circumstances in which it was made as the Authority may require.

(4) Notwithstanding Regulations 222, 223, 224, 225 and this regulation, where a scheduled service has an unavoidable and prolonged delay en route, subject to the discretion of the PIC, a reduced period of rest may be taken, and such period shall include at least six hours between 2000 and 0600 hours local time and shall be of a duration of not less than that appropriately extracted from the following graph:



Duties of operators to prevent excessive fatigue of crew members.

- 234.** An operator of an aircraft to which this Regulation applies shall ensure, in respect of each person flying as a crew member of that aircraft, that:
- (a) the period during which that person is required or permitted by that operator to carry out any work or other duties are so limited in length and frequency; and
 - (b) that person is afforded such period for rest, that his work and duties are not likely to cause him such fatigue while the person is flying in the aircraft, in respect of flight crew, as may endanger the safety thereof, and in respect of other crew members, as may impair their efficiency to adequately perform their duties in relation to the possible evacuation or control of passengers or the provision of assistance in the event of an emergency situation.

PROTECTION OF CREW MEMBER FROM COSMIC RADIATION

Protection of crew member from cosmic radiation

- 235.** - (1) An operator shall take appropriate measures to:
- (a) assess the exposure to cosmic radiation when in flight of those crew members who may be exposed to cosmic radiation in excess of 1 milliSievert per year;
 - (b) take into account the assessed exposure when organising work schedules with a view to reducing the doses of highly exposed crew members; and
 - (c) inform the workers concerned of the health risks their work involves.
- (2) An operator shall ensure that in relation to a pregnant crew member, the conditions of exposure to cosmic radiation when that crew member is in flight are such that the equivalent dose to the foetus will be as low as reasonably achievable and is unlikely to exceed 1 milliSievert during the remainder of the pregnancy.
- (3) An operator who is not informed of a pregnancy referred to in sub-regulation (2) shall not be held liable for any cosmic radiation exposure to the foetus exceeding 1 milliSievert.
- (4) In this regulation -
- (a) 'highly exposed crew member' means flight crew members operating in high performance aircraft capable of flying above an altitude of 49,000 feet;
 - (b) 'Sievert' means a unit of equivalent or effective dose of one joule per kilogramme; and
 - (c) 'year' means any period of twelve months.

Cosmic radiation:
records to be kept

236. The operator of an aircraft registered in [State] shall, in respect of any flight at an altitude of more than 49,000 feet, keep a record of a total dose of cosmic radiation to which the aircraft and the crew members are exposed during the flight together with the names of the crew members.

PART X

FLIGHT RELEASE: COMMERCIAL AIR TRANSPORT OPERATIONS

Qualified persons
required for
operational
control functions.

237. -(1) An air operator certificate (AOC) holder shall designate a qualified person to exercise the functions and responsibilities for operational control of each flight in commercial air transport.

(2) For passenger-carrying flights conducted on a published schedule, a licensed and qualified flight operations officer or equivalently qualified person shall be on duty at an operations base to perform the AOC holders operational control functions

(3) For all other flights, the qualified person exercising operational control responsibilities shall be available for consultation prior to, during and immediately following the flight operation.

(4) For all flights, the pilot-in-command (PIC) shares in the responsibility for operational control of the aircraft and has the situational authority to make decisions regarding operational control issues in-flight.

(5) Where a decision of the PIC differs from that recommended, the person making the recommendation shall make a record of the associated facts.

(6) A flight operations officer shall not be assigned duty unless that person has:

a) satisfactorily completed an operator-specific training course that addresses all the specific components of its approved method of control and supervision of flight operations;

b) made, within the preceding 12 months, at least a oneway qualification flight in the flight crew compartment of an aeroplane over any area for which that individual is authorized to exercise flight supervision including landings at as many aerodromes as practicable;

c) demonstrated to the operator a knowledge of:

i) the contents of the operations manual;

ii) the radio equipment in the aeroplanes used; and

iii) the navigation equipment in the aeroplanes used;

d) demonstrated to the operator a knowledge of the following details concerning operations for which the officer is responsible and areas in which that individual is authorized to exercise flight supervision:

i) the seasonal meteorological conditions and the sources of meteorological information;

- ii) the effects of meteorological conditions on radio reception in the aeroplanes used;
- iii) the peculiarities and limitations of each navigation system which is used by the operation; and
- iv) the aeroplane loading instructions;
- e) demonstrated to the operator knowledge and skills related to human performance relevant to dispatch duties; and
- f) demonstrated to the operator the ability to perform the duties.

Functions associated with operational control.

238. The person exercising responsibility for operational control for an air operator certificate holder shall-

- (a) authorise the specific flight operation;
- (b) ensure that an airworthy aircraft properly equipped for the flight is available;
- (c) ensure that qualified personnel and adequate facilities are available to support and conduct the flight;
- (d) ensure that proper flight planning and preparation is made;
- (e) ensure that flight locating and flight following procedures are followed; and
- (f) for scheduled passenger-carrying flights, ensure the monitoring of the progress of the flight and the provision of information that may be necessary to safety.

Operational control duties.

239. -(1) For passenger-carrying flights conducted on a published schedule, the qualified person performing the duties of a flight operations officer shall-

- (a) assist the pilot-in-command (PIC) in flight preparation and provide the relevant information required;
- (b) assist the PIC in preparing the operational and air traffic control flight plans and sign the dispatch copy of the flight release;
- (c) furnish the PIC while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight; and
- (d) in the event of an emergency, initiate the applicable procedures contained in the AOC holder's operations manual.

(2) A qualified person performing the operational control duties shall avoid taking any action that would conflict with the procedures established by-

- (a) air traffic control;
- (b) the meteorological service;
- (c) the communications service; or
- (d) AOC holder.

Contents of a flight release.

240. The flight release shall contain at least the following information concerning each flight-

- (a) company or organisation name;
- (b) make, model, and nationality and registration marks of the aircraft being used;
- (c) flight or trip number, and date of flight;
- (d) name of each crew member and the pilot-in-command (PIC);
- (e) departure aerodrome, destination aerodromes, alternate aerodromes and route;
- (f) minimum fuel supply;
- (g) a statement of the type of operation, for example instrument flight rules, visual flight rules;
- (h) the latest available weather reports, and forecasts for the destination aerodrome and alternate aerodromes; and
- (i) any additional available weather information that the PIC considers necessary.

Flight release: aircraft requirements

241. A person shall not issue a flight release for a commercial air transport operation-

- (a) unless the aircraft is airworthy and properly equipped for the intended flight operation; and
- (b) using an aircraft with inoperative instruments and equipment installed, except as specified in the minimum equipment list approved by the Authority.
- (c) when taking off or landing at an aerodrome where, in the opinion of the State of the Operator, the take-off or approach path is so disposed over water that in the event of a mishap there would be a likelihood of a ditching.

Flight release: facilities and NOTAMs

242. –(1) A person shall not release an aircraft over any route or route segment unless there are adequate communications and navigational facilities in satisfactory operating condition as is necessary to conduct the flight safely.

(2) A flight operation officer shall ensure that the pilot-in-command (PIC) is provided with all available current reports or information on aerodrome conditions and irregularities of navigation facilities that may affect the safety of the flight.

(3) For the PIC's review of the operational flight plan, he shall be provided with all available Notice to Airmen (NOTAMs) with respect to the routing, facilities and aerodromes.

Flight release:
weather reports
and forecasts

- 243.** A person shall not release a flight unless that person:
- (a) is thoroughly familiar with reported and forecast weather conditions on the route to be flown; and
 - (b) has communicated all information and reservations he may have regarding weather reports and forecasts to the pilot-in-command (PIC).

Flight release in
icing conditions

- 244.** A person shall not release an aircraft-
- (a) when in his opinion or that of the pilot-in-command (PIC), the icing conditions that may be expected or are met exceed that for which the aircraft is certified and unless the aircraft has sufficient operational de-icing or anti-icing equipment; or
 - (b) any time conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless there is available to the PIC at the aerodrome of departure adequate facilities and equipment to accomplish the procedures approved for the air operator certificate holder by the Authority for ground de-icing and anti-icing.

Flight release
under VFR or IFR

- 245.** A person shall not release a flight under instrument flight rules or visual flight rules unless the weather reports and forecasts indicate that the flight can reasonably be expected to be completed as specified in the flight release.

Flight release:
minimum fuel
supply

- 246.** A person shall not issue a flight release for a commercial air transport operation unless the fuel supply specified in that flight release is equivalent to or greater than the minimum flight planning requirements of these Regulations, including anticipated contingencies.

Flight release:
aircraft loading
and performance.

- 247.** A person shall not issue a flight release unless that person is familiar with the anticipated loading of the aircraft and is reasonably certain that the proposed operation shall not exceed the-
- (a) centre of gravity limits;
 - (b) aircraft operating limitations; and
 - (c) minimum performance requirements.

Flight release:
amendment or re-
release en-route.

- 248.** -(1) A person who amends a flight release while the flight is en route shall record that amendment.
- (2) A person shall not amend the original flight release to change the destination or alternate aerodrome while the aircraft is en route unless the flight preparation requirements for routing, aerodrome selection and minimum fuel supply are met at the time of amendment or re-release.

(3) A person shall not allow a flight to continue to an aerodrome to which it has been released if the weather reports and forecasts indicate changes which would render that aerodrome unsuitable for the original flight release.

Flight release:
requirement for
airborne weather
radar equipment.

249. A person shall not release a large aircraft carrying passengers under instrument flight rules when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment is in satisfactory operating condition.

PART XI EXEMPTIONS

Requirement for
application.

250. -(1) A person may apply to the Authority for an exemption from any of these Regulations.

(2) An applications for exemption shall be submitted at least sixty days in advance of the proposed effective date.

(3) A request for an exemption must contain the applicant's-

- (a) name;
- (b) physical address and mailing address;
- (c) telephone number;
- (d) fax number if available; and
- (e) email address if available.

(4) The application shall be accompanied by a fee specified by the Authority, for technical evaluation.

Request for
exemption

251. -(1) An application for an exemption must contain the following-

- (a) a citation of the specific requirement from which the applicant seeks exemption;
- (b) an explanation of why the exemption is needed;
- (c) a description of the type of operations to be conducted under the proposed exemption;
- (d) the proposed duration of the exemption;
- (e) an explanation of how the exemption would be in the public interest, that is, benefit the public as a whole;
- (f) a detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the regulation in question;
- (g) a review and discussion of any known safety concerns with the requirement, including information about any relevant accidents or incidents of which the applicant is aware; and

- (h) if the applicant seeks to operate under the proposed exemption outside of the [State] airspace, the application must indicate whether the exemption would contravene any provision of the Standards and Recommended Practices of the International Civil Aviation Organization (ICAO) as well as the Regulations pertaining to the airspace in which the operation will occur.
- (2) Where the applicant seeks emergency processing, the application must contain supporting facts and reasons that the application was not timely filed, and the reasons it is an emergency.
- (3) The Authority may deny an application if the Authority finds that the applicant has not justified the failure to apply for an exemption in a timely fashion.

Review, Publication and Issue or Denial of the Exemption

Initial review by the Authority

- 252.** - (1) The Authority shall review the application for accuracy and compliance with the requirements of Regulations 250 and 251.
- (2) If the application appears on its face to satisfy the provisions of this regulation and the Authority determines that a review of its merits is justified, the Authority will publish a detailed summary of the application in the [State] Gazette , aeronautical information circular or at least one local daily newspaper for comment and specify the date by which comments must be received by the Authority for consideration.
- (3) Where the filing requirements of Regulations 250 and 251 have not been met, the Authority will notify the applicant and take no further action until and unless the applicant corrects the application and re-files it in accordance with these Regulations.
- (4) If the request is for emergency relief, the Authority shall publish the application or the Authority’s decision as soon as possible after processing the application.

Evaluation of the request.

- 253.** - (1) After initial review, if the filing requirements have been satisfied, the Authority shall conduct an evaluation of the request to include:
- (a) determination of whether an exemption would be in the public interest;
 - (b) a determination, after a technical evaluation of whether the applicant’s proposal would provide a level of safety equivalent to that established by the regulation, although where the Authority decides that a technical evaluation of the request would impose a significant burden on the Authority’s technical resources, the Authority may deny the exemption on that basis;
 - (c) a determination of whether a grant of the exemption would contravene the applicable ICAO Standards and Recommended Practices; and

- (d) a recommendation based on the preceding elements, of whether the request should be granted or denied, and of any conditions or limitations that should be part of the exemption.
- (2) The Authority shall notify the applicant by letter and publish a detailed summary of its evaluation and decision to grant or deny the request.
- (3) The summary referred to in sub-regulation (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.
- (4) If the exemption affects a significant population of the aviation community of the [State] the Authority shall publish the summary in the Aeronautical Information Circular.

PART XII
GENERAL PROVISIONS

Possession of the licence

- 254.** -(1) A holder of a licence, certificate or authorisation or other document issued by the Authority shall have in his physical possession or at the work site when exercising the privileges of that licence, certificate, authorisation or such other document.
- (2) A flight crew of a foreign registered aircraft shall hold a valid licence, certificate or authorisation and have in his physical possession or at the work site when exercising the privileges of that licence, certificate or authorisation.

Drug and alcohol testing and reporting

- 255.** -(1) Any person who performs any function related to operation of aircraft under these Regulations may be tested for drug or alcohol usage.
- (2) The Authority may prohibit any person who-
- (a) tests positive for drug or alcohol usage;
 - (b) refuses to submit to a test; or
 - (c) refuses to furnish or to authorise the release of the test results requested by the Authority from carrying out the functions related to operation of aircraft.

Inspection of licences and certificates.

- 256.** A person who holds a licence, certificate, authorisation or such other document required by these Regulations shall present it for inspection upon a request from the Authority or any person authorized by the Authority.

Change of name

- 257.** -(1) A holder of a licence, certificate, authorisation or other document issued under by the Authority may apply to change the name on a licence, certificate, authorisation or such other document.
- (2) The holder shall include with any such request-

- (a) a court order, or other legal document verifying the name change;
 - (b) the current licence , certificate, authorisation or such other document sought to be amended; and
- (3) The Authority may change the licence, certificate, authorisation or such other document and issue a replacement thereof.
- (4) The Authority shall return to the holder the original documents specified in sub-regulation 2(b) and retain copies thereof and return the replaced licence, certificate or authorisation with the appropriate endorsement.
- (5) A licence, certificate, authorisation or such other document issued to a person under these Regulations is not transferable.

Change of address

258. -(1) A holder of a certificate, or authorisation issued under these Regulations shall notify the Authority of the change in the physical and mailing address and shall do so in the case of-

- (a) physical address, at least fourteen days in advance; and
 - (b) mailing address upon the change;
- (2) A person who does not notify the Authority of the change in the physical address within the time frame specified in sub-regulation (1) shall not exercise the privileges of the certificate or authorisation

Replacement of documents

259. A person may apply to the Authority in the prescribed form for replacement of documents issued under these Regulations if the documents are lost or destroyed.

Certificate Suspension and Revocations

260. -(1) The Authority may, where it considers it to be in the public interest, suspend provisionally, pending further investigation, any certificate, approval, permission, exemption, authorisation or such other document issued, granted or having effect under these Regulations.

(2) The Authority may, upon the completion of an investigation which has shown sufficient ground to its satisfaction and where it considers it to be in the public interest, revoke, suspend, or vary any certificate, approval, permission, exemption or such other document issued or granted under these Regulations.

(3) The Authority may, where it considers it to be in the public interest, prevent any person or aircraft from flying.

(4) A holder or any person having the possession or custody of any certificate, approval, permission, exemption or such other documents which has been revoked, suspended or varied under these Regulations shall surrender it to the Authority within 14 days from the date of revocation, suspension or variation.

(5) The breach of any condition subject to which any certificate, approval, permission, exemption or any other document has been granted or issued under these Regulations shall render the document invalid during the continuance of the breach.

Use and retention of certificates and records.

261. - (1) A person shall not-

- (a) use any certificate, approval, permission, exemption or such other document issued or required by or under these Regulations which has been forged, altered, revoked, or suspended, or to which he is not entitled; or
- (b) forge or alter any certificate, approval, permission, exemption or such other document issued or required by or under these Regulations; or
- (c) lend any certificate, approval, permission, exemption or such other document issued or required by or under these Regulations to any other person; or
- (d) make any false representation for the purpose of procuring for himself or any other person the issue renewal or variation of any such certificate, approval, permission or exemption or such other document.

(2) During the period for which it is required under these Regulations to be preserved, a person shall not mutilate, alter, render illegible or destroy any records, or any entry made therein, required by or under these Regulations to be maintained, or knowingly make, or procure or assist in the making of, any false entry in any such record, or wilfully omit to make a material entry in such record

(3) All records required to be maintained by or under these Regulations shall be recorded in a permanent and indelible material.

(4) A person shall not purport to issue any certificate, document or exemption under these Regulations unless he is authorised to do so by the Authority.

(5) A person shall not issue any certificate of the kind referred to in sub-regulation (4) unless he has satisfied himself that all statements in the certificate are correct, and that the applicant is qualified to hold that certificate.

Reports of violation.

262. - (1) Any person who knows of a violation of the Civil Aviation Act, any amendment thereto, or any rule, regulation, or order issued there under, shall report it to the Authority.

(2) The Authority will determine the nature and type of any additional investigation or enforcement action that need be taken.

Enforcement of directions

263. Any person who fails to comply with any direction given to him by the Authority or by any authorised person under any provision of these Regulations shall be deemed for the purposes of these Regulations to have contravened that provision.

Aeronautical user fees

264. -(1) The Authority may notify the fees to be charged in connection with the issue, validation, renewal, extension or variation of any certificate, licence or such other document, including the issue of a copy thereof, or the undergoing of any examination, test, inspection or investigation or the grant of any permission or approval, required by, or for the purpose of these Regulations any orders, notices or proclamations made there under.

(2) Upon an application being made in connection with which any fee is chargeable in accordance with the provisions of sub-regulation (1), the applicant shall be required, before the application is entertained, to pay the prescribed fees.

(3) If, after that payment has been made, the application is withdrawn by the applicant or otherwise ceases to have effect or is refused, the Authority, shall not refund any payment made.

Application of regulations to Government and visiting forces, etc

265. -(1) These Regulations shall apply to aircraft, not being a military aircraft belonging to or exclusively employed in the service of the Government, and for the purposes of such application, the department or other authority for the time being responsible for management of the aircraft shall be deemed to be the operator of the aircraft, and in the case of an aircraft belonging to the Government, to be the owner of the interest of the Government in the aircraft.

(2) Except as otherwise expressly provided, the naval, military and air force authorities and member of any visiting force and property held or used for the purpose of such a force shall be exempt from the provision of these regulations to the same extent as if the visiting force formed part of the military force of the [State].

Extra-territorial application of Regulations

266. Except where the context otherwise requires, the provisions of these Regulations shall-

- (a) in so far as they apply, whether by express reference or otherwise, to aircraft registered in [State], apply to such aircraft wherever they may be;
- (b) in so far as they apply, whether by express reference or otherwise, to other aircraft, apply to such aircraft when they are within the [State];

- (c) in so far as they prohibit, require or regulate, whether by express reference or otherwise, the doing of anything by any person in, or by any of the crew of, any aircraft registered in [State], shall apply to such persons and crew, wherever they may be; and
- (d) in so far as they prohibit, require or regulate, whether by express reference or otherwise, the doing of anything in relation to any aircraft registered in [State] by other persons shall, where such persons are citizens of the [State], apply to them wherever they may be.

Flights over
any foreign
country

267. -(1) The operator or pilot-in-command of an aircraft registered in the [State] (or, if the operator’s principal place of business or permanent residence is in the [State], any other aircraft) which is being flown over any foreign State shall not allow that aircraft to be used for a purpose which is prejudicial to the security, public order or public health of, or to the safety of air navigation in relation to that State.

(2) A person does not contravene sub-regulation (1) if that person neither knew nor had reasons to suspect that the aircraft was being or was to be used for a purpose referred to in sub-regulation (1).

(3) The operator or pilot in command of an aircraft registered in [State] (or, if the operator’s principal place of business or permanent residence is in the [State], any other aircraft) which is being flown over any foreign State shall comply with any directions given by the appropriate aeronautical authorities of that State whenever-

- (a) the flight has not been duly authorised;
- (b) there are reasonable grounds for the appropriate aeronautical authorities to believe that the aircraft is being or will be used for a purpose which is prejudicial to the security, public order or public health of, or to the safety of air navigation in relation to that State.

unless the lives of persons on board or the safety of the aircraft would thereby be endangered.

(4) A person does not contravene sub-regulation (3) if he neither knew nor suspected that the directions were being given by the appropriate aeronautical authorities.

(5) The requirement in sub-regulation (3) shall not prejudice the need to comply with other requirements or directions of aeronautical authority.

(6) In this regulation “appropriate aeronautical authorities” includes any person, whether a member of a country’s military or civil authorities, authorised under the law of the foreign State to issue directions to aircraft flying over that State.

PART XIII OFFENCES AND PENALTIES

Contravention of
Regulations

268. A person who contravenes any provision of these Regulations may have his licence, certificate, approval, authorisation, exemption or other document revoked or suspended.

Penalties

269. -(1) A person who contravenes any provision of these Regulations, orders, notices or proclamations made there under is contravened in relation to an aircraft, the operator of that aircraft and the pilot-in-command, if the operator or, the pilot in command is not the person who contravened that provision he shall, without prejudice to the liability of any other person under these Regulations for that contravention, be deemed for the purposes of the following provisions of this Regulation to have contravened that provision unless he proves that the contravention occurred without his consent or connivance and that he exercised all due diligence to prevent the contravention.

(2) If it is proved that an act or omission of any person, which would otherwise have been a contravention by that person of a provision of these Regulations, orders, notices or proclamations made there under was due to any cause not avoidable by the exercise of reasonable care by that person, the act or omission shall be deemed not to be a contravention by that person of that provision.

(3) Where a person is charged with contravening a provision of these Regulations orders, notices or proclamations made there under by reason of his having been a member of the flight crew of an aircraft on a flight for the purpose of commercial air transport operations, the flight shall be treated, without prejudice to the liability of any other person under these Regulations, as not having been for that purpose if he proves that he neither knew nor had reason to know that the flight was for that purpose.

(4) A person who contravenes any provision of these Regulations, orders, notices or proclamations made thereunder not being a provision referred to in sub-regulation (9) shall, upon conviction, be liable to a fine, and in the case of a continuing contravention, each day of the contravention shall constitute a separate offence.

(5) In case an aircraft is involved in a contravention and the contravention is by the owner or operator of the aircraft, the aircraft shall be subject to a lien for the penalty.

(6) Any aircraft subject to alien for the purpose of sub-regulation (5) may be seized by and placed in the custody of the Authority;

(7) The aircraft shall be released from custody of the Authority upon-

(a) payment of the penalty or the amount agreed upon in compromise;

(b) deposit of a bond in such amount as the Authority may prescribe, conditioned upon payment of the penalty or the amount agreed upon in compromise;

(c) receiving an order of the court to that effect.

(8) The Authority and any person specifically authorised by name by him or any police officer not below the rank of inspector specifically authorised by name by the Minister, may compound offences under Part A of the Schedule to these Regulations by assessing the contravention and requiring the person reasonably suspected of having committed the offence to pay to the Authority a sum equivalent in [State] shillings of one hundred United States dollars and three hundred United States dollars for provisions referred to in sub-part (i) and sub-part (ii) respectively in Part A of the Schedule to these Regulations.

(9) If any person contravenes any provision specified in Part B of the Schedule to these Regulations, upon conviction is liable to a fine not less than the equivalent in [State] Shillings of one thousand United States Dollars or to imprisonment for a term of twelve months or to both.

(10) Where any person is aggrieved by any order made under sub-regulation (8), he may, within twenty one days of such order being made, appeal against the order to a higher court and the provisions of Part X of the Criminal Procedure Act, shall apply *mutatis mutandis*, to every such appeal as if it were an appeal against a sentence passed by a district court in the exercise of its original jurisdiction.

Cap. 20

Uganda

83. (1) If any provision of these Regulations, orders, notices or proclamations made thereunder is contravened in relation to an aircraft, the operator of that aircraft and the pilot in command, if the operator or the pilot in command is not the person who contravened that provision shall, without prejudice to the liability of any other person under these Regulations for that contravention, be deemed for the purposes of the following provisions of this regulation to have contravened that provision unless he proves that the contravention occurred without his consent or connivance and that he exercised all due diligence to prevent the contravention.

(2) Any person who contravenes any provision specified as an “A” provision in the First Schedule to these Regulations shall be guilty of an offence and shall on conviction be liable to a fine not exceeding one million shillings for each offence or each flight or to imprisonment for a term not exceeding one year or to both.

(3) Any person who contravenes any provision specified as a “B” provision in the First Schedule to these Regulations shall be guilty of an offence and shall on conviction be liable to a fine not exceeding two million shillings for each offence or each flight or to imprisonment for a term not exceeding three years or to both.

Kenya

54. (1) If any provision of these Regulations, orders, notices or proclamations made under the regulations is contravened in relation to an aircraft, the operator of that aircraft and the pilot in command, if the operator or the pilot in command is not the person who contravened that provision shall, without prejudice to the liability of any other person under these Regulations for that contravention, be deemed to have contravened that provision unless he proves that the contravention occurred without his consent or connivance and that he or she exercised all due diligence to prevent the contravention.
- (2) A person who contravenes any provision specified as an “A” provision in the Fourth Schedule to these Regulations commits an offence and is liable on conviction to a fine not exceeding one million shillings for each offence and or to imprisonment for a term not exceeding one year or to both.
- (3) A person who contravenes any provision specified as a “B” provision in the Fourth Schedule to these Regulations commits an offence and is liable on conviction to a fine not exceeding two million shillings for each offence and or to imprisonment for a term not exceeding three years or to both.
- (4) A person who contravenes any provision of these Regulations not being a provision referred to in the Fourth Schedule to these Regulations commits an offence and is liable on conviction to a fine not exceeding two million shillings, and in the case of a second or subsequent conviction for the like offence to a fine not exceeding four million shillings.

SCHEDULE

FIRST SCHEDULE

Regulation 113(5) (a).

**ALTIMETRY SYSTEM PERFORMANCE REQUIREMENTS FOR OPERATIONS IN
RVSM AIRSPACE**

1. In respect of groups of aeroplanes that are nominally of identical design and build with respect to all details that could influence the accuracy of height-keeping performance, the height-keeping performance capability shall be such that the total vertical error (TVE) for the group of aeroplanes shall have a mean no greater than 25 m (80 ft) in magnitude and shall have a standard deviation no greater than $28 - 0.013z^2$ for $0 \leq z \leq 25$ when z is the magnitude of the mean TVE in metres, or $92 - 0.004z^2$ for $0 \leq z \leq 80$ where z is in feet. In addition, the components of TVE shall have the following characteristics:

- a) the mean altimetry system error (ASE) of the group shall not exceed 25 m (80 ft) in magnitude;
- b) the sum of the absolute value of the mean ASE and of three standard deviations of ASE shall not exceed 75 m (245 ft); and
- c) the differences between cleared flight level and the indicated pressure altitude actually flown shall be symmetric about a mean of 0 m, with a standard deviation no greater than 13.3 m (43.7 ft), and in addition, the decrease in the frequency of differences with increasing difference magnitude shall be at least exponential.

2. In respect of aeroplanes for which the characteristics of the airframe and altimetry system fit are unique and so cannot be classified as belonging to a group of aeroplanes encompassed by paragraph 1, the height-keeping performance capability shall be such that the components of the TVE of the aeroplane have the following characteristics:

- a) the ASE of the aeroplane shall not exceed 60 m (200 ft) in magnitude under all flight conditions; and
- b) the differences between the cleared flight level and the indicated pressure altitude actually flown shall be symmetric about a mean of 0 m, with a standard deviation no greater than 13.3 m (43.7 ft), and in addition, the decrease in the frequency of differences with increasing difference magnitude shall be at least exponential.

SECOND SCHEDULE

Regulation 269 (2) and (3)

PENALTIES

REG. NO.	TITLE	PART
3	Registration markings.	A
4	Civil aircraft airworthiness.	B
5	Certificate of airworthiness.	A
6	Aircraft instruments and equipment.	A
7	Inoperative instruments and equipment.	A
8	Aircraft flight manual, marking and placard requirements.	A
9	Required aircraft and equipment inspections.	A
10	Documents to be carried on aircraft.	A
11	Production of documents.	A
12	Preservation of documents.	A
13	Insurance.	B
14	Stowaways.	A
15	Co-ordination of activities potentially hazardous to civil aircraft.	B
16	Power to prohibit or restrict flying or landing or taking off.	A
17	Balloons, kites and airships.	A
18	Aircraft maintenance requirements.	B

19	Maintenance required.	B
25	Inspections: commercial air transport.	B
28	Inspections: all other aircraft.	B
29	Maintenance records.	A
30	Maintenance records retention.	A
31	Transfer of maintenance records.	A
32	Composition of flight crew.	B
36	Requirements of experience, recency and training for single pilot operations at night or IFR.	A
38	Pilot recent experience: PIC and co-pilot, cruise relief pilot.	A
39	PIC: route and airport qualification.	A
40	Pilot proficiency checks.	A
41	Licences required.	A
42	Pilots: Qualifications	A
43	Rating required for IFR operations.	B
44	Special authorisation required for Category II or III operations.	B
45	Recording of flight time.	A
46	PIC and co-pilot currency: takeoffs and landings.	A
47	Pilot currency: IFR operations.	A
48	Pilot currency: general aviation operations.	A
49	Pilot privileges and limitations.	B
56	Fitness of flight crew members.	B
57	Use of narcotics, drugs or intoxicating liquor.	B
58	Crew member use of seatbelts and shoulder harnesses.	A
59	Flight crew members at duty stations.	A
66	Power to inspect.	A
69	Manipulation of the controls: commercial air transport.	B
70	Simulated abnormal situations in flight: commercial air transport.	A
77	Operation of flight recorders.	A
78	Crew member oxygen supply	A
80	Carriage of dangerous goods.	B
81	Portable electronic devices.	A
82	Pre-flight action.	A
83	Operation of aircraft on the ground.	A
84	Flight into known or expected icing	A
85	Aerodrome operating minima	A
88	Operation of radio in aircraft	A
8	Weather reports and forecasts.	A
90	Weather limitations for VFR flights	A
91	Adequacy of operating facilities.	A
92	Diversions decision: engine inoperative	A

93	IFR destination aerodromes.	A
94	IFR alternate aerodrome selection criteria.	A
95	Off-shore alternates for helicopter operations.	A
96	Takeoff alternate aerodromes: commercial air transport operations.	A
98	Maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS approval.	B
99	Extended range operations with two-engined aeroplanes.	B
100	En-route alternate aerodromes: ETOPS operations.	A
101	Fuel, oil and oxygen planning and contingency factors.	B
102	Flight planning: document distribution and retention.	A
103	Commercial air transport: loading of aircraft.	B
104	Aircraft loading, mass and balance.	B
105	Stowage of baggage and cargo.	A
106	Maximum allowable weights to be considered on all load manifests.	A
107	Flight release required: commercial air transport.	A
108	Operational flight plan: commercial air transport.	A
110	Performance and operating limitations.	B
111	In-flight simulation of abnormal situations	B
112	Test flight areas	A
113	Operations in MNPS or RVSM airspace.	A
116	Compliance with visual and electronic glide slopes	A
117	Restriction or suspension of operations: commercial air transport.	A
121	Operations of single-engine turbine-powered aircraft at night or in IMC.	A
122	IFR takeoff minimums for commercial air transport	A
123	Instrument approach procedures and IFR landing minima.	A
124	Commencing an instrument approach.	A
125	Instrument approaches to aerodromes	A
126	Threshold crossing height for precision approaches.	A
128	Landing during instrument meteorological conditions	A
133	Aircraft performance calculations for all aircrafts.	A
134	General weight and obstruction clearance limitations.	A
135	Category II and III operations: general operating rules	A
136	Category II and Category III: operations manual	A
138	General	A
140	Aircraft performance calculations for commercial air transport.	A
141	Takeoff limitations.	A
142	En-route limitations: all engines operating.	A
143	En-route limitations: one engine inoperative.	A
144	En-route limitations: three or more engines, two engines inoperative.	A
146	Landing limitations.	A
146	Unacceptable conduct.	B

147	Refuelling or defuelling with passengers on board.	A
148	Passenger seats, safety belts and shoulder harnesses.	A
149	Passenger briefing: non AOC holder aircraft.	A
151	Passenger oxygen: minimum supply and use.	A
152	Alcohol or drugs.	A
153	Use of psychoactive substances.	B
154	Passenger compliance with instructions.	B
156	Carriage of Persons Without Compliance with Passenger-Carrying Requirements.	A
159	Arming of automatic emergency exits.	A
161	Stops where passengers remain on board.	A
162	Carriage of persons with reduced mobility	A
164	Carriage of munitions of war.	B
165	Prohibition against carriage of weapons.	B
166	Oxygen for medical use by passengers.	B
170	Required passenger briefings: AOC holder.	A
171	Passenger briefing: extended over-water operations.	A
176	Age restriction.	A
177	PIC licence requirements: turbojet, turbofan or large aircraft.	B
178	PIC licence requirements: non turbojet or turbofan small aircraft	B
179	PIC aeronautical experience: Small aircraft.	B
180	Co-pilot licence requirements.	B
181	Flight engineer licence requirements.	B
182	One pilot qualified to perform flight engineer functions.	A
183	Persons qualified in flight release.	A
197	Aircraft and instrument proficiency checks.	A
198	Introduction of new equipment or procedures.	A
199	Pilot qualification: recent experience.	A
201	Flight engineer proficiency checks	A
202	Competence checks: flight operations officer.	A
206	Line observations: flight operations officer.	A
207	Route and area checks: pilot qualification.	A
209	Designated special aerodromes and heliports: PIC qualification.	A
217	Check pilot and authorised flight engineer qualifications.	A
218	Check airman designation.	A
219	Check pilot authorizations and limitations.	A
220	Synthetic flight trainer approval.	A
221	Line qualification: check pilot and instructor.	A
222	Termination of proficiency, competence or line check.	A
223	Recording of crew member qualifications.	A
228	Maximum flight duty periods for crew members.	A

229	Minimum rest periods for crew members.	A
230	Duty and rest periods for flight operations officers	A
231	Records of flight times and duty periods.	A
232	Maximum flight times for crew.	A
235	Protection of flight crew from cosmic radiation	B
236	Cosmic radiation: records to be kept	A
241	Flight release: aircraft requirements.	A
242	Flight release: facilities and NOTAMs.	A
243	Flight release: weather reports and forecasts.	A
244	Flight release under VFR or IFR.	A
246	Flight release: minimum fuel supply.	A
247	Flight release: aircraft loading and performance.	A
248	Flight release: amendment or re-release en-route.	A
249	Flight release: requirement for airborne weather radar equipment.	A
255	Drug and alcohol testing and reporting	B
256	Inspection of licences and certificates	A
261	Use and retention of certificates and records	B

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