

*Statutory Instrument No. 43 of 2022*

CIVIL AVIATION  
(Cap. 71:01)

**CIVIL AVIATION (AIRCRAFT OPERATIONS) REGULATIONS, 2022**  
(Published on 22nd April, 2022)

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PART I — *Preliminary*

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

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|----------------|---|
| Citation       | <b>1.</b> These Regulations may be cited as the Civil Aviation (Aircraft Operations) Regulations, 2022.   |
| Interpretation | <p><b>2.</b> In these Regulations, unless the context otherwise requires —</p> <p>“accelerate-stop distance available (ASDA)” means the length of the take-off run available plus the length of the stopway, if provided;</p> <p>“aerodrome” means a defined area on land or water, including any buildings, installations and equipment intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;</p> <p>“aerodrome operating minima” means the limits of usability of an aerodrome for —</p> <ul style="list-style-type: none"> <li>(a) take-off, expressed in terms of runway visual range or visibility and, if necessary, cloud conditions;</li> <li>(b) landing in 2D instrument approach operations, expressed in terms of visibility or runway visual range, minimum descent altitude or height (MDA/H) and, if necessary, cloud conditions; and</li> <li>(c) landing in 3D instrument approach operations, expressed in terms of visibility or runway visual range or decision altitude or height (DA/H) as appropriate to the type or category of the operation;</li> </ul> <p>“aerodrome traffic zone” means an airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic;</p> <p>“aeronautical product” means any aircraft, aircraft engine, propeller, or subassembly, appliance, material, part, or component to be installed thereon;</p> |

- “aeroplane” means a power-driven heavier-than-air aircraft, deriving its lift in flight mainly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;
- “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 operating manual” means a manual, acceptable to the Authority, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft;
- “aircraft tracking” means a process, established by the operator, that maintains and updates, at standardised intervals, a ground-based record of the four dimensional position of individual aircraft in flight;
- “air operator certificate (AOC)” means a certificate authorising an operator to carry out specified commercial air transport operations;
- “air traffic control service” means a service provided for the purpose of —
- (a) preventing collisions —
    - (i) between aircraft, or
    - (ii) on a manoeuvring area between an aircraft and an obstruction;
  - and
  - (b) expediting and maintaining an orderly flow of air traffic;
- “air traffic control unit” means a generic term meaning variously —
- (a) an area control centre;
  - (b) an approach control unit; or
  - (c) an aerodrome control tower;
- “air traffic service (ATS)” means a generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service);
- “Airworthiness Directive” has the meaning assigned to it under the Civil Aviation (Airworthiness) Regulations; Cap. 71:01 (Sub. Leg.)
- “airworthy” means the status of an aircraft, engine, propeller, or part when it conforms to its approved design and is in a condition safe for operation;
- “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, where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use, and includes the following —
- (a) take-off alternate – an alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off when it is not possible to use the aerodrome of departure;
  - (b) en-route alternate – an alternate aerodrome at which an aircraft would be able to land in the event diversion becomes necessary while en-route; and
  - (c) destination alternate – an alternate aerodrome to which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing;
- “altimetry system error (ASE)” means the difference between the altitude indicated by the altimeter display, assuming a correct altimeter barometric setting, and the pressure altitude corresponding to the undisturbed ambient pressure;

“appliance” means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is —

(a) used or intended to be used in operating or controlling an aircraft in flight;

(b) installed in or attached to the aircraft; and

(c) is not part of an airframe, powerplant, or propeller;

“cabin crew member” means a crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member;

“category I operations (CAT I)” means a precision instrument approach and landing with —

(a) a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800 m; and

(b) a runway visual range not less than 550 m;

“category II operations (CAT II)” means a precision instrument approach and landing with —

(a) a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft); and

(b) a runway visual range of not less than 300 m;

“category III operations (CAT III)” means a precision instrument approach and landing with —

(a) CAT III A, a decision height lower than 30 m (100 ft) or no decision height; and a runway visual range not less than 175 m;

(b) CAT III B, a decision height lower than 15 m (50ft) or no decision height and a runway visual range of not less than 175 m but less than 50m; and

(c) CAT III C, no decision height and with 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;

“combined vision system (CVS)” means a system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS);

“commercial air transport operation” means an aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire;

“contaminated runway” means a significant portion of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by one or more of the substances listed in the runway surface condition descriptors;

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

“crew member” means a person assigned by an operator to duty on an aircraft during a flight duty period;

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

- “critical engine” means an engine whose failure give the most adverse effect on the aircraft characteristics related to the case under consideration;
- “critical phase of flight” means those portions of operations involving taxiing, take-off and landing, and all flight operations below 10, 000 ft, except a cruise flight;
- “cruise relief pilot” means a flight crew member who is assigned to perform pilot tasks during cruise flight, to allow the pilot-in-command or a co-pilot to obtain planned rest;
- “dangerous goods” means articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Technical Instructions;
- “decision altitude (DA) or decision height (DH)” means a specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established;
- “duty” means any task that flight or cabin crew members are required by the operator to perform including, flight duty, administrative work, training, positioning and standby;
- “duty period” means a period which starts when a flight or cabin crew member is required by an operator to report for or to commence a duty and ends when that person is free from all duties;
- “EDTO critical fuel” means the fuel quantity necessary to fly to an en-route alternate aerodrome considering, at the most critical point on the route, the most limiting system failure;
- “EDTO significant system” means an aeroplane system whose failure or degradation could adversely affect the safety particular to an EDTO flight, or whose continued functioning is specifically important to the safe flight and landing of an aeroplane during an EDTO diversion;
- “emergency locator transmitter (ELT)” – means a generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated. An ELT may be any of the following –
- (a) automatic fixed ELT (ELT(AF)) – an automatically activated ELT which is permanently attached to an aircraft;
  - (b) automatic portable ELT (ELT(AP)) – an automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft;
  - (c) automatic deployable ELT (ELT(AD)) – an ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided; or
  - (d) survival ELT (ELT(S)) – an ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors;
- “enhanced vision system (EVS)” means a system to display electronic real-time images of the external scene achieved through the use of image sensors;
- “electronic flight bag (EFB)” means an electronic information system, comprised of equipment and applications for flight crew, which allows for the storing, updating, displaying and processing of EFB functions to support flight operations or duties;

- “engine” means a unit used or intended to be used for aircraft propulsion and consists of at least those components and equipment necessary for functioning and control, but excludes the propeller or rotors, if applicable;
- “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;
- “extended diversion time operations (EDTO)” means any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by the Authority;
- “fatigue” means a physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase or workload, mental or physical activity that can impair a person’s alertness and ability to perform safety-related operational duties;
- “final approach segment (FAS)” means that segment of an instrument approach procedure in which alignment and descent for landing are accomplished;
- “flight crew member” means a licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period;
- “flight duty period” means a period which commences when a flight or cabin crew member is required to report for duty that includes a flight or a series of flights and which finishes when the aeroplane finally comes to rest and the engines are shut down at the end of the last flight on which he or she is a crew member;
- “flight manual” means a manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft;
- “flight operations officer or flight dispatcher” means a person designated by the operator to engage in the control and supervision of flight operations, whether licensed or not, who is suitably qualified in accordance with the Civil Aviation (Personnel Licensing) Regulations, and who supports, briefs or assists the pilot-in-command in the safe conduct of the flight;
- “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 recorder” means any type of recorder installed in the aircraft for the purpose of complementing accident or incident investigation;
- “flight simulation training device” means any one of the following three types of apparatus in which flight conditions are simulated on the ground –
- (a) a flight simulator, which provides an accurate representation of the flight deck of a particular aircraft type to the extent that the mechanical, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated;

- (b) a flight procedures trainer, which provides a realistic flight deck environment, and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, etc. aircraft systems control functions, and the performance and flight characteristics of aircraft of a particular class; or
- (c) a basic instrument flight trainer, which is equipped with appropriate instruments, and which simulates the flight deck environment of an aircraft in flight in instrument flight conditions;

“flight time” –

- (a) for aeroplanes and gliders, means the total time from the moment an aeroplane or a glider moves for the purpose of taking off to the moment it finally comes to rest at the end of the flight and it is synonymous with the term “block to block” or “chock to chock” time in general usage which is measured from the time an aeroplane first moves for the purpose of taking off to the moment it finally stops at the end of the flight;
- (b) for a helicopter, means the total time from the moment a helicopter rotor blades start turning until the moment a helicopter comes to rest at the end of the flight and the rotor blades are stopped; and
- (c) for airships or free balloons, means the total time from the moment an airship or free balloon first becomes detached from the surface to the moment when it next becomes attached thereto or comes to rest thereon;

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

“ground handling” means services necessary for an aircraft’s arrival at and departure from, an airport, other than air traffic services;

“head-up display (HUD)” means a display system that presents flight information into the pilot’s forward external field of view;

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

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

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

“IFR” means Instrument Flight Rules;

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

“instrument approach operations” means an approach and landing using instruments for navigation guidance based on an instrument approach procedure and executed through –

(a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

(b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance;

“instrument approach procedure (IAP)” means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply and which are classified as follows –

- (a) non-precision approach (NPA) procedure – an instrument approach procedure designed for 2D instrument approach operations Type A;
- (b) approach procedure with vertical (APV) guidance – a performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A; and
- (c) precision approach (PA) procedure – an instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach operations Type A or B;

“instrument meteorological conditions (IMC)” means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions;

“isolated aerodrome” means a destination aerodrome for which there is no destination alternate aerodrome suitable for a given aeroplane type;

“landing distance available (LDA)” means the length of runway which is declared available and suitable for the ground run of an aeroplane landing;

“large aeroplane” for —

- (a) an aeroplane, means an aeroplane which has a maximum certified maximum certificated take-off mass of 5700 kg or less; and
- (b) for a helicopter, means a helicopter which has a maximum certified take-off mass of 3175 kg or less;

“maintenance organization’s procedures manual” means a document endorsed by the head of the maintenance organization which details the maintenance organization’s structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems;

“maintenance programme” means a document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies;

“maintenance release” means a document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organisation’s procedures manual or under an equivalent system;

“maximum mass” means the maximum certificated take-off mass of an aircraft;

“minimum descent altitude (MDA) or minimum descent height (MDH)” means a specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference;

“minimum equipment list (MEL)” means a list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the MMEL established for the aircraft type;

“navigation specification” means a set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace, and includes the following specifications —

- (a) required navigation performance (RNP) specification – a navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, for example, RNP 4, RNP APCH; and
- (b) area navigation (RNAV) specification – a navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, for example, RNAV 5, RNAV 1;

“night” means the hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise, as may be prescribed by the Authority;

“obstacle clearance altitude (OCA) or obstacle clearance height (OCH)” means the lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria;

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

“operational flight plan” means the operator’s plan for the safe conduct of the flight based on considerations of aeroplane performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned;

“operations in performance class 1 helicopter” means operation with performance such that in the event of a critical engine failure performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reach the take-off decision point (TDP) or after passing the landing decision point (LDP), in which cases the helicopter must be able to land within the rejected take-off or landing area;

“operations in performance class 2 helicopter” means means operation with performance such that in the event of a critical engine failure performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, except then the failure occurs early during the take-off manoeuvres or late in the landing manoeuvre in which cases a forced landing may be required;

“operations in performance class 3 helicopter” means means operation with performance such that in the event of an engine failure at any time during the flight, a forced landing will be required;

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

“operations specifications” means the authorisations, including specific approval, conditions and limitations associated with the air operator certificate and subject to the conditions in the operations manual;

“operator” means a person, organisation or enterprise engaged in or offering to engage in an aircraft operation;

“operator’s maintenance control manual” means a document which describes the operator’s procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator’s aircraft on time and in a controlled and satisfactory manner;

- “overhaul” means the restoration of an aircraft or aeronautical product using methods, techniques, and practices acceptable to the Authority, including disassembly, cleaning, and inspection as permitted, repair as necessary, and reassembly; and tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Authority, which have been developed and documented by the State of Design, holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance approval under parts manufacturing authorisation or technical standard order;
- “performance-based navigation (PBN)” means area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace;
- “pilot-in-command” means a pilot designated by the operator, or in the case of general aviation, the owner as being in command and charged with the safe conduct of a flight;
- “point of no return” means the last possible geographic point at which an aircraft can proceed to its destination aerodrome as well as to an available en-route alternate aerodrome for a given flight;
- “practical test” means a competency test on the areas of operations for a licence, certificate, rating or authorisation that is conducted by having the applicant respond to questions and demonstrate manoeuvres in flight or in an approved synthetic flight trainer;
- “pressure-altitude” means an atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the standard atmosphere;
- “propeller” means a device for propelling an aircraft that has blades on an engine driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation and includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines;
- “psychoactive substances” means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens and volatile solvents, excluding coffee and tobacco;
- “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;
- “repair” means the restoration of an aircraft, engine, propeller or associated part to an airworthy condition in accordance with the appropriate airworthiness requirements, after it has been damaged or subjected to wear;
- “required visual reference” means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path and in the case of a circling approach, the required visual reference is the runway environment;
- “rest period” means a continuous and defined period of time, subsequent to or prior to duty, during which flight or cabin crew members are free of all duties;

- “runway visual range” means a range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;
- “safe forced landing” means an unavoidable landing or ditching with a reasonable expectancy of no injuries to persons in the aircraft or on the surface;
- “safety management system (SMS)” means a systematic approach to managing safety, including the necessary organisational structures, accountabilities, responsibilities, policies and procedures;
- “small aircraft” means an aircraft of a maximum certificated take-off mass of 5 700 kg or less;
- “State of Registry” means a contracting state on whose registry an aircraft is placed;
- “State of the aerodrome” means the State in whose territory an aerodrome is located;
- “substances” means alcohol, sedatives, hypnotics, anxiolytics, hallucinogens, opioids, cannabis, inhalants, central nervous system stimulants such as cocaine, amphetamines, and similarly acting sympathomimetics, phencyclidines or similarly acting arylcyclohexylamines, and other psychoactive substances;
- “synthetic vision system (SVS)” means a system to display data-derived synthetic images of the external scene from the perspective of the flight deck;
- “take-off decision point” means a point used in determining take-off performance of a Class 1 helicopter from which, either a rejected take-off may be made, or a take-off safely continued;
- “threshold time” means the range, expressed in time, established by the Authority to an en-route alternate aerodrome, whereby any time beyond that requires an EDTO approval from the Authority;
- “total vertical error (TVE)” means the vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level);
- “training programme” means a programme that consists of courses, courseware, facilities, flight training equipment and the personnel necessary to accomplish a specific training objective and may include a core curriculum and a specialty curriculum;
- “VFR” means Visual Flight Rules;
- “visual meteorological conditions (VMC)” means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima;
- “V<sub>mo</sub>” means a maximum operating speed;
- “V<sub>so</sub>” means a stalling speed or the minimum steady flight speed in landing configuration; and
- “wet runway” means the surface covered by any visible dampness or water up to and including 3mm deep within the intended area of use.
- 3.** These Regulations shall apply to the operation of aircraft by operators authorised to conduct international commercial air transport operations. Application

PART II — *General Operations Requirements for Aircraft Operations*

Aircraft  
markings  
Cap. 71:01  
(Sub. Leg.)

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

Aircraft  
airworthiness

**5.** (1) A person shall not operate an aircraft unless the aircraft is airworthy.  
(2) Subject to subregulation (1), a pilot-in-command shall —  
(a) determine whether an aircraft is in a condition for safe flight; and  
(b) discontinue a flight when a mechanical, electrical, or structural defect occurs which makes it unairworthy.

Special  
certificate of  
airworthiness

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

Aircraft  
instrument and  
equipment  
Cap. 71:01  
(Sub. Leg.)

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

Inoperative  
instruments  
and equipment

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

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

- (a) an approved minimum equipment list for the aircraft is available;
- (b) the Authority has issued operations specifications authorising operations in accordance with an approved minimum equipment list;
- (c) the flight crew has direct access at all times prior to flight to all of the information contained in the approved minimum equipment list through printed or other means approved by the Authority in the operations specifications;
- (d) records identifying the inoperative instruments and equipment are available to the pilot; and
- (e) the aircraft is operated under all applicable conditions and limitations contained in the minimum equipment list and the operations specifications authorising use of the minimum equipment list.

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

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

- (a) part of the visual flight rules day instruments and equipment prescribed in the Civil Aviation (Equipment and Instruments) Regulations;
- (b) required on the aircraft's equipment list or the operations equipment list for the kind of flight operation being conducted;
- (c) required by the Civil Aviation (Equipment and Instrument) Regulations for the specific kind of flight operation being conducted; or
- (d) required to be operational by an Airworthiness Directive.

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

- (a) determined by the pilot-in-command not to be a hazard to the aircraft's safe operation;
- (b) deactivated and placarded "inoperative"; or
- (c) removed from the aircraft, the cockpit control placarded and the maintenance recorded in accordance with the Civil Aviation (Airworthiness) Regulations.

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

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

- (a) instruments and equipment that are either specifically or otherwise required by the certification airworthiness requirements and which are essential for safe operations under all operating conditions;
- (b) instruments and equipment required for operable condition by an Airworthiness Directive, unless the Airworthiness Directive provides otherwise; and
- (c) instruments and equipment required for specific operations.

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

**9.** (1) A person shall not operate a Botswana aircraft unless there is carried therein —

- (a) the operator's operations manual, approved by the Authority;
- (b) a current, approved aeroplane flight manual or rotorcraft flight manual containing performance data required these regulations and any other information necessary for the operation of the aeroplane within the terms of its certificate of airworthiness, unless such data is available in the operations manual;
- (c) current and suitable charts to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted; and
- (d) markings and placards which provide the pilot-in-command with the necessary limitations for safe operation.

Aircraft flight manual, marking and placard requirements

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

(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 Authority for visual presentation.

(4) An aircraft flight manual or rotorcraft flight manual shall be updated by implementing such changes directed by the Authority.

**10.** (1) An air operator shall ensure that all employees comply with the laws, regulations and procedures of those States in which operations are conducted.

(2) An air operator shall ensure that all pilots are familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the aerodromes to be used and the air navigation facilities relating thereto.

Compliance with laws, regulations and procedures

(3) An air operator shall ensure that flight crew members are familiar with such laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the aircraft.

(4) The air operator or a designated representative shall have responsibility for operational control.

(5) Responsibility for operational control shall be delegated only to the pilot-in-command and to a flight operations officer or flight dispatcher if the operators approved method of control and supervision of flight operations requires the use of flight operations officer or flight dispatcher personnel.

(6) If an emergency situation which endangers the safety of the aircraft or persons becomes known first to the flight operations officer or flight dispatcher, action by that person in accordance with regulation 39 (4) shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay and requests for assistance, if required.

(7) If an emergency situation which endangers the safety of the aircraft or persons necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall notify the appropriate local authority without delay.

(8) If required by the State in which the incident occurs, the pilot-in-command shall submit —

(a) a report on any such violation to the appropriate local authority of such State;

(b) a copy of the report to the State of the Authority; and

(c) such report as soon as possible and normally within ten (10) days.

(9) An operator shall ensure that a pilot-in-command has available on board, all the essential information concerning the search and rescue services in the area over which the aeroplane will be flown.

(9) An operator shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in the Civil Aviation (Personnel Licensing) Regulations.

Required  
aircraft and  
equipment  
inspections

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

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

(b) a 100 hour inspection;

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

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

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

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

Documents to  
be carried on  
aircraft

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

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

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

- (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  - (ii) the certificate of airworthiness in force in respect of the aircraft,
  - (iii) the licences and certificates of members of the flight crew of the aircraft,
  - (iv) one copy of the 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 journey logbook or technical log,
  - (vii) part of the operations manual relevant to the operation conducted,
  - (viii) the aircraft certificate of registration,
  - (ix) voyage report,
  - (x) passenger manifest,
  - (xi) the cargo manifest, including special loads information,
  - (xii) a certified true copy of the air operator certificate and a copy of the operations specifications relevant to the aeroplane type, issued in conjunction with the certificate, and when the certificate and the associated operations specifications are issued by the State of the air operator in a language other than English, an English translation shall be included,
  - (xiii) a noise certification document or statement, where applicable,
  - (xiv) an aeroplane flight manual or rotorcraft flight manual,
  - (xv) a minimum equipment list,
  - (xvi) a category II or III Manual, as applicable,
  - (xvii) an operational flight plan,
  - (xviii) a notice to airmen's (NOTAM) briefing documentation,
  - (xix) meteorological information,
  - (xx) the maps and charts required for the flight and possible diversions,
  - (xxi) the forms for complying with the reporting requirements of the Authority and the air operator certificate holder,
  - (xxii) a list of special situation passengers,
  - (xxiii) a filed air traffic control flight plan,
  - (xxiv) search and rescue information,
  - (xxv) any other document which may be required by the Authority or states concerned with a flight,
  - (xxvi) aircraft operating manual,
  - (xxvii) checklist,
  - (xxviii) identification plate,
  - (xxix) aircraft performance limitations using current route, airport obstacles and runway analysis data, and
  - (xxx) route guide;
- (b) on a flight which includes passage over a territory of any country other than Botswana for the purpose of commercial air transport —
- (i) the documents specified in paragraph (a),
  - (ii) a copy of the notified procedures to be followed by a pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft, and
  - (iii) a general declaration;
- (c) on a flight for the purpose of aerial work —

- (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  - (ii) the certificate of airworthiness in force in respect of the aircraft,
  - (iii) the licences and certificates of members of the flight crew of the aircraft,
  - (iv) the technical log required by these Regulations,
  - (v) one copy of the certificate of release to service, if any, in force with respect to the aircraft,
  - (vi) an aircraft certificate of registration, and
  - (vii) any other document required by the Authority;
- (d) on a flight which includes passage over a territory of any country other than Botswana for the purpose of aerial work —
- (i) the documents specified in paragraphs (a) and (c), and
  - (ii) a copy of the notified procedures to be followed by a pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft;
- (e) on a flight which includes passage over a territory of any country other than Botswana for the purpose of general aviation —
- (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  - (ii) the certificate of airworthiness in force in respect of the aircraft,
  - (iii) the licences of members of the flight crew of the aircraft,
  - (iv) a certificate of registration,
  - (v) a copy of the notified procedures to be followed by a pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft,
  - (vi) a journey logbook,
  - (vii) if it carries passengers, a list of names, places of embarkation and destination, and
  - (viii) if it carries cargo, a manifest and detailed declarations of the cargo; and
- (f) for the purpose of a general aviation flight within Botswana —
- (i) the licence in force in respect of the aircraft radio station installed in the aircraft,
  - (ii) the certificate of airworthiness in force in respect of the aircraft,
  - (iii) the licences and certificates of members of the 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) the aircraft's certificate of registration,
  - (vi) a noise certificate, if required,
  - (vii) the aeroplane's flight manual or rotorcraft flight manual,
  - (viii) a category II or III Manual, as applicable,
  - (ix) a filed notice to airmen's briefing documentation,
  - (x) the forms for complying with reporting requirements of the Authority,
  - (xi) the filed air traffic control flight plan, and
  - (xii) any other document required by the Authority.

- 13.** (1) A pilot-in-command shall, after being requested to do so by the Authority, produce for examination —
- Production of documents or records
- (a) the certificates of registration and airworthiness in force in respect of an aircraft;
  - (b) the licences and certificates of crew members, as applicable; and
  - (c) such other documents as required by regulation 12 to be on board the aircraft when in flight.
- (2) An operator of a Botswana aircraft shall, upon request by the Authority, produce any of the following documents or records —
- (a) the licence in force in respect of the aircraft radio station installed in the aircraft;
  - (b) the certificate of airworthiness in force in respect of the aircraft;
  - (c) the certificate of registration in force with respect to the aircraft;
  - (d) the aircraft logbook, engine logbooks and variable pitch propeller logbooks required under these Regulations to be kept;
  - (e) the mass and balance documentation, if any, required to be preserved under these Regulations;
  - (f) any records of flight time, duty periods and rest periods which are required to be preserved under these Regulations, and such other documents and information in the possession or control of the operator, as the authorised person may require for the purpose of determining whether the records are complete and accurate;
  - (g) any operations manuals or other data required to be made available under these Regulations; and
  - (h) the record made by any flight recorder installed under the Civil Aviation (Equipment and Instruments) Regulations.
- (3) A licensee or person holding a certificate validated or converted under the Civil Aviation (Personnel Licensing) Regulations shall, upon request by the Authority, produce his or her licence or certificate.
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- (4) Every person required by the Civil Aviation (Personnel Licensing) Regulations to keep a personal flying logbook shall —
- (a) keep such records for a period of not less than two years after the date of the last entry therein; and
  - (b) produce it to the Authority immediately, and in any case not later than 14 days after being requested to do so.
- 14.** (1) Subject to subregulation (2), a person required by these Regulations to preserve any documents or records by reason of his or her being the operator of an aircraft shall, if he or she ceases to be the operator of the aircraft, continue to preserve the documents or records as if he or she has not ceased to be the operator, and in the event of his or her death the duty to preserve the documents or records shall fall upon his or her representative.
- Preservation of documents
- (2) If an engine or variable pitch propeller is removed from the aircraft and installed in another aircraft operated by another person, the operator or his or her representative shall deliver to that person, upon demand, the logbook relating to that engine or propeller.
- (3) If any person in respect of whom a record has been kept by the operator in accordance with these Regulations becomes a flight crew member of an aircraft registered in Botswana, engaged in air transport services in Botswana and operated by another person, the operator or his or her representative shall deliver the records to that other person upon demand.

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

PART III — *Aircraft Maintenance and Inspection Requirements*

Aircraft maintenance requirements

**15.** (1) An operator shall ensure that, in accordance with procedures acceptable to the Authority —

- (a) each aeroplane it operates is maintained in an airworthy condition;
- (b) the operational and emergency equipment necessary for an intended flight is serviceable; and
- (c) the certificate of airworthiness of each aeroplane it operates remains valid.

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(2) An owner or 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 Organizations) Regulations, or under an equivalent system, either of which shall be acceptable to the Authority.

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

- (a) a manufacturer’s maintenance manual; or
- (b) any instructions for continued airworthiness,

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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 Certificate and Administration) Regulations or in accordance with an inspection programme have been approved under regulation 18.

(4) When the Authority accepts an equivalent system from the Contracting State, the person signing the maintenance release shall be licensed in accordance with Civil Aviation (Personnel Licensing) Regulations.

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

Maintenance required

**16.** (1) This regulation and regulations 17, 18 and 19 shall not apply to aircraft maintained in accordance with an approved maintenance programme as required under the Civil Aviation (Airworthiness) Regulations and the Civil Aviation (Air Operator Certificate and Administration) Regulations.

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

- (a) have an aircraft inspected as prescribed in these Regulations, and discrepancies noted and the equipment repaired as prescribed under the Civil Aviation (Airworthiness) Regulations;
- (b) repair, replace, remove, modify, overhaul or inspect any inoperative instruments or equipment at the next required inspection, except when permitted under the provisions of a minimum equipment list or configuration deviation list;
- (c) ensure that a placard has been installed on the aircraft when listed discrepancies include inoperative instruments or equipment; and
- (d) ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating that the aircraft has been approved for return to service.

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

Inspections of aircraft used in air transport service

- (a) an annual inspection in accordance with the Civil Aviation (Airworthiness) Regulations and has been approved for return to service by a person authorised under the Civil Aviation (Airworthiness) Regulations; or
- (b) an inspection for the issue or renewal of an airworthiness certificate in accordance with the Civil Aviation (Airworthiness) Regulations.

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

- (a) annual or 100 hour inspection and has been approved for return to service in accordance with the Civil Aviation (Airworthiness) Regulations; or
- (b) inspection for the issue or renewal of an airworthiness certificate in accordance with the Civil Aviation (Airworthiness) Regulations.

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

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

- (a) an aircraft exempted under section 46 (2) of the Act;
- (b) an aircraft subject to the requirements of regulation 18 (1) and (6); or
- (c) a turbine-powered rotorcraft when the operator selects to inspect that rotorcraft in accordance with regulation 18 (6).

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

Progressive inspection

- (a) identify the following to supervise or conduct the progressive inspection —
  - (i) a licensed aircraft maintenance engineer with appropriate type ratings in accordance with the Civil Aviation (Personnel Licensing) Regulations,
  - (ii) an approved maintenance organization appropriately rated in accordance with the Civil Aviation (Approved Maintenance Organizations) Regulations, or
  - (iii) the manufacturer of the aircraft;
- (b) provide a current inspection procedures manual available and readily understandable to the pilot and maintenance personnel containing, in detail —
  - (i) an explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material,
  - (ii) an inspection schedule, specifying the intervals in hours or days when routine and detailed inspections shall be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en-route and for changing an inspection interval because of service experience,
  - (iii) sample routine and detailed inspection forms and instructions for their use, and

- (iv) sample reports and records and instructions for their use;
- (c) provide enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and
- (d) provide appropriate current technical information for the aircraft.

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

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

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

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

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

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

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

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

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

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

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

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

Inspection of  
other aircraft

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

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

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

**21.** (1) An operator of an aeroplane over 5 700 kg maximum certificated take-off mass or a helicopter over 3 175 kg maximum mass shall monitor and assess maintenance and operational experience with respect to continuing airworthiness and provide the information as prescribed by the Authority and report through the system specified in the Civil Aviation (Airworthiness) Regulations.

Continuing  
airworthiness  
information

(2) An operator of an aeroplane over 5 700 kg maximum certificated take-off mass or a helicopter over 3 175 kg maximum mass shall obtain and assess continuing airworthiness information and recommendations available from the organization responsible for the type design and shall implement resulting actions considered necessary in accordance with a procedure acceptable to the Authority.

**22.** (1) An owner or air operator of an aircraft shall keep the following records —

Continuing  
airworthiness  
records

(a) the total time in service (hours, calendar time and cycles, as appropriate) of the aeroplane and all life-limited components;

(b) the current status of compliance with all mandatory continuing airworthiness information;

(c) appropriate details of modifications and repairs;

(d) the time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aeroplane or its components subject to a mandatory overhaul life;

(e) the current status of the aeroplane's compliance with the maintenance programme; and

(f) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(2) The records required under —

(a) subregulation (1) (a) to (e) shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service; and

(b) subregulation 1 (f) shall be kept for a minimum period of one year after the signing of the maintenance release.

(3) In the event of a temporary change of an operator, the records referred to in this regulation shall be made available to the new operator, and in the event of any permanent change of an operator, the records shall be transferred to the new operator.

(4) The records kept and transferred in accordance with this regulation shall be maintained in a form and format that ensures readability, security and integrity of the records at all times.

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Maintenance records retention

**23.** (1) Except for records maintained by an operator, an owner shall retain the following records until the work is repeated or superseded by other work of equivalent scope and detail, or for two years after the subject to which they refer has been permanently withdrawn from service —

- (a) records of the maintenance, preventive maintenance, minor modifications, and records of the 100 hour, annual, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft which include —
  - (i) a description or reference to data acceptable to the Authority of the work performed,
  - (ii) the date of completion of the work performed, and
  - (iii) the signature and licence number of the person approving the aircraft for return to service; and
- (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 the last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis,
  - (iv) the current inspection status of the aircraft, including the time since the last inspection required by the inspection programme under which the aircraft and its appliances are maintained,
  - (v) the current status of applicable airworthiness publications, including, for each, the method of compliance, the airworthiness directive number, and revision date; and if the airworthiness directive involves recurring action, the time and date when the next action is required, 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

**24.** (1) An owner or operator who sells or leases a Botswana aircraft shall transfer to the purchaser or lessor, at the time of sale or lease, the records referred to in regulations 22 and 23 for that aircraft, in plain language form or in coded form at the election of the purchaser or lessor.

(2) The coded form under subregulation (1) shall provide for the preservation and retrieval of information in a manner acceptable to the Authority.

Modification and repairs to aircraft

**25.** All modifications and repairs to an aircraft shall comply with airworthiness requirements acceptable to the Authority.

### PART IV — *Flight Crew Requirements*

Composition of flight crew

**26.** (1) An aircraft shall not fly unless it carries a flight crew of the number and composition required by the Authority.

(2) A Botswana aircraft shall carry a flight crew adequate in number and composition to ensure the safety of the aircraft which shall at least be the number and composition specified in the aircraft flight manual or other documents associated with the certificate of airworthiness.

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

(4) The flight crew shall include flight crew members in addition to the minimum number specified in the aircraft flight manual or other documents associated with the certificate of airworthiness, when necessitated by considerations related to the type of aircraft used, the type of operation involved and the duration of flight between points where flight crews are changed.

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

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

- (a) all flight crew members hold an applicable and valid licence acceptable to the Authority and are suitably qualified and competent to conduct the duties assigned to them;
- (b) procedures are established, which are acceptable to the Authority, to prevent the crewing together of inexperienced flight crew members; and
- (c) one pilot amongst the flight crew, qualified as a pilot-in-command, is designated as the pilot-in-command who may delegate the conduct of the flight to another suitably qualified pilot.

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

Flight crew qualifications

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

(3) An operator shall ensure that flight crew members demonstrate the ability to speak and understand the language used for communications as specified in the Civil Aviation (Personnel Licensing) Regulations.

(4) The pilot-in-command of an aeroplane in general aviation operation equipped with an airborne collision avoidance system (ACAS II) shall ensure that each flight crew member has been appropriately trained to competency in the use of ACAS II equipment and the avoidance of collision.

**28.** (1) The Authority shall prescribe requirements of experience, recency and training applicable to single pilot operations intended to be carried out under the IFR or at night.

Single pilot operations under instrument flight rules (IFR) or night

(2) The initial and recurrent flight training and proficiency checks indicated in regulation 133 and 135 shall be performed by the pilot-in-command in the single pilot role on the class of aeroplane in an environment representative of the operation.

**29.** (1) Where a case of non-compliance or suspected non-compliance by a foreign operator with laws, regulations and procedures applicable within Botswana territory, or a similar serious safety issue with the operator is identified, the Authority shall immediately notify the operator and, if the issue warrants it, the State of the operator.

Compliance by foreign operator with laws, regulations and procedures

(2) Where the State of the operator and the State of Registry are different, the notification as required in subregulation (1) shall also be made to the State of Registry, if the issue falls within the responsibilities of that State and warrants a notification.

Licence required	<p>(3) In the case of notification to States as specified in subregulations (1) and (2), 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.</p> <p><b>30.</b> (1) A person shall not act as pilot-in-command or in any other capacity as a required flight crew member of a —</p> <p>(a) Botswana aircraft, unless the person carries in his or her personal possession, the appropriate and current licence for the flight crew position for that type of aircraft; or</p> <p>(b) foreign aircraft, unless the person carries in his or her personal possession a valid and current licence for that type of aircraft issued to them by the State of Registry.</p>
Rating required for instrument flight rules operations	<p>(2) The flight crew of an aircraft shall include at least one member who holds a valid radio telephony operator licence or endorsement issued or rendered valid by the State of Registry, authorising operation of the type of radio transmitting equipment to be used.</p> <p>(3) When a separate flight engineer's station is incorporated in the design of an aeroplane, the flight crew shall include at least one flight engineer especially assigned to that station, unless the duties associated with that station can be satisfactorily performed by another flight crew member, holding a flight engineer licence, without interference with regular duties.</p> <p>(4) The flight crew of an aircraft shall include at least one member who holds a flight navigator licence in all operations where, as determined by the Authority, navigation necessary for the safe conduct of the flight cannot be adequately accomplished by the pilots from the pilot station.</p> <p>(5) An operator shall, for each type of aeroplane, assign to all flight crew members the necessary functions they are to perform in an emergency or in a situation requiring emergency evacuation.</p> <p><b>31.</b> A person shall not act as a pilot-in-command of an aircraft under instrument flight rules or instrument meteorological conditions unless —</p> <p>(a) in the case of an aeroplane, the pilot holds an instrument rating or an airline transport pilot licence with an appropriate aeroplane category, class, and type rating if required, for the aeroplane being flown; or</p> <p>(b) in the case of a helicopter, the pilot holds a helicopter instrument rating or an airline transport pilot licence for helicopters not limited to visual flight rules operations.</p>
Special authorisation required for Category II operations or III operations	<p><b>32.</b> (1) An aircraft shall not be operated in airspaces or for specialised operations requiring specific approvals unless a special authorisation has been issued by the Authority.</p> <p>(2) A person shall not act as a pilot of an aircraft in a Category II or III operation unless —</p> <p>(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</p> <p>(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.</p> <p>(3) An authorisation is not required for an individual pilot of an operator who has operations specifications approving Category II operations or III operations.</p>
Pilot logbooks	<p><b>33.</b> (1) A pilot shall record and keep details of all flights he or she has flown in a logbook format approved by the Authority.</p>

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

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

(4) A pilot-in-command shall carry his or her logbook on all general aviation international flights.

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

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

Recent  
experience of  
pilot-in-  
command and  
co-pilot

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

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

(4) An operator shall not assign a pilot to act in the capacity of a cruise relief pilot in a type or variant of a type of an aircraft unless, within the preceding 90 days that pilot has either —

- (a) operated as a pilot-in-command, co-pilot or cruise relief pilot on the same type of aircraft; 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 flight simulator approved for that purpose, and has practised approach and landing procedures, where the approach and landing procedure practice may be performed as the pilot who is not flying the aircraft.

(5) When a pilot-in-command or a co-pilot is flying 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 subregulation (1), for each variant or each type of aeroplane, can be combined.

(6) When a cruise relief pilot is flying several variants of the same type of aircraft or different types of aircraft with similar characteristics in terms of operating procedures, systems and handling, the Authority shall decide under which conditions the requirements of subregulation (4), for each variant or each type of aircraft, can be combined.

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

Pilot currency  
-instrument  
flight rules  
operations

- (a) logged at least six hours of instrument flight time, including at least three hours in flight in the category of aircraft; and
- (b) completed at least six instrument approaches.

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

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- Pilot currency -general aviation operations
- (3) A person shall not act as a co-pilot of an aircraft type certificated for more than one pilot unless, in the preceding 12 months, the person has logged three take-offs and landings as the sole manipulator of the controls.
- 36.** (1) A person shall not act as a pilot of an aircraft type certificated —
- (a) for more than one pilot unless, in the preceding 12 months, the person has passed a proficiency check —
    - (i) carried out by the Authority in an aircraft requiring more than one pilot, or
    - (ii) in the type of aircraft to be operated; and
  - (b) for a single pilot unless, in the preceding 24 months, the person has passed a proficiency check carried out by the Authority.
- (2) A person conducting the proficiency checks required under subregulation (1) shall ensure that each check duplicates the manoeuvres of the type rating practical test.
- Pilot privileges and limitations
- 37.** A pilot shall not conduct flight operations unless the operations are within the privileges and limitations of each licence he or she holds as specified in the Civil Aviation (Personnel Licensing) Regulations.

*PART V — Crew Member Duties and Responsibilities*

- Authority and responsibility of pilot-in-command
- Cap. 71:01 (Sub. Leg)
- 38.** (1) A pilot-in-command of an aircraft shall —
- (a) be responsible for the operations and safety of the aircraft and for the safety of all persons on board, during flight;
  - (b) have final authority as to the operation of the aircraft while in command; and
  - (c) whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the Civil Aviation (Rules of the Air and Air Traffic Services) Regulations, except that the pilot-in-command may deviate from the Regulations in emergency circumstances —
    - (i) to avoid immediate danger or in an emergency situation, or
    - (ii) to comply with the law of any State other than Botswana within which the aircraft is operating.
- (2) If any deviation from the provisions of subregulation (1) (c) is made for the purpose of avoiding immediate danger or in an emergency situation, the pilot-in-command shall cause written particulars of the deviation and of the circumstances giving rise to it to be given without delay, and in any case within 10 days to the competent authority of the State in whose territory the deviation was made with a copy of it to the Authority, and in the case of a Botswana aircraft, where the deviation is made over the high seas, to the Authority.
- Operational control
- 39.** (1) An operator or a designated representative shall have responsibility for operational control of an aircraft.
- (2) Responsibility for operational control of an aircraft shall be delegated only to the pilot-in-command and to a flight operations officer or flight dispatcher if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer or flight dispatcher personnel.
- (3) A flight operations officer or flight dispatcher in conjunction with a method of control and supervision of flight operations shall —
- (a) assist the pilot-in-command in flight preparation and provide the relevant information;
  - (b) assist the pilot-in-command in preparing the operational and ATS flight plans, sign the plans when applicable and file the ATS flight plan with the appropriate ATS unit;

- (c) furnish the pilot-in-command while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight; and
  - (d) notify the appropriate ATS unit when the position of the aeroplane cannot be determined by an aircraft tracking capability, and attempts to establish communication are unsuccessful.
- (4) In the event of an emergency, a flight operations officer or flight dispatcher shall —
- (a) initiate such procedures as outlined in the operations manual while avoiding taking any action that would conflict with ATC procedures; and
  - (b) convey safety-related information to the pilot-in-command that may be necessary for the safe conduct of the flight, including information related to any amendments to the flight plan that become necessary in the course of the flight.

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

Compliance with local regulations

- (a) the State in which the aircraft is operated; and
  - (b) the Authority, in all instances where such laws, regulations and procedures exceed but are not in conflict with those of the State in which the aircraft is operated.
- (2) Where an emergency situation which endangers the safety of the aircraft or persons on board the flight necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall —
- (a) notify the appropriate 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 Authority.
- (3) If an emergency situation which endangers the safety of the aeroplane or persons becomes known first to the flight operations officer or flight dispatcher, action by that person in accordance with these Regulations shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.
- (4) An operator shall ensure that all pilots are familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the aerodromes to be used and the air navigation facilities relating thereto.
- (5) An operator shall ensure that other members of the flight crew are familiar with such of these laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of an aeroplane.

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

Negligent or reckless operation of aircraft

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

Fitness of flight crew members

- (2) An operator and a pilot-in-command shall be responsible for ensuring that a flight is not —
- (a) commenced if any required crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue or the effects of any substance; or

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- (b) continued beyond the nearest suitable aerodrome if a flight crew member's capacity to perform functions is significantly reduced by impairment of faculties from causes such as fatigue, sickness or lack of oxygen.
- Use of narcotics, drugs, etc.      **43.** (1) A person shall not act or attempt to act as a flight crew member of an aircraft —
- (a) within eight hours after the consumption of any alcoholic beverage;
  - (b) while under the influence of alcohol;
  - (c) while using any drug that affects the person's faculties in any way contrary to safety; or
  - (d) while having 0.04 per cent by weight or more of alcohol in the person's blood.
- (2) A flight crew member shall, up to eight hours before or immediately after acting or attempting to act as a flight crew member, on the request of the Authority, submit to a test to indicate the presence of any substances in the blood.
- (3) Where there is a reasonable basis to believe that a person may not be in compliance with this regulation and upon request by the Authority, the person shall furnish the Authority or authorise any clinic, doctor, or other person to release to the Authority, the results of each blood test taken for presence of any substances up to eight hours before or immediately after acting or attempting to act as a flight crew member.
- (4) Any test information provided to the Authority under the provisions of this regulation may be used as evidence in any legal proceedings.
- Crew member use of seatbelt and shoulder harness      **44.** (1) A flight crew member shall, at all times during take-off, landing and while seated at his or her workstation, fasten his or her seat belt.
- (2) A flight crew member occupying a pilot's seat shall keep the safety harness fastened during the take-off and landing phases.
- (3) All other flight crew members shall keep their safety harnesses fastened during the take-off and landing phases unless the shoulder straps interfere with the performance of their duties, in which case the shoulder straps may be unfastened but the seat belt must remain fastened.
- (4) Where there is an unoccupied seat, the safety belt and shoulder harness at the seat if installed, shall be secured so as not to interfere with flight crew members in the performance of their duties or with the rapid exit of occupants in an emergency.
- Flight crew members at duty stations      **45.** (1) A flight crew member shall remain in the assigned duty station during take-off and landing.
- (2) A pilot-in-command shall cause one pilot to remain at the controls of the aircraft at all times while the aircraft is in flight.
- (3) A flight crew member shall remain at his or her station during en-route operations unless —
- (a) his or her absence is necessary for the performance of the flight crew members duties in connection with the operation;
  - (b) his or her absence is necessary for physiological needs, provided one qualified pilot remains at the controls at all times; or
  - (c) the flight crew member is taking a rest period and a qualified relief flight crew member replaces the crew member at the duty station.
- (4) A flight crew member may leave his or her assigned duty station if he or she is taking a rest period, and relief is provided —

- (a) for the assigned pilot-in-command during the en-route cruise portion of the flight by a pilot who holds an airline transport pilot licence and an appropriate type rating, and who is currently qualified as pilot-in-command or co-pilot, and is qualified as pilot-in-command of that aircraft during the en-route cruise portion of the flight; and
- (b) in the case of the assigned co-pilot, by a pilot qualified to act as pilot-in-command or co-pilot of the aircraft during en-route operations.
- 46.** (1) A flight crew member involved in night operations shall have a flash light at his or her station. Required crew member equipment
- (2) A pilot shall have, at his or her station, all normal, abnormal and emergency procedures checklists.
- (3) A pilot shall have, at his or her station, current and suitable maps, charts, codes and other documents and navigational equipment necessary to cover the route of the proposed flight and any route along which it is reasonable to expect if the flight is diverted.
- (4) A flight crew member who is assessed to be fit to exercise the privileges of a licence subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when performing as a required member of the crew in an air transport service.
- (5) A flight crew member shall be required to have an emergency procedures manual for the type of aircraft flown.
- 47.** (1) An operator shall — Compliance with checklist and production of flight documents
- (a) ensure that the flight crew follows the approved checklist procedures when operating an aircraft; and
- (b) produce documentation required to be carried in the aircraft within a reasonable time when requested to do so by the Authority.
- (2) A pilot-in-command shall ensure that the check-lists specified in subregulation (1) are complied with in detail.
- 48.** An operator shall ensure that a pilot-in-command has available on an aeroplane, all the essential information pertinent to the intended flight concerning the search and rescue services in the area over which the aeroplane will be flown. Search and rescue information
- 49.** (1) A pilot-in-command shall not admit any person to the cockpit of an aircraft engaged in commercial air transport services unless the person being admitted is — Admission to cockpit
- (a) an operating flight crew member;
- (b) an authorised person responsible for certification, licensing or inspection;
- (c) any person authorised by the Authority, with the agreement with the operator; or
- (d) permitted to do so and carried in accordance with instructions contained in the operations manual.
- (2) A pilot-in-command shall ensure that in the interests of safety -
- (a) admission to the cockpit does not cause distraction to the flight crew or interfere with the flight's operations; and
- (b) all persons carried in the cockpit are made familiar with the relevant safety procedures.
- 50.** (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. Duties during critical phase of flight
- (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.

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Manipulation of controls	<b>51.</b> A pilot-in-command shall not allow an unqualified person to manipulate the controls of an aircraft during air transport service unless he or she is authorised to do so by the operator.
Simulated abnormal situations in flight	<b>52.</b> A person shall not cause or engage in simulated abnormal or emergency situations or the simulation of instrument meteorological conditions by artificial means during air transport service.
Completion of technical log	<b>53.</b> A pilot-in-command shall ensure that all portions of the technical log required under the Civil Aviation (Air Operator Certificate and Administration) Regulations are completed at the appropriate points before, during and after flight operations.
Reporting mechanical irregularities	<b>54.</b> A pilot-in-command shall ensure that all mechanical irregularities occurring during flight time are reported to the operator at the termination of the flight and for — (a) general aviation operations, are entered in the aircraft logbook and dealt with in accordance with the minimum equipment list or other approved or prescribed procedure; and (b) air transport services, are entered in the technical log of the aircraft at the end of that flight time.
Reporting of facility and navigation inadequacies	<b>55.</b> A pilot-in-command or co-pilot shall ensure that any inadequacy or irregularity of a facility or navigational aid observed in the course of operations to the person responsible for the facility or navigational aid is reported to the authority responsible for them without undue delay.
Hazardous flight conditions	<b>56.</b> Hazardous flight conditions encountered, other than those associated with meteorological conditions, shall be reported to the appropriate aeronautical station as soon as possible and the reports so rendered shall give such details as may be pertinent to the safety of other aircraft.
Accident notification	<b>57.</b> (1) A pilot-in-command shall notify the nearest appropriate authority, by the quickest available means, of any accident involving the aircraft that results in serious injury or death of any person, or substantial damage to the aircraft or property. (2) A pilot-in-command shall submit a report to the Authority of any accident which occurred while the pilot-in-command was responsible for the flight. (3) A pilot-in-command shall be responsible for reporting all known or suspected defects in the aeroplane, to the operator, at the termination of the flight.
Operation of flight recorders	<b>58.</b> (1) A pilot-in-command shall ensure that whenever an aircraft has flight recorders installed, the recorders are operated continuously from the instant — (a) for a flight data recorder, the aircraft begins the flight until it has completed the landing roll; and (b) for a cockpit voice recorder, of the initiation of the pre-flight checklist until the end of the securing aircraft checklist. (2) A pilot-in-command shall not permit a flight recorder to be disabled, switched off or erased during flight, unless necessary to preserve the data for an accident or incident investigation. (3) In the event of an aircraft accident or incident, the pilot-in-command shall act to preserve the recorded data for subsequent investigation.
Crew member oxygen supply	<b>59.</b> (1) A pilot-in-command shall not commence a flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments is less than 700 hPa unless sufficient stored breathing oxygen is carried to supply —

- (a) all crew members and 10 per cent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by the crew members and the passengers is between 700 hPa and 620 hPa; and
- (b) the crew and passengers for any period that the atmospheric pressure in compartments occupied by the crew members and the passengers is less than 620 hPa.

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

(3) A pilot-in-command shall ensure that there is, at least, a 10 minute supply of oxygen for the occupants of the passenger compartment, when an aircraft is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa and cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa.

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

(5) All flight crew members, when engaged in performing duties essential to the safe operation of an aeroplane in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in subregulations (1) and (2).

(6) An operator shall ensure that all cabin crew are safeguarded so as to ensure reasonable probability of their retaining consciousness during any emergency descent which may be necessary in the event of loss of pressurisation.

(7) The means of protection required in subregulation (5) shall be adequate to enable the cabin crew to administer first aid to passengers during stabilised flight following the emergency.

(8) Passengers shall be safeguarded by such devices or operational procedures as will ensure reasonable probability of their surviving the effects of hypoxia in the event of loss of pressurisation.

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

Carriage of  
dangerous goods  
Cap. 71:01  
(Sub. Leg.)

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

Portable  
electronic  
devices

- (a) for instrument flight rules operations other than air transport, the pilot-in-command allows such a device prior to its use;
- (b) for air transport operations, the operator makes a determination of acceptable devices and publishes that information in the operations manual for the crew members' use; and
- (c) the pilot-in-command informs passengers of the permitted use.

PART VI — *Flight Planning and Preparation*

- Submission of flight plan
- 62.** (1) A pilot-in-command shall file a flight plan for visual flight rules or instrument flight rules before he or she operates —
- (a) a flight or a portion thereof that is required to be provided with air traffic control service;
  - (b) an instrument or flight with advisory airspace;
  - (c) a flight within a designated area or along designated routes if required to do so by the Authority for purposes of facilitating coordination with military units or air traffic control facilities in adjacent states to avoid interception for identification; or
  - (d) a flight across international borders.
- (2) A pilot-in-command shall submit a flight plan to the Authority, except where arrangements have been made for submission of repetitive flight plans —
- (a) at least 60 minutes before departure; or
  - (b) if submitted during flight, at a time that will enable the Authority to receive the flight plan 10 minutes before the time the aircraft is estimated to reach —
    - (i) the intended point of entry into a control area or advisory area, or
    - (ii) the point of crossing an airway or advisory route.
- (3) Notwithstanding subregulation (2), a person shall not take-off an aircraft in air transport service unless the flight plan has been filed with the Authority except where he or she is authorised to do so by the Authority.
- Contents of flight plan
- 63.** (1) A pilot filing an instrument flight plan or visual flight plan shall include the following information in the flight plan —
- (a) aircraft identification;
  - (b) flight rules and type of flight;
  - (c) number, type of aircraft and wake turbulence category;
  - (d) equipment;
  - (e) departure aerodrome and alternate, if required;
  - (f) estimated off-block time;
  - (g) cruising level and speed;
  - (h) route to be followed;
  - (i) destination aerodrome and alternate, if required;
  - (j) fuel endurance;
  - (k) total number of persons on board;
  - (l) emergency and survival equipment; and
  - (m) any other information as may be required by the Authority.
- (2) If during flight planning, a pilot determines that there is possibility, depending on fuel endurance, that a flight may change destinations and still comply with the minimum fuel supply planning requirements, he or she shall notify the Authority of the possibility when submitting the flight plan.
- Changes to flight plan
- 64.** (1) When a change occurs to a flight plan submitted for a flight under instrument flight rules or visual flight rules operated as a controlled flight, the pilot-in-command shall report that change as soon as is practicable to the Authority.
- (2) For a flight under visual flight rules other than the one operated as a controlled flight, the pilot-in-command shall report significant changes to a flight plan as soon as is practicable to the Authority.

(3) Operational instructions involving a change in the ATS flight plan shall, when practicable, be coordinated with the appropriate ATS unit before transmission to the aeroplane.

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

Closing flight plan

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

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

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

- (a) aircraft identification;
- (b) departure aerodrome;
- (c) in the case of a diversionary landing, destination aerodrome;
- (d) arrival aerodrome; and
- (e) time of arrival.

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

Aircraft airworthiness and safety precautions

- (a) the aircraft is airworthy, duly registered and the appropriate certificates are aboard the aircraft;
- (b) the instruments and equipment installed in the aircraft are appropriate for expected flight conditions; and
- (c) maintenance to the aircraft, where applicable, has been performed and a maintenance release has been issued in respect of the aircraft.

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

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

Adequacy of operating facilities

- (a) it has been determined by every reasonable means available that the ground and water facilities available and directly required on such flight for the safe operation of the aeroplane and the protection of passengers, are adequate for the type of operation under which the flight is to be conducted and are adequately operated for this purpose;
- (b) the pilot is satisfied that the aerodromes at which the flight is intended to take-off or land and any alternative aerodrome at which a landing may be made are suitable for the purpose and in particular are adequately manned and equipped to ensure the safety of the aircraft and its passengers; and
- (c) subject to the published conditions of use, aerodromes and their facilities are kept continuously available for flight operations during their published hours of operations, irrespective of weather conditions.

(2) An operator shall ensure that a flight is not commenced unless the conditions under subregulation (1) are satisfied.

(3) An operator shall, as part of its safety management system, assess the level of rescue and fire-fighting service protection available at any aerodrome intended to be specified in the operation flight plan in order to ensure that an acceptable level of protection is available for the aeroplane intended to be used.

(4) Information related to the level of rescue and fire-fighting services (RFFS) protection that is deemed acceptable by the operator shall be contained in the operations manual.

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

Weather reports,  
forecasts and  
meteorological  
observation

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

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

(3) A pilot-in-command who is unable to communicate by a radio with an air traffic control unit at the aerodrome of destination shall not begin a flight to an aerodrome within a control zone if the information which is reasonably practicable for the pilot-in-command to obtain indicates that he or she will arrive at the aerodrome when the ground visibility is less than 51 km or the cloud ceiling is less than 1,500 ft, unless the pilot-in-command has obtained from an air traffic control unit at that aerodrome permission to enter the aerodrome traffic zone.

Weather  
limitations for  
visual flight  
rules flights

**69.** (1) A pilot-in-command shall not commence a flight to be conducted in accordance with visual flight rules unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under visual flight rules, shall, at the appropriate time, be such as to enable complies with visual flight rules operations.

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

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

(4) If, after entering the final approach segment or after descending below 300 m (1000 ft) above the aerodrome elevation, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H.

(5) A pilot-in-command shall not continue an approach-to-land at any aerodrome beyond a point at which the limits of the operating minima specified for that aerodrome would be infringed.

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

Instrument  
flight  
procedures

**70.** (1) One or more instrument approach procedures designed to support instrument approach operations shall be approved and promulgated by the Authority to serve each instrument runway or aerodrome utilised for instrument flight operations.

(2) A pilot-in-command shall ensure that all aeroplanes operated in accordance with instrument flight rules shall comply with the instrument flight procedures approved by the Authority.

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

- (a) minimum ceiling and visibility values for the standard instrument approach procedure to be used; or
- (b) minimum operating altitude, if no instrument approach procedure is to be used, that would allow a visual meteorological conditions descent to the aerodrome.

**71.** (1) A pilot-in-command intending to conduct a flight in accordance with instrument flight rules shall select and specify in the operational and ATS flight plans, at least one destination alternate aerodrome unless —

Destination  
alternate  
aerodromes  
requirements

- (a) the duration of the flight from the departure aerodrome, or from the point of in-flight re-planning to the destination aerodrome is such that, taking into account all meteorological conditions and operational information relevant to the flight, at the estimated time of use, a reasonable certainty exists that —
    - (i) the approach and landing may be made under visual meteorological conditions, and
    - (ii) separate runways are usable at the estimated time of use of the destination aerodrome with at least one runway having an operational instrument approach procedure; or
  - (b) the aerodrome is isolated and operations into isolated aerodromes do not require the selection of a destination alternate aerodromes and shall be planned in accordance with regulation 83.
- (2) Two destination alternate aerodromes shall be selected and specified in the operational and ATS flight plans when, for the destination aerodrome —
- (a) meteorological conditions at the estimated time of use will be below the operator's established aerodrome operating minima for that operation; or
  - (b) meteorological information is not available.
- (3) The Authority may approve the reduction of the cloud base and visibility requirements under subregulation (1) for —
- (a) helicopters, powered-lift and airship; and
  - (b) air transport, where no suitable destination exists.
- (4) A pilot-in-command shall not commence a flight to be conducted in accordance with instrument flight rules flight, in a helicopter, where no alternate aerodrome is required unless —
- (a) its operation is conducted as a general aviation;
  - (b) the following meteorological conditions exist from two hours before to two hours after ETA —
    - (i) a cloud base of at least 300 m (1000 ft) above the minimum associated with the instrument approach procedure, and
    - (ii) visibility of at least six kilometers or of four kilometers more than the minimum associated with the instrument approach procedure; and
  - (c) a point of no return is determined, where the helicopter's intended landing is isolated and there is no suitable alternate aerodrome available.

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Instrument flight rules alternate aerodrome selection criteria

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

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

- (a) for a precision approach procedure, a ceiling of at least 183 m (600 ft) and visibility of not less than three kilometres; or
- (b) for a non-precision approach procedure, a ceiling of at least 244 m (800 ft) and visibility of not less than three kilometres.

Off-shore alternate landing site for helicopter operations

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

(2) A person shall select off-shore alternate landing site in exceptional cases, the details of which shall be approved by the Authority, and shall not include payload enhancement in instrument meteorological conditions.

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

- (a) the point of no return, using an on-shore alternate landing site;
- (b) the off-shore alternate landing site may be used only after a point of no return;
- (c) attaining one engine inoperative performance capability prior to arrival at the alternate;
- (d) guaranteeing helideck availability;
- (e) the weather information at the helideck shall be available from a source approved by the Authority;
- (f) for instrument flight rules operations, an instrument approach procedure shall be prescribed and available; and
- (g) a helideck, where the landing technique specified in the flight manual, following control system failure, preclude the selection of certain helideck as alternate landing site.

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

Take-off alternate aerodromes: air transport operations

**74.** (1) An operator shall ensure that a take-off alternate aerodrome shall be selected and specified in the operational flight plan if either the meteorological conditions at the aerodrome of departure are below the operator's established aerodrome landing minima for that operation or if it would not be possible to return to the aerodrome of departure for other reasons.

(2) An operator shall ensure that the take-off alternate aerodrome is located within the following flight time from the aerodrome of departure —

- (a) for aeroplanes with two engines, one hour of flight time at a one-engine-inoperative cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass;
- (b) for aeroplanes with three or more engines, two hours of flight time at an all engine operating cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass; or

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

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

**75.** (1) An operator conducting operations beyond 60 minutes from a point on a route to an en-route alternate aerodrome shall ensure that —

- (a) for all aeroplanes —
- (i) en-route alternate aerodromes are identified, and
  - (ii) the most up-to-date information is provided to the flight crew on identified en-route alternate aerodromes, including operational status and meteorological conditions; and
- (b) for aeroplanes with two turbine engines, the most up-to-date information provided to the flight crew indicates that conditions at identified en-route alternate aerodromes will be at or above the operator's established aerodrome operating minima for the operation at the estimated time of use.

Requirements for operations beyond 60 minutes to an en-route alternate aerodromes

(2) In addition to the requirements in subregulation (1), all operators shall ensure that the following are taken into account in order to provide the overall level of safety intended by the provisions of these Regulations —

- (a) operational control and flight dispatch procedures;
- (b) operating procedures; and
- (c) training programmes.

**76.** (1) An aeroplane with two or more turbine engines shall not be operated on a route where the diversion time to an en-route alternate aerodrome from any point on the route, calculated in ISA and still-air conditions at the one-engine-inoperative cruise speed for aeroplanes with two turbine engines and at all engines operating cruise speed for aeroplanes with more than two turbine engines, exceeds a threshold time established for such operations by the Authority.

Requirements for extended diversion time operations (EDTO)

(2) The maximum diversion time for the operator of a particular aeroplane type engaged in extended diversion time operations shall be approved by the Authority.

(3) When approving the appropriate maximum diversion time for the operator of a particular aeroplane type engaged in extended diversion time operations, the Authority shall ensure that —

- (a) for all aeroplanes: the most limiting EDTO significant system time limitation, if any, indicated in the aeroplane flight manual (directly or by reference) and relevant to that particular operation is not exceeded; and
- (b) for aeroplanes with two turbine engines, the aeroplane is EDTO certified.

(4) Notwithstanding the provisions in regulations 71, 74 and 80, the Authority may, based on the results of a specific safety risk assessment conducted by the operator which demonstrates how an equivalent level of safety will be maintained, approve operational variations to alternate aerodrome selection criteria and the specific safety risk assessment shall include at least the —

- (a) capabilities of the operator;
- (b) overall capability of the aeroplane and its system;
- (c) available aerodrome technologies, capabilities and infrastructure;
- (d) quality and reliability of meteorological information;
- (e) identified hazards and safety risks associated with each alternate aerodrome variation; and
- (f) specific mitigation measure.

(5) For aeroplanes engaged in EDTO, the additional fuel required by regulation 83 (3) (f) (ii) shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by the Authority.

(6) A flight shall not proceed beyond the threshold time in accordance with subregulation (1) unless the identified en-route alternate aerodromes have been re-evaluated for availability and the most up-to-date information indicates that, during the estimated time of use, conditions at those aerodromes will be at or above the operator's established aerodrome operating minima for the operation.

(7) Subject to subregulation (6), if any conditions are identified that would preclude a safe approach and landing at that aerodrome during the estimated time of use, an alternative course of action shall be determined.

(8) The Authority shall, when approving maximum diversion times for aeroplanes with two turbine engines, ensure that the following are taken into account in providing the overall level of safety intended by the provisions of Civil Aviation (Airworthiness) Regulations —

- (a) reliability of the propulsion system;
- (b) airworthiness certification for EDTO of the aeroplane type; and
- (c) EDTO maintenance programme.

Instrument flight rules conditions

**77.** The operator shall ensure that a flight to be conducted in accordance with the instrument flight rules shall not —

- (a) take off from the departure aerodrome, unless the meteorological conditions, at the time of use, are at or above the operator's established aerodrome operating minima for that operation; and
- (b) take off or continue beyond the point of in-flight re-planning, unless at the aerodrome of intended landing or at each alternate aerodrome to be selected in compliance with these Regulations, current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use, at or above the operator's established aerodrome operating minima for that operation.

Margin of time on estimated use of aerodromes

**78.** The Authority shall approve a margin of time established by the operator for the estimated time of use of an aerodrome.

Extended range operations with twin – engined aeroplanes

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

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

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

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

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

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

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

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

Additional conditions on operating minima

**82.** (1) An operator shall establish aerodrome operating minima for each aerodrome to be used in operations, and shall approve the method of determination of such minima which shall not be lower than any that may be established for such aerodromes by the State of the aerodrome, except when specifically approved by that State.

Aerodrome operating minima

(2) The Authority may approve operational credits for operations with aeroplanes equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS and such approvals shall not affect the classification of the instrument approach procedure.

(3) An instrument approach operation shall be classified based on the designed lowest operating minima below which an approach operation shall only be continued with the required visual reference as follows —

- (a) Type A – a minimum descent height or decision height at or above 75 m (250 ft); and
- (b) Type B – a decision height below 75 m (250 ft), categorised as —
  - (i) category I operation (CAT I) – a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800 m or a runway visual range not less than 550 m, and
  - (ii) category II operation (CAT II) – a decision height lower than 60 m (200 ft), but not lower than 30 m (100 ft) and a runway visual range not less than 300 m.

(4) Category II instrument approach operations shall not be authorised unless RVR information is provided.

(5) The Authority shall not authorise, for instrument approach operations, aerodrome operating minima below 800 m visibility unless RVR information is provided.

(6) The operating minima for 2D instrument approach operations using instrument approach procedures shall be determined by establishing a minimum descent altitude (MDA) or minimum descent height (MDH), minimum visibility and, if necessary, cloud conditions.

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

(8) An operator shall establish operational procedures designed to ensure that an aeroplane being used to conduct 3D instrument approach operations crosses the threshold by a safe margin, with the aeroplane in the landing configuration and attitude.

Fuel  
requirements

**83.** (1) A person shall not commence a flight unless the aircraft has sufficient amount of usable fuel to complete the planned flight safely and to allow for deviations from the planned operation.

(2) The amount of usable fuel to be carried shall, as a minimum, be based on —

- (a) the following data —
  - (i) current aeroplane – specific data derived from a fuel consumption monitoring system, if available, or
  - (ii) current aeroplane-specific data derived from a fuel consumption monitoring system, if available; or
- (b) the operating conditions for the planned flight including —
  - (i) anticipated aeroplane mass,
  - (ii) notices to airmen,
  - (iii) current meteorological reports or a combination of current reports and forecasts,
  - (iv) air traffic services procedures, restrictions and anticipated delays, and
  - (v) the effects of deferred maintenance items and any configuration deviations.
- (3) The pre-flight calculation of usable fuel required shall include —
  - (a) taxi fuel, which shall be the amount of fuel expected to be consumed before take-off taking into account local conditions at the departure aerodrome and auxiliary power unit (APU) fuel consumption;
  - (b) trip fuel, which shall be the amount of fuel required to enable the aeroplane to fly from take-off, or the point of in-flight re-planning, until landing at the destination aerodrome taking into account the operating conditions of subregulation (2);
  - (c) contingency fuel, which shall be the amount of fuel required to compensate for unforeseen factors and it shall be 5 per cent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel but, in any case, shall not be lower than the amount required to fly for five minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome in standard conditions;
  - (d) destination alternate fuel, which shall be —
    - (i) where a destination alternate aerodrome is required, the amount of fuel required to enable the aeroplane to —

- (aa) perform a missed approach at the destination aerodrome,
  - (bb) climb to the expected cruising altitude,
  - (cc) fly the expected routing,
  - (dd) descend to the point where the expected approach is initiated, and
  - (ee) conduct the approach and landing at the destination alternate aerodrome,
- (ii) where two destination alternate aerodromes are required, the amount of fuel, as calculated in accordance with subregulation (3) (d) (i), required to enable the aeroplane to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel,
  - (iii) where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome elevation in standard conditions, or
  - (iv) where the aerodrome of intended landing is an isolated aerodrome —
    - (aa) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes plus 15 per cent of the flight time planned to be spent at cruising level, including final reserve fuel, or two hours, whichever is less, or
    - (bb) for a turbine-engine aeroplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel;
- (e) final reserve fuel, which shall be the amount of fuel calculated using the estimated mass on arrival at the destination alternate aerodrome, or the destination aerodrome when no destination alternate aerodrome is required —
    - (i) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes, under speed and altitude conditions specified by the Authority, or
    - (ii) for a turbine-engine aeroplane, the amount of fuel required to fly for 30 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions;
- (f) additional fuel, which shall be the supplementary amount of fuel required if the minimum fuel calculated in accordance with subregulation (3) (b), (c), (d) and (e) is not sufficient to —
    - (i) allow the aeroplane to descend as necessary and proceed to an alternate aerodrome in the event of engine failure or loss of pressurisation, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route —
      - (aa) fly for 15 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions, and
      - (bb) make an approach and landing,
    - (ii) allow an aeroplane engaged in EDTO to comply with the EDTO critical fuel scenario as established by the Authority, or
    - (iii) meet additional requirements not covered above; or
  - (g) discretionary fuel, which shall be the extra amount of fuel to be carried at the discretion of the pilot-in-command.

(4) A flight shall not commence, or continue from the point of in-flight re-planning, unless the usable fuel on board meets the requirements in subregulation (3).

(5) Notwithstanding the provisions in this regulation, the Authority may, based on the results of a specific safety risk assessment conducted by the operator which demonstrates how an equivalent level of safety will be maintained, approve variations to the pre-flight fuel calculation of taxi fuel, trip fuel, contingency fuel, destination alternate fuel, and additional fuel.

(6) The specific safety risk assessment conducted in subregulation (5) shall include at least the —

- (a) flight fuel calculations;
- (b) capabilities of an operator, which shall include a data-driven method that includes a fuel consumption monitoring programme or the advanced use of alternate aerodromes; and
- (c) specific mitigation measures.

(7) The use of fuel after flight commencement for purposes other than originally intended during pre-flight planning shall require a re-analysis and, if applicable, adjustment of the planned operation.

In flight fuel  
management

**84.** (1) An operator shall establish policies and procedures, approved by the Authority, to ensure that in-flight fuel checks and fuel management are performed.

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

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

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

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

Flight  
preparation

**85.** (1) An operator shall ensure that a flight is not commenced until flight preparation forms have been completed certifying that the pilot-in-command is satisfied that —

- (a) the aeroplane is airworthy and the appropriate certificates are on board the aeroplane;
- (b) the instruments and equipment prescribed in Civil Aviation (Equipment and Instruments) Regulations, for the particular type of operation to be undertaken, are installed and are sufficient for the flight;
- (c) a maintenance release has been issued in respect of the aeroplane;
- (d) the maintenance release under subregulation (1) (c) is in the manner and format prescribed in the Civil Aviation (Approved Maintenance Organizations) Regulations;

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- (e) the mass of the aeroplane and centre of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
  - (f) any load carried is properly distributed and safely secured;
  - (g) a check has been completed indicating that the aircraft performance operating limitations as prescribed in these Regulations can be complied with for the flight to be undertaken; and
  - (h) the Standards relating to operational flight planning have been complied with.
- (2) Completed flight preparation forms shall be kept by the operator for a period of three months.

**86.** (1) An operator shall ensure that an operational flight plan shall be completed for every intended flight.

Operational  
flight plan –  
commercial  
air transport

(2) The operational flight plan shall be approved and signed by the pilot-in-command and, where applicable, signed by the flight operations officer or flight dispatcher.

(3) A copy shall be filed with the operator or a designated agent, or, if these procedures are not possible, it shall be left with the aerodrome authority or on record in a suitable place at the point of departure.

(4) An operator shall ensure that its operations manual shall describe the content and use of the operational flight plan.

(5) The content and use of the operational flight plan for general aviation shall be as prescribed by the Authority.

#### PART VII — *Aircraft Operating and Performance Limitations*

**87.** (1) An operator shall ensure that all aircraft are operated in accordance with a comprehensive and detailed code of performance established by the Authority in compliance with these Regulations.

Aircraft  
performance  
operating  
limitations

(2) Except as provided in regulation 181 (2), single-engine aeroplanes shall only be operated in conditions of weather and light, and over such routes and diversions therefrom, that permit a safe forced landing to be executed in the event of engine failure.

- (3) An operator shall ensure that the performance data contained in —
- (a) the aeroplane flight manual;
  - (b) the rotorcraft flight manual; or
  - (c) other authorised source,

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

(4) An operator performing calculations to determine aircraft performance under subregulation (1) shall account for the aircraft configuration, environmental conditions, and the operation of any system which may have an adverse effect on the performance.

(5) In applying the requirements of this regulation, account shall be taken of all factors that significantly affect the performance of the aeroplane, including but not limited to the —

- (a) mass of the aeroplane;
- (b) operating procedures;
- (c) pressure-altitude appropriate to the elevation of the aerodrome;
- (d) runway slope;

- (e) ambient temperature;
- (f) wind; and
- (g) surface conditions of the runway at the expected time of use, i.e. presence of snow, slush, water, or ice for landplanes or water surface condition for seaplanes.

Aircraft mass  
limitations

**88.** (1) A pilot-in-command shall ensure that at the start of take-off, the aircraft mass shall not exceed the mass prescribed under subregulation (5), or the mass at which regulations 93, 94 and 95 are complied with, allowing for expected reductions in mass as the flight proceeds and for such fuel jettisoning as envisaged under regulations 93 and 94, and in respect of alternate aerodrome under subregulation (3) and regulation 95.

(2) An aircraft mass at the start of take-off shall not exceed the maximum take-off mass specified in the flight manual for the pressure-altitude appropriate to the elevation of the aerodrome, and, if used as a parameter to determine the maximum take-off mass, any other local atmospheric condition.

(3) The estimated aircraft mass for the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, shall not exceed the maximum landing mass specified in the flight manual for the pressure-altitude appropriate to the elevation of those aerodromes, and if used as a parameter to determine the maximum landing mass, any other local atmospheric condition.

(4) The aircraft mass at the start of take-off, or at the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, shall not exceed the relevant maximum masses at which compliance has been demonstrated with the applicable noise certification requirements of Civil Aviation (Environmental Protection) Regulations, unless otherwise authorised in exceptional circumstances for a certain aerodrome or a runway where there is no noise disturbance problem, by the competent authority of the State in which the aerodrome is situated.

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(5) An aircraft shall be able, in the event of a critical engine failing, or for other reasons, at any point in the take-off, either to discontinue the take-off and stop within the accelerate-stop distance available (ASDA), or to continue the take-off and clear all obstacles along the flight path by an adequate vertical or horizontal distance until an aircraft is in a position to comply with requirements of regulation 93.

(6) When determining the resulting take-off obstacle accountability area, the operator shall take into account the operating conditions, such as the crosswind component and navigation accuracy.

(7) When determining the length of the runway available, the operator shall take into account the loss, if any, of runway length due to alignment of the aircraft prior to take-off.

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

(9) The Authority shall publish obstacle data to enable the operator to develop procedures to comply with subregulation (5).

(10) An operator shall take into account of charting accuracy when assessing compliance with subregulation (5).

Aeroplanes  
certified after  
13th June, 1960

**89.** (1) The performance requirements for all aeroplanes over 5 700 kg for which application for certification was submitted on or after 13th June, 1960 shall be at least substantially equivalent to the overall level embodied in the standards prescribed in regulation 87 (1).

(2) An aeroplane or helicopter shall be operated in compliance with the terms of its certificate of airworthiness and within the approved operating limitations contained in its flight manual.

(3) The Authority shall take such precautions as are reasonably possible to ensure that the general level of safety contemplated by these Regulations is maintained under all expected operating conditions, including those not covered specifically by the provisions of this regulation.

(4) A flight shall not be commenced unless the performance information provided in the flight manual, supplemented as necessary with other data acceptable to the Authority, indicating that the provisions of these Regulations can be complied with for the flight to be undertaken.

(5) In applying the provisions of this regulation, an operator shall take into account all factors that significantly affect the performance of the aeroplane, including but not limited to —

- (a) the mass of the aeroplane;
- (b) the operating procedures;
- (c) the pressure-altitude appropriate to the elevation of the aerodrome;
- (d) the runway slope;
- (e) the ambient temperature; and
- (f) the wind and surface conditions of the runway at the expected time of use, including the presence of snow, slush, water, or ice for landplanes or water surface condition for seaplanes.

(6) The factors under subregulation (5) shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the comprehensive and detailed code of performance in accordance with which the aeroplane is being operated.

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

Commercial air  
transport –  
aircraft  
performance  
calculations

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

- (a) any reasonably expected adverse operating conditions that may affect aircraft performance;
- (b) one engine failure, for aircraft having two engines, where applicable; and
- (c) two engine failures, for aircraft having three or more engines, if applicable.

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

- (a) in all phases of flight —
  - (i) the effect of fuel and oil consumption on aircraft weight,
  - (ii) the effect of fuel consumption on fuel reserves resulting from changes in flight paths, winds, and aircraft configuration,
  - (iii) the effect of fuel jettisoning on aircraft mass and fuel reserves, if applicable and approved,

- (iv) the effect of any ice protection system, if applicable and weather conditions require its use,
  - (v) ambient temperatures and winds along intended route and any planned diversion, and
  - (vi) flight paths and minimum altitudes required to remain clear of obstacles; and
- (b) during take-off and landing —
- (i) the condition of the take-off runway or area to be used, including any contaminants, such as water, slush, snow, ice, etc.,
  - (ii) the gradient of runway to be used,
  - (iii) the runway length including clearways and stopways, if applicable,
  - (iv) pressure-altitudes at take-off and landing sites,
  - (v) current ambient temperatures and winds at take-off,
  - (vi) forecast ambient temperatures and winds at each destination and planned alternate aerodrome,
  - (vii) the ground handling characteristics, or braking action of the type of aircraft, and
  - (viii) landing aids and terrain that may affect the take-off path, landing path, and landing roll.

(4) Where conditions are different from those on which the performance is based, an operator may determine compliance by interpolation or computing the effects of changes in the specific variables, if the results of the interpolation or computations are substantially as accurate as the results of direct tests.

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

Take-off  
limitations

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

- (a) the take-off run shall not be greater than the length of the runway;
- (b) for turbine engine powered aeroplanes —
  - (i) the take-off distance shall not exceed the length of the runway plus the length of any clearway, except that the length of any clearway included in the calculation shall not be greater than half the length of the runway, and
  - (ii) the accelerate-stop distance shall not exceed the length of the runway, plus the length of any stopway, at any time during take-off until reaching V1;
- (c) for reciprocating engine powered aeroplanes the accelerate-stop distance shall not exceed the length of the runway at any time during take-off until reaching VI; and
- (d) where the critical engine fails at any time after the aeroplane reaches VI, 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 m (300 ft) horizontally after passing the boundaries, without banking more than 15 degrees at any point on the take-off flight path.

(2) An aeroplane shall be able, in the event of a critical engine failing at any point in the take-off, either to discontinue the take-off and stop within either the accelerate-stop distance available or the runway available, or to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to comply with regulation 93.

(3) In determining the length of the runway available, account shall be taken of the loss, if any, of runway length due to alignment of the aeroplane prior to take-off.

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

- (a) for operations in 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 operations in 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; or
- (c) for operations in performance class 3 helicopters —
  - (i) clear the obstacles along its flight path by an adequate margin,
  - (ii) maintain minimum flight altitude, or
  - (iii) on engine failure, permit a safe, forced landing.

**92.** (1) A pilot-in-command shall not commence a flight in a reciprocating engine powered aeroplane used in air transport service at a weight that does not allow a rate of climb of at least 6.9 V<sub>so</sub> with all engines operating, at an altitude of at least 300 m (1,000 ft) above all terrain and obstructions within 10 miles of each side of the intended track.

En-route  
limitations –  
all engines  
operating

(2) In this regulation the term “6.9 V<sub>so</sub>” means the number of feet per minute obtained by multiplying the aircraft’s minimum steady flight speed by 6.9.

**93.** (1) An operator shall ensure that the aeroplane shall be able, in the event of the critical engine becoming inoperative at any point along the route or planned diversions therefrom, to continue the flight to an aerodrome at which the requirements of regulation 95 can be met, without flying below the minimum obstacle clearance altitude at any point.

En-route  
limitations –  
one engine  
inoperative

(2) An operator shall ensure that net flight path referred to under subregulation (1) has a positive gradient at 1,500 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 shall be taken into account.

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

(4) An operator shall ensure that the net flight path permits the aeroplane to continue flight from the cruise altitude to an aerodrome where a landing can be made in accordance with regulation 142 as appropriate, the net flight path clearing vertically, by at least 2,000 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, and
  - (ii) weather reports or forecasts or any combination thereof, and field condition reports indicate that a safe landing can be accomplished at the estimated time of landing.

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

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

En-route  
limitations –  
two engines  
inoperative

**94.** (1) In the case of aeroplanes having three or more engines, on any part of a route where the location of en-route alternate aerodromes and the total duration of the flight are such that the probability of a second engine becoming inoperative must be allowed for if the general level of safety implied by the requirements of these Regulations is to be maintained, the aeroplane shall be able, in the event of any two engines becoming inoperative, to continue the flight to an en-route alternate aerodrome and land.

(2) A pilot-in-command shall not commence take-off of an air transport service aircraft having three or more engines, where there is no suitable landing aerodrome, within 90 minutes, at any point along the intended route, with all engines operating at cruising power, unless the aircraft may, in the event of simultaneous power failure of two critical engines at the most critical point along that route, continue to a suitable landing aerodrome while complying with the requirements of subregulation (3) to (7).

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

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

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

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

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

(8) 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.

(9) The pilot-in-command shall ensure that the expected mass of the aeroplane at the point where the two engines are assumed to fail, is not be less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made, and to arrive there at least 1,500 ft directly over the landing area and thereafter to fly level for 15 minutes.

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

**95.** (1) An aeroplane shall, at the aerodrome of intended landing and at any alternate aerodrome, after clearing all obstacles in the approach path by a safe margin, be able to land, with assurance that it can come to a stop or, for a seaplane, to a satisfactorily low speed, within the landing distance available and allowance shall be made for expected variations in the approach and landing techniques, if such allowance has not been made in the scheduling of performance data.

Landing  
limitations

(2) An aeroplane shall not commence a take-off at a mass in excess of that which permits the aeroplane to be brought to a full stop landing at the aerodrome of intended destination from 15.2 m (50 ft) above the threshold —

- (a) for turbo jet powered aeroplanes, within 60 per cent of the landing distance available; and
- (b) for turbo-propeller aeroplanes, within 70 per cent of the landing distance available.

(3) 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.

(4) If full compliance with subregulation 3 (b) is not shown, the aeroplane may be taken off if a destination alternate aerodrome is designated which permits compliance with subregulation (11).

(5) When showing compliance with subregulation (3) (b), the following factors should be taken into account —

- (a) the pressure altitude of the aerodrome;
- (b) the runway slope in the direction of the landing if greater than  $\pm 2.0$  per cent; and
- (c) not more than 50 per cent of the headwind component or not less than 150 per cent of the tailwind component.

(6) When the appropriate weather reports or forecasts or a combination thereof indicate that the runway at the estimated time of arrival may be wet, the landing distance available should be at least 115 per cent of the required landing distance determined in accordance with subregulation (1) to (5).

(7) A landing distance on a wet runway shorter than that required by subregulation (6) but not less than that required by subregulation (1) to (5) may be used if the flight manual includes specific additional information about landing distance on wet runways.

(8) When the appropriate weather reports or forecasts or a combination thereof indicate that the runway at the estimated time of arrival may be contaminated, the landing distance available should be the greater of —

(a) the landing distance determined in accordance with subregulation (6);  
or

(b) the landing distance determined in accordance with contaminated landing distance data with a safety margin acceptable to the Authority.

(9) If compliance with subregulation (8) is not shown, the aeroplane may take off if a destination alternate aerodrome is designated for which compliance is shown with subregulations (8) and (11).

(10) The criteria under subregulation (1) to (5) shall apply when showing compliance with subregulations (7) and (8), except that subregulation 2 (a) and (b) need not be applied to the wet and contaminated runway landing distance determination required under subregulations (7) and (8).

(11) An aerodrome should be designated as a destination alternate aerodrome unless the aeroplane, at the mass anticipated at the time of arrival at such aerodrome, can comply with subregulation (1) to (5) and subregulation (6) or (7), in accordance with the landing distance required for the altitude of the alternate aerodrome and in accordance with other applicable operating requirements for the alternate aerodrome.

(12) An operator shall provide the flight crew with a method to ensure that a full stop landing, with a safety margin acceptable to the State of the Operator, that is at least the minimum specified in the Type Certificate holder's aircraft flight manual (AFM), or equivalent, can be made on the runway to be used in the conditions existing at the time of landing and with the deceleration means that will be used.

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

(14) For purposes of international general aviation, subregulation (13) applies to large and turbojet aeroplanes.

## PART VIII — *Passengers and Passenger Handling*

### A — *All Passenger Carrying Operations*

Unacceptable  
conduct

**96.** A person on board an aircraft shall not —

- (a) interfere with a crew member in the performance of the crew member's duties;
- (b) refuse to fasten his or her seat belt and keep it fastened while the seat belt sign is lighted;

- (c) wilfully, recklessly or negligently act or omit to act —
- (i) so as to endanger an aircraft or persons and property therein, or
  - (ii) so as to cause or permit an aircraft to endanger any person or property;
- (d) secrete himself or herself nor secrete cargo on board an aircraft;
- (e) smoke while the no-smoking sign is lighted;
- (f) smoke in any aircraft lavatory;
- (g) tamper with, disable or destroy any smoke detector installed in any aircraft lavatory; or
- (h) 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.
- 97.** (1) A pilot-in-command shall not allow an aeroplane to be refueled or defueled when passengers are embarking, on board, or disembarking unless —
- (a) the aeroplane is manned by qualified personnel ready to initiate and direct an evacuation; and
  - (b) a two-way communication is maintained between the qualified personnel in the aeroplane and the ground crew supervising the refuelling.
- (2) Unless specifically authorised by the Authority, a pilot-in-command shall not allow a helicopter to be refueled or defueled when —
- (a) passengers are embarking, on board, or disembarking; or
  - (b) the rotors are turning.
- 98.** (1) A pilot-in-command shall ensure that each person on board an aircraft from the age of two years occupies an approved seat or berth with their own individual safety belt and shoulder harness, if installed, properly secured during take-off and landing.
- (2) A passenger shall have his or her seatbelt securely fastened at any other time the pilot-in-command may determine is necessary for safety.
- (3) When a cabin crew member is required in an air transport service, the pilot-in-command may delegate the responsibility specified in subregulation (1) to the cabin crew member, but shall ascertain that the proper briefing has been conducted prior to take-off.
- 99.** (1) A pilot-in-command of an aircraft shall ensure that the crew and passengers are made familiar, by means of an oral briefing or by other means, with the location and use of the following items, where appropriate —
- (a) seat belts;
  - (b) emergency exits;
  - (c) lifejackets;
  - (d) oxygen dispensing equipment; and
  - (e) other emergency equipment provided for individual use, including passenger emergency briefing cards.
- (2) A pilot-in-command of an aircraft shall ensure that all persons on board are aware of the locations and general manner of use of the principal emergency equipment carried for collective use.
- (3) A pilot-in-command of an aircraft may delegate the responsibility of briefing passengers under this regulation to any other crew member on board the aircraft, and shall ensure that the briefing has been conducted prior to take-off.

Refueling or  
defueling  
with passengers  
on board

Passenger seats,  
safety belts and  
shoulder  
harnesses

Passenger  
briefing

(4) An operator shall inform the passengers of the location and general manner of use of the principal emergency equipment carried for collective use.

(5) An operator shall ensure that in an emergency during flight, passengers are instructed in such emergency action as may be appropriate to the circumstances.

(6) An 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 an aeroplane shall be secured in their seats by means of the seat belts or harnesses provided.

In-flight emergency instruction

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

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

Passenger oxygen – minimum supply and use

**101.** A pilot-in-command of an aircraft shall —

- (a) ensure that breathing oxygen and masks are available to passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might harm passengers;
- (b) ensure that the minimum supply of oxygen prescribed by the Authority is on board the aircraft; and
- (c) require all passengers to use oxygen continuously at cabin pressure-altitudes above 13,000 ft.

Alcohol or drugs

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

- (a) board an aircraft; or
  - (b) be served alcohol.
- (2) A person shall not —
- (a) board an aircraft while intoxicated or under the influence of substances; or
  - (b) while on board the aircraft, be intoxicated or under the influence of substances.

*B – Commercial Air Transport Passenger Carrying Operations*

Passenger compliance with instructions

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

Denial of transportation

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

- (a) refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority; or
- (b) has a handicap that can be physically accommodated only through causing an obstruction to the safe evacuation of other passengers from the aircraft as provided for in regulation 107.

Carriage of persons without compliance with passenger carrying requirements

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

- (a) the seat is so located that the occupant is not in any position to interfere with the flight crew members performing their duties;
- (b) there is unobstructed access from the approved seat to the flight deck or a regular or emergency exit;

- (c) there is a means for notifying such person when smoking is prohibited and when seat belts shall be fastened; and
- (d) such person has been orally briefed by a crew member on the use of emergency equipment and exits.
- 106.** (1) Each cabin crew member assigned to emergency evacuation duties shall occupy a seat provided in accordance with these regulations during take-off and landing and whenever the pilot-in-command so directs.
- (2) Each cabin crew member shall be seated with seat belt or, when provided, safety harness fastened during take-off and landing and whenever the pilot-in-command so directs.
- (3) During taxi of an aircraft, a cabin crew member shall remain at his or her duty station with a safety belt and shoulder harness fastened except to perform duties related to the safety of the aircraft and its occupants.
- (4) During taxi of an aircraft, cabin crew members shall be located as near as practicable to required floor level exits and shall be uniformly distributed throughout the aircraft to provide the most effective exit of passengers in event of an emergency evacuation.
- (5) When passengers are on board a parked aircraft, cabin crew members or other person qualified in emergency evacuation procedures for the aircraft shall be placed in the following manner —
- (a) if only one cabin crew member is required, that cabin crew member shall be located in accordance with the air operator certificate holder's operations manual procedures; or
- (b) if more than one cabin crew member is required, those crew members shall be spaced throughout the cabin to provide the most effective assistance for the evacuation in case of an emergency.
- 107.** A pilot-in-command or other person assigned by the operator shall ensure that, when passengers are on board the aircraft prior to movement on the surface, at least one floor-level exit provides for the exit of passengers through normal or emergency means.
- 108.** A person shall not cause an aircraft carrying passengers to be moved on the surface, to take-off or to land unless each automatically deployable emergency evacuation assisting means, installed on the aircraft, is ready for evacuation.
- 109.** 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.
- 110.** (1) At stops where passengers remain on board the aircraft, the pilot-in-command shall ensure that —
- (a) all engines are shut down;
- (b) at least one floor level exit remains open to provide for the evacuation of passengers if necessary; and
- (c) there is at least one person immediately available who is qualified in the emergency evacuation of the aircraft and who has been identified to the passengers on board as responsible for the passenger safety.
- (2) When refueling with passengers on board, the pilot-in-command or an operator's representative shall ensure that the aircraft manual procedures are followed.
- 111.** (1) An operator shall maintain fuel records to enable the Authority to ascertain that, for each flight, the requirements of this regulation have been complied with.

Protection of  
cabin crew  
during flight

Evacuation  
capability

Arming of  
automatic  
emergency  
exits

Accessibility of  
emergency exits  
and equipment

Stops where  
passengers  
remain on  
board

Fuel and oil  
records

(2) An operator shall maintain oil records to enable the Authority to ascertain that trends for oil consumption are such that an aeroplane has sufficient oil to complete each flight.

(3) Fuel and oil records shall be retained by the operator for a period of three months.

Carriage of persons with reduced mobility and passenger loading

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

- (a) impede the crew in their duties;
- (b) obstruct access to emergency equipment; or
- (c) impede the emergency evacuation of the aircraft.

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

Exit row seating

**113.** (1) A pilot-in-command shall ensure that no passenger sits in an emergency exit row, if the pilot-in-command determines that it is likely that the passenger would be unable to understand and perform the functions necessary to open an exit and to exit rapidly.

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

- (a) lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs and will be unable to —
  - (i) reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms,
  - (ii) grasp and push, pull, turn, or otherwise manipulate those mechanisms,
  - (iii) push, shove, pull, or otherwise open emergency exits,
  - (iv) lift out, hold, deposit on nearby seats,
  - (v) manoeuvre over the seatbacks to the next row objects the size and weight of over – wing window exit doors,
  - (vi) remove obstructions of size and weight similar over-wing exit doors,
  - (vii) reach the emergency exit expeditiously,
  - (viii) maintain balance while removing obstructions,
  - (ix) exit expeditiously,
  - (x) stabilise an escape slide after deployment, or
  - (xi) assist others in getting off an escape slide;
- (b) is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in this regulation without assistance;
- (c) lacks the ability to read and understand instructions required by this regulation and related to emergency evacuation provided by the air operator certificate holder in printed or graphic form or the ability to understand oral crew commands;
- (d) lacks sufficient visual capacity to perform one or more of the functions specified in subregulation (2) (a) to (c) without the assistance of visual aids beyond contact lenses or eyeglasses;
- (e) lacks sufficient aural capacity to hear and understand instructions given by cabin crew members, without assistance beyond a hearing aid;
- (f) lacks the ability to adequately impart information orally to other passengers; or

- (g) has a condition or responsibilities, such as travelling with small children, which might prevent the person from performing one or more of the functions listed above or a condition that might cause the person harm if he or she performs one or more of the functions listed above.
- (3) A cabin crew member shall determine the suitability of each passenger permitted to occupy an exit seat.
- (4) Where a cabin crew member determines that a passenger assigned to an exit seat would be unable to perform the emergency exit functions, or if a passenger requests a non-exit seat, the cabin crew member shall expeditiously relocate the passenger to a non-exit seat.
- (5) In the event of full booking in the non-exit seats, and if necessary to accommodate a passenger being relocated from an exit seat, the cabin crew member shall move a passenger who is willing and able to assume the evacuation functions, to an exit seat.
- (6) An operator shall ensure that a ticket agent, prior to boarding, assigns seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible.
- (7) An operator shall ensure that a ticket agent shall make available for inspection by the public at all passenger loading gates and ticket counters at each aerodrome where it conducts passenger operations, written procedures established for making determinations with regard to exit row seating.
- (8) A cabin crew member shall include in his or her passenger briefings, a request that a passenger identify himself or herself to allow reseating if the passenger —
- (a) meets the selection criteria;
  - (b) has a non-discernible condition that shall prevent the passenger from performing the evacuation functions;
  - (c) may suffer bodily harm as the result of performing one or more of those functions; or
  - (d) does not wish to perform emergency exit functions.
- (9) A cabin crew member shall include, in the passenger briefings, a reference to the passenger information cards and the functions to be performed in an emergency.
- (10) A passenger shall comply with instructions given by a member of the crew or other authorised employee of the aircraft operator implementing exit seating restrictions.
- (11) A pilot-in-command shall not allow a taxi or pushback of an aircraft unless at least one member of the crew has verified that all exit rows and escape paths are unobstructed, and that no exit seat is occupied by a passenger who is unable to perform the applicable evacuation functions.
- (12) In order to comply with this regulation an operator shall —
- (a) establish procedures that address the requirements of this regulation; and
  - (b) submit their procedures for preliminary review and approval to the Authority.
- (13) The procedures required by this regulation shall not become effective until final approval is granted by the Authority, and approval shall be based solely upon the safety aspects of the operator's procedures.

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

Prohibition  
against  
carriage of  
weapons

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

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

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

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

Oxygen for medical use by passengers

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

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

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

Carry-on baggage

**116.** (1) A cabin crew member shall not allow –

- (a) the boarding of carry-on baggage unless it may be adequately and securely stowed in accordance with the aircrafts operations manual procedure;
- (b) aircraft passenger entry doors to be closed in preparation for taxiing or pushback unless at least one required crew member has verified that each article of baggage is properly stowed in overhead racks with approved restraining devices or doors, or in approved locations aft of the bulkhead; and
- (c) carry-on baggage to be stowed in a location that would cause that location to be loaded beyond its maximum placard weight limitation.

(2) The stowage locations referred to under subregulation (1) (c) shall be capable of restraining the articles in crash impacts severe enough to induce the ultimate inertia forces specified in the emergency landing conditions under which the aircraft was type-certificated.

Carriage of cargo in passenger compartments

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

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

- (a) the bin shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
- (b) the maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin shall be conspicuously marked on the bin;
- (c) the bin may not impose any load on the floor or other structure of the aircraft that exceeds the load limitations of that structure;

- (d) the bin shall be attached to the seat tracks or to the floor structure of the aircraft, and its attachment shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aircraft in which the bin is installed, multiplied by either the factor of 1.15 or the seat attachment factor specified for the aircraft, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
  - (e) the bin shall not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment;
  - (f) the bin shall be fully enclosed and made of material that is at least flame resistant;
  - (g) suitable safeguards shall be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and
  - (h) the bin shall not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.
- (3) A cabin crew member may allow cargo, including a carry-on baggage, to be carried anywhere in the passenger compartment of a small aircraft, if it is carried in an approved cargo rack, bin, or compartment installed in or on the aircraft, if it is secured by an approved means, or if it is carried in accordance with each of the following —
- (a) for cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions;
  - (b) for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;
  - (c) it is packaged or covered to avoid possible injury to occupants;
  - (d) it does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;
  - (e) it is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or is located in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign or placard, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passengers is provided;
  - (f) it is not carried directly above seated occupants;
  - (g) it is stowed in compliance with these restrictions during take-off and landing; and
  - (h) for cargo-only operations, the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft if an emergency occurs.

**118.** A pilot-in-command shall turn on required passenger information signs during any movement on the surface, for each take-off and each landing, and when otherwise considered to be necessary.

Passenger  
information  
signs

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

Required  
passenger  
briefings

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

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

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

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

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

(5) A pilot-in-command shall ensure that during take-off and landing and whenever, by reason of turbulence or any emergency occurring during flight the precaution is considered necessary, all passengers on board an aircraft shall be secured in their seats by means of seat belts or harnesses provided.

Passenger seat belts

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

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

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

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

(5) A cabin crew member may allow a berth, such as a multiple lounge or divan seat, to 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

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

(2) A pilot-in-command may deviate from this requirement only in accordance with the procedures in the operator's operations manual, provided the seat back does not obstruct any passenger's access to the aisle or to any emergency exit.

Stowage of food, beverage and passenger service

**122.** 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.

- 123.** A pilot-in-command shall not allow —
- (a) the take-off or landing of an aircraft unless each item of mass in the passenger cabin is properly secured to prevent it from becoming a hazard during taxi, take-off and landing and during turbulent weather conditions; or
  - (b) an aircraft to move on the surface, take-off or land unless each passenger serving cart is secured in its stowed position.
- C — Crew Member and Flight Operations Officer Qualifications – Commercial Air Transport*
- 124.** An operator shall not employ a pilot who has attained the age of 65 years to operate an aircraft used to provide air transport service. Age restriction
- 125.** (1) A pilot shall not act as pilot-in-command of an aircraft certified for operation with more than one pilot in commercial air transport services, unless he or she holds — Licence requirements for pilot-in-command
- (a) an airline transport pilot licence with appropriate category class;
  - (b) a type rating for that aircraft; and
  - (c) a valid instrument rating, if instrument privileges are to be exercised.
- (2) A pilot shall not act as a pilot in command of an aircraft certified for operation for one pilot in commercial air transport service, unless he or she holds —
- (a) a commercial pilot licence or an airline transport pilot licence with appropriate category class;
  - (b) a type rating for that aircraft; and
  - (c) a valid instrument rating, if instrument privileges are to be exercised.
- 126.** A pilot shall not act as co-pilot of an aircraft used in air transport service unless that pilot holds — Licence requirements for co-pilot
- (a) a commercial pilot licence with appropriate category class and type ratings for the aircraft operated; and
  - (b) a valid instrument rating, if instrument privileges are to be exercised.
- 127.** A person shall not act as a flight operations officer in releasing a scheduled passenger-carrying aircraft unless that person holds a flight operations officer licence or an airline transport pilot licence, and is currently qualified by the operator for the operation and type of aircraft used. Persons qualified in flight release
- 128.** (1) A person shall not serve as a flight crew member or flight operations officer unless that person has completed training on the company procedures indoctrination course approved by the Authority, which shall include a complete review of operations manual procedures pertinent to the flight crew member or flight operation officer's duties. Company procedures indoctrination
- (2) An operator shall ensure that all operations personnel undergo company's indoctrination training that covers the following areas —
- (a) the operator's organisation, scope of operation, and administrative practices as applicable to crew member assignments and duties;
  - (b) the appropriate provisions of any Civil Aviation Regulations and other applicable regulations and guidance materials;
  - (c) the operator's policies and procedures;
  - (d) crew member and operators duties and responsibilities;
  - (e) the appropriate portions of the operator's operations manual;
  - (f) operators testing programme for alcohol and narcotic psychoactive substances; and

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- (g) contents of the operator's certificate holders and operations specifications.
- (3) An operator shall provide a minimum of 40 programmed hours of instruction for basic indoctrination training unless a reduction of the hours of instruction is approved by the Authority.
- Initial dangerous goods training **129.** (1) An operator or owner of an aircraft shall establish and maintain approved staff training programmes as required by the technical instructions.
- (2) An operator or owner of an aircraft not holding a permanent approval to carry dangerous goods shall ensure that —
- (a) staff who are engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and what requests apply to the carriage of such goods by passengers; and
- (b) crew members, ground staff, and security staff used by an air operator certificate holder to deal with the screening of passengers and their baggage, have received training to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.
- Security training programmes **130.** (1) An operator shall establish and maintain an approved security training programme which ensures crew members act in the most appropriate manner to minimise the consequences of acts of unlawful interference, which programme shall, as a minimum, include the following elements —
- (a) determination of the seriousness of any occurrence;
- (b) crew communication and coordination;
- (c) appropriate self-defence responses;
- (d) use of non-lethal protective devices assigned to crew members whose use is authorised by the state of the operator;
- (e) understanding of behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behavior and passenger responses;
- (f) live situational training exercises regarding various threat conditions;
- (g) cockpit procedures to protect the aircraft; and
- (h) aircraft search procedures and guidance on least-risk bomb locations, where practicable.
- (2) An operator shall establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aircraft so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.
- Initial crew resource management training **131.** (1) A person shall not serve as a crew member or flight operations officer unless that person has completed the initial crew resource management curriculum approved by the Authority.
- (2) An operator shall ensure that all crew members have crew resource management training as part of their initial and recurrent training requirements.
- (3) A crew resource management training programme shall include —
- (a) an initial indoctrination or awareness segment;
- (b) a method to provide recurrent practice and feedback; and
- (c) a method of providing continuing reinforcement.
- (4) Curriculum topics to be contained in an initial crew resource management training course shall include —

- (a) communications processes and decision behaviour;
- (b) internal and external influences on interpersonal communications;
- (c) barriers to communication;
- (d) listening skills;
- (e) decision making skills;
- (f) effective briefings;
- (g) developing open communications;
- (h) inquiry, advocacy, and assertion training;
- (i) crew self-critique;
- (j) conflict resolution;
- (k) team building and maintenance;
- (l) leadership and fellowship training;
- (m) interpersonal relationships;
- (n) workload management;
- (o) situational awareness;
- (p) how to prepare, plan and monitor task completions;
- (q) workload distribution;
- (r) distraction avoidance;
- (s) individual factors; and
- (t) stress reduction.

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

Initial  
emergency  
equipment  
drills

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

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

- (a) protective breathing equipment or fire-fighting drill; and
- (b) emergency evacuation drill.

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

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

- (a) emergency exit drill;
- (b) hand fire-fighting extinguisher drill an actual or a simulated fire is not necessary during this drill;
- (c) emergency oxygen system drill;
- (d) flotation device drill; and
- (e) ditching drill, if applicable, during which ditching drill trainees shall perform the “prior to impact” and “after impact” procedures for a ditching, as appropriate to the specific operator’s type of operation.

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

- (a) life raft removal and inflation drill, if applicable;
- (b) slide raft transfer drill;

- (c) slide and slide raft deployment, inflation, and detachment drill; and
- (d) emergency evacuation slide drill.

**133.** (1) The operator shall establish and maintain a ground and flight training programme, approved by the Authority, which ensures that all flight crew members are adequately trained to perform their assigned duties.

(2) Notwithstanding the generality of subregulation (1), the training programme shall —

- (a) include ground and flight training facilities and properly qualified instructors as determined by the Authority;
- (b) consist of ground and flight training in the type of aeroplane on which the flight crew member serves;
- (c) include proper flight crew coordination and training in all types of emergency and abnormal situations or procedures caused by engine airframe or systems malfunctions, fire or other abnormalities;
- (d) include upset prevention and recovery training;
- (e) include training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, charting, human performance including threat and error management and in the transport of dangerous goods;
- (f) ensure that all flight crew members know the functions for which they are responsible and the relation of these functions to the functions of other crew members, particularly in regard to abnormal or emergency procedures; and
- (g) be given on a recurrent basis, as determined by the Authority and shall include an assessment of competence.

(3) The requirement for recurrent flight training in a particular type of aeroplane shall be considered fulfilled by —

- (a) the use, to the extent deemed feasible by the Authority, of flight simulation training devices approved by the Authority for that purpose; and
- (b) the completion within the appropriate period of the proficiency check required by regulation 135 in that type of aeroplane.

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

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

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

- (a) the operator's dispatch, flight release, or operational control or flight following procedures;
- (b) principles and methods for determining mass and balance, and runway limitations for take-off;
- (c) adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions;
- (d) normal and emergency communications procedures and navigation equipment including the operator's communications procedures and air traffic control clearance requirements;
- (e) navigation procedures used in area departure, en-route, area arrival, approach and landing phases;
- (f) approved crew resource management training;

- (g) air traffic control systems, procedures, and phraseology; and
  - (h) aircraft performance characteristics during all flight regimes.
- (7) An operator shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown.
- (8) An operator shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft systems integration items —
- (a) use of checklist;
  - (b) flight planning;
  - (c) navigation systems;
  - (d) autoflight-autopilot, autothrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators; and
  - (e) cockpit familiarisation.
- (9) An operator may have separate initial aircraft ground training curricula of varying lengths and subject emphasis which recognise the experience levels of flight crew members approved by the Authority.
- (10) A person shall not serve as a flight crew member unless that person has completed the initial flight training approved by the Authority for the aircraft type.
- (11) Initial flight training shall focus on the manoeuvring and safe operation of the aircraft in accordance with air operator certificate holder's normal, abnormal and emergency procedures.
- (12) An operator may have separate initial flight training curricula, which recognise the experience levels of flight crew members approved by the Authority.
- 134.** (1) A person shall not serve as a flight crew member unless that person has completed the appropriate initial specialised operations training curriculum approved by the Authority.
- (2) Specialised operations for which initial training curricula shall be developed include —
- (a) low minima operations, including low visibility take-offs and Category II and III operations;
  - (b) extended range operations;
  - (c) specialised navigation;
  - (d) a pilot-in-command right seat qualification;
  - (e) reduced vertical separation minima; and
  - (f) required navigation performance.
- (3) An operator shall provide initial specialised operations training to ensure that each pilot and flight operations officer is qualified in the type of operation in which that person serves and in any specialised or new equipment, procedures, and techniques, such as —
- (a) Class II navigation, including —
    - (i) knowledge of specialised navigation procedures, such as required navigation performance, minimum navigation performance specifications and reduced vertical separation minimum, and
    - (ii) knowledge of specialised equipment, such as INS, Loran, and Omega;
  - (b) Category II and Category III operations approaches, including —

Initial  
specialised  
operations  
training

- (i) special equipment, procedures and practice, and
- (ii) a demonstration of competency;
- (c) lower than standard minimum take-offs, including —
  - (i) runway and lighting requirements,
  - (ii) rejected take-offs at or near VI with a failure of the most critical engine,
  - (iii) taxi operations, and
  - (v) 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.

Pilot  
proficiency  
checks

**135.** (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 on each type or variant of type of aeroplane.

(2) Where the operation may be conducted under instrument flight rules, the operator shall ensure that the pilot's competence to comply with such rules is demonstrated to either a check pilot of the operator or to a representative of the Authority.

(3) Such checks 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.

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

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

(6) A person may complete the requirements of subregulations (4) and (5) simultaneously.

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

Provided that the proficiency check —

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

(8) When the operator schedules flight crew on several variants of the same type of aeroplane or different types of aeroplane with similar characteristics in terms of operating procedures, systems and handling, the Authority shall decide under which conditions the requirements of subregulation (1) to (5) for each variant or each type of aeroplane can be combined.

(9) The initial and recurrent flight training and proficiency checks required by these Regulations shall be performed by the pilot-in-command in the single pilot role on the class of aeroplane in an environment representative of the operation.

**136.** (1) A flight operations officer or flight dispatcher shall not be assigned to duty unless that person has —

Competency  
checks – flight  
operations  
officer and flight  
dispatcher

- (a) satisfactorily completed the operator-specific training course that addresses all the specific components of its approved method of control and supervision of flight operations specified in these Regulations;
  - (b) made, within the preceding 12 months, at least a one-way qualification flight in the flight crew compartment of an aeroplane over any area for which that individual is authorised to exercise flight supervision, and the flight should include landings at as many aerodromes as practicable;
  - (c) demonstrated to the operator a knowledge of —
    - (i) the contents of the operations manual described in Civil Aviation (Air Operator Certification and Administration) Regulations and these Regulations, Cap. 71:01  
(Sub. Leg.)
    - (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 authorised 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 specified in these Regulations.
- (2) Evaluators of the flight operations officer referred to under subregulation (1) shall conduct competency checks for flight operations officers to demonstrate that the candidate's proficiency level is sufficient to ensure the successful outcome of all dispatch operations.
- (3) A person authorised by the Authority shall observe and evaluate competency checks for flight operations officers which shall include —
- (a) an evaluation of all aspects of the dispatch function;
  - (b) a demonstration of the knowledge and abilities in normal and abnormal situations; and
  - (c) an observation of actual flights being dispatched.
- (4) An evaluator of newly hired flight operations officer shall include during initial competency checks, an evaluation of all of geographic areas and types of aircraft the flight operations officer shall be qualified to dispatch.
- (5) Evaluators may limit initial equipment and transition competency checks solely to the dispatch of the types of aircraft on which the flight operations officer is qualifying, unless the check is to simultaneously count as a recurrent check.
- (6) An evaluator of flight operations officers shall include, during recurrent and requalification competency checks, a representative sample of aircraft and routes for which the flight operations officers maintains current qualification.
- (7) A flight operations officer shall not qualify in extended range operations by turbine-engined aircrafts or other special operations authorised by the Authority unless that flight operations officer submits special operations competency checks to the Authority.

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Supervised line flying pilots

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

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

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

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

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

Cabin crew training programme

**138.** (1) An operator shall establish and maintain a training programme, approved by the Authority, to be completed by all persons before being assigned as a cabin crew member.

(2) The initial aircraft ground training shall include the pertinent portions of the operations manual relating to aircraft-specific configuration, equipment, normal and emergency procedures for the aircraft types within the fleet.

(3) Specific course curriculum requirements for cabin crew members are as set out in Schedule 2.

(4) Cabin crew members shall complete a recurrent training programme annually.

(5) The cabin crew training programmes shall ensure that each person is —

- (a) competent to execute those safety duties and functions which the cabin crew member is assigned to perform in the event of an emergency or in a situation requiring emergency evacuation;
- (b) drilled and capable in the use of emergency and life-saving equipment required to be carried, such as life jackets, life rafts, evacuation slides, emergency exits, portable fire extinguishers, oxygen equipment, first-aid and universal precaution kits, and automated external defibrillators;
- (c) when serving on aeroplanes operated above 3 000 m (10 000 ft), knowledgeable as regards the effect of lack of oxygen and, in the case of pressurized aeroplanes, as regards physiological phenomena accompanying a loss of pressurisation;
- (d) aware of other crew members' assignments and functions in the event of an emergency so far as is necessary for the fulfilment of the cabin crew member's own duties;
- (e) aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin; and
- (f) knowledgeable about human performance as related to passenger cabin safety duties including flight crew-cabin crew coordination.

Line observations – flight operations officer

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

**140.** (1) An operator shall not utilise a pilot as pilot-in-command of a helicopter on an operation or in case of an aeroplane on a route or route segment for which that pilot is not currently qualified until such pilot has complied with qualification requirements of these Regulations.

Route and area  
checks – pilot  
qualifications

(2) A pilot referred to in subregulation (1) shall demonstrate to the operator an adequate knowledge of —

- (a) the route to be flown, and the aerodromes which are to be used and shall include knowledge of —
  - (i) the terrain and minimum safe altitudes,
  - (ii) the seasonal meteorological conditions,
  - (iii) the meteorological, communication and air traffic facilities, services and procedures,
  - (iv) the search and rescue procedures, and
  - (v) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and
- (b) procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

(3) A pilot-in-command shall have made an actual approach into each aerodrome of landing on the route, accompanied by a pilot who is qualified for the aerodrome, as a member of the flight crew or as an observer on the flight deck, unless —

- (a) the approach to the aerodrome is not over difficult terrain and the instrument approach procedures and aids available are similar to those with which the pilot is familiar, and a margin to be approved by the 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 pilot-in-command 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 pilot-in-command is currently qualified to land.

(4) A person shall not perform pilot-in-command duties over a designated special operational area that requires a special navigation system or procedures or in EDTO operations unless his or her competency with the system and procedures has been demonstrated to the air operator certificate holder within the preceding 12 months.

(5) A pilot-in-command of an aircraft shall demonstrate special operational competency by navigation over the route or area as pilot-in-command under the supervision of a check pilot on an annual basis by demonstrating a knowledge of —

- (a) the terrain and minimum safe altitudes;
- (b) the seasonal meteorological conditions;
- (c) the search and rescue procedures;
- (d) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

(e) the procedures applicable to flight paths over heavily populated areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

(6) An 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.

(7) An operator shall not continue to utilise a pilot as a pilot-in command on a route or within an area specified by the operator and approved by the Authority unless, within the preceeding 12 months, that pilot has made at least one trip as pilot member of the crew, or as a check-pilot, or as an observer in the flight crew compartment within that specified area and if appropriate, on any route where procedures associated with that route or with any aerodrome intended to be used for take-off and landing require the special skills or knowledge.

(8) In the event that more than 12 months elapse in which a pilot-in-command has not made such a trip on a route in close proximity and over similar terrain, within such a specified area, route or aerodrome, and has not practised such procedures in a training device which is adequate for this purpose, prior to again serving as a pilot-in-command within that area or on that route, that pilot must requalify in accordance with subregulations (2) and (3).

(9) A pilot-in-command shall have made a flight, representative of the operation with which the pilot is to be engaged which must include a landing at a representative heliport, as a member of the flight crew and accompanied by a pilot who is qualified for the operation.

Pilot-in-command  
low minimums  
authorisation

**141.** Where a pilot-in-command has not completed —

(a) 15 flights performing pilot-in-command duties in an aircraft type, including five approaches to landing using Category I operations or II operations procedures, the pilot-in-command shall not plan for or initiate an instrument approach when the ceiling is less than 3 ft and the visibility is less than 2,000 m; and

(b) 20 flights performing pilot-in-command duties in an aircraft, including five approaches and landing using category III operations procedures, the pilot-in-command shall not plan for or initiate an approach when the ceiling is less than 100 ft or the visibility is less than 400 m runway visual range.

Designated  
special  
aerodromes and  
heliports-pilot-  
in-command  
qualification

**142.** (1) The Authority may determine that certain aerodromes, due to items such as surrounding terrain obstructions, or complex approach or departure procedures, are special airport qualifications aerodromes and that certain areas or routes, or both require a special type of navigation qualification.

(2) A person shall not serve as pilot-in-command for operations at special airport qualifications aerodromes unless within the preceding 12 months the pilot-in-command —

(a) has been qualified by the operator through a pictorial means acceptable to the Authority for that aerodrome or heliport; or

(b) or the assigned co-pilot has made a take-off and landing at that aerodrome or heliport while serving as a flight crew member for the operator.

(3) Designated special airport qualifications aerodrome limitations shall not be applicable if 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 ft above the lowest initial approach altitude prescribed for an instrument approach procedure.

**143.** (1) A person may not serve nor may any air operator certificate holder use a person as a flight crew member unless within the preceding 12 months that person has completed the recurrent ground and flight training curricula approved by the Authority.

Recurrent  
training – flight  
crew members

(2) The recurrent ground training under subregulation (1) shall include training on —

- (a) aircraft systems and limitations and normal, abnormal and emergency procedures;
- (b) emergency equipment and drills;
- (c) crew resource management;
- (d) transportation of dangerous goods; and
- (e) security training.

(3) The recurrent training curriculum under this regulation shall include —

- (a) manoeuvring and safe operation of the aircraft in accordance with the air operator certificate holder's normal, abnormal and emergency procedures;
- (b) manoeuvres and procedures necessary for avoidance of in-flight hazards; and
- (c) for authorised pilots, at least one low visibility takeoff to the lowest applicable minimum LVTO and two approaches to the lowest approved minimums for the air operator certificate holder, one of which is to be a missed approach.

(4) Satisfactory completion of a proficiency check with the air operator certificate holder for the type aircraft and operation to be conducted may be used in lieu of recurrent flight training.

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

(6) The period of validity of a line check referred to under subregulation (5) shall be —

- (a) 12 months, in addition to the remainder of the month of issue; or
- (b) if issued within the final three months of validity of a previous line check, extended from the date of issue to 12 months from the expiry date of that previous check.

(7) An operator shall ensure that each flight crew member undergoes training and checking on the location and use of emergency and safety equipment carried.

(8) The period of validity of an emergency and safety equipment check referred to under subregulation (7) shall be —

- (a) 12 months in addition to the remainder of the month of issue; or
- (b) if issued within the final three months of validity of a previous emergency and safety check, extended from the date of issue to 12 months from the expiry date of the previous emergency and safety equipment check.

(9) An operator shall ensure that —

- (a) elements of crew resource management are integrated into all appropriate phases of the recurrent training; and
- (b) a flight crew member undergoes specific modular crew resource management training and all major topics of crew resource management training shall be covered over a period not exceeding three years.

(10) An operator shall ensure that each flight crew member undergoes ground and refresher training at least once every 12 months, if the training is conducted within three months prior to the expiry of the 12 months period, the next ground and refresher training shall be completed within 12 months of the original expiry date of the previous ground and refresher training.

(11) An operator shall ensure that each flight crew member undergoes aircraft training or flight simulation training device training at least once every six months, and if the training is conducted within three months prior to the expiry of the 12 months period, the next aircraft or flight simulation training device training must be completed within six months of the original expiry date of the previous aircraft or flight simulation training device training.

**144.** (1) An operator shall ensure that a cabin crew member undergoes recurrent training, covering the actions assigned to each cabin crew member in normal and emergency procedures and drills relevant to the type or variant of aircraft on which they operate as specified in this regulation.

(2) An operator shall ensure that the recurrent training and checking programme approved by the Authority includes theoretical and practical instruction, together with individual practice as provided in this regulation.

(3) The period of validity of recurrent training and the associated checking required by this regulation shall be 12 months in addition to the remainder of three month of issue.

(4) If issued within the final three calendar months of validity of a previous check, the period of validity referred to in subregulation (3), shall extend from the date of issue to 12 months from the expiry date of that previous check.

(5) An operator shall ensure that recurrent training required under this regulation is conducted by suitably qualified persons.

(6) An operator shall ensure that every 12 months, a 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 aircraft or representative training device;
- (b) a demonstration of the operation of all other exits including cockpit windows;
- (c) the training of cabin crew member undergoing realistic and practical training in the use of all fire-fighting equipment, including protective clothing, representative of that carried in the aircraft, and shall include —

- (i) each cabin crew member extinguishing a fire characteristic of an aircraft interior fire except that, in the case of holon extinguishers, an alternative extinguishing agent may be used, and
- (ii) the donning and use of protective breathing equipment by each cabin crew member in an enclosed, simulated smoke-filled environment;

- (d) the use of pyrotechnics, actual or representative devices; and
- (e) a demonstration of the use of the life-raft, or slide-raft, where fitted.

(8) An operator shall ensure that all appropriate requirements in these Regulations are included in the training of cabin crew members.

**145.** (1) A person shall not serve as a flight operations officer unless within the preceding 12 months that person has completed the recurrent ground curricula approved by the Authority.

Recurrent  
training – flight  
operations  
officers

(2) An operator shall establish and maintain a recurrent training programme, approved by the Authority and established in the operator's operations manual, to be completed annually by each flight operations officer.

(3) A flight operations officer shall undergo recurrent training relevant to the type or variant of aircraft and operations conducted by the operator.

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

(5) An operator shall ensure that, every 12 months, each flight operations officer receives recurrent training in at least the following —

- (a) aircraft-specific flight preparation;
- (b) emergency assistance to flight crews;
- (c) crew resource management; and
- (d) recognition and transportation of dangerous goods.

(6) An operator may administer each of the recurrent ground and flight training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

**146.** A person shall not serve as an instructor in an established training programme unless, with respect to the aircraft type involved, such person —

Flight instructor  
qualifications  
and flight  
instructor  
training

- (a) holds the licences and ratings required to serve as a pilot-in-command or a flight engineer, as applicable;
- (b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a pilot-in-command or a flight engineer, as applicable;
- (c) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a pilot-in-command or a flight engineer, as applicable;
- (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority observed in flight competency check; and
- (e) holds a Class 1 medical assessment.

**147.** (1) The Authority may approve the following AOC holder personnel to conduct checks when such personnel meet the requirements for the authorised responsibilities, and may be approved for either aircraft or simulator, or both, as applicable, for checking of flight crew —

Personnel  
approved to  
conduct checks

- (a) check pilot;
- (b) check flight engineer;
- (c) check cabin crew member; and
- (d) check flight operations officer.

- (2) The authorised duties of check personnel are to —
- (a) conduct line checks and recurrent proficiency checks for flight crew and competency checks for cabin crew and flight operations officers;
  - (b) certify as satisfactory, the knowledge and proficiency of the flight crew, and the knowledge and competency of the cabin crew and flight operations officers; and
  - (c) for all check personnel, supervise operating experience (OE).
- (3) A person may not serve, and a AOC holder may not use a person as a check personnel under the AOC holder's crew member checking and standardisation programme unless that person has —
- (a) been identified by name and function and approved in writing by the Authority; and
  - (b) successfully completed the AOC holder's curricula approved by the Authority for those functions for which he or she is to serve.
- (4) Once approved, a person shall not serve, and an AOC holder shall not use a person as a check personnel for any flight crew, cabin crew or flight operations officer checks unless that person has demonstrated, initially and at least biennially to an Authority inspector, the ability to conduct a check for which he or she is approved.
- Check personnel qualifications **148.** (1) An operator shall not use a person as a check pilot or an flight engineer authorised by the air operator certificate holder and accepted by the Authority in an established training programme nor shall any person serve as such, unless with respect to the aircraft type involved, such person —
- (a) holds the pilot licences and ratings required to serve as a pilot-in-command or a flight engineer as applicable;
  - (b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training and differences training, that are required to serve as a pilot-in-command or a flight engineer as applicable;
  - (c) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a pilot-in-command or a flight engineer as applicable;
  - (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check;
  - (e) holds a Class I or II medical certificate as may be applicable; and
  - (f) has been approved by the Authority for the check pilot or authorised flight engineer duties involved as applicable.
- (2) Check personnel - simulator additional requirements - a person may not serve and an AOC holder may not use a person as a check personnel in a flight simulation training device, unless, since the beginning of the 12th calendar month before that service, that person has —
- (a) flown at least 5 flights as a required crewmember for the type of aircraft involved; or
  - (b) observed, on the flight deck, the conduct of 2 complete flights in the aircraft type to which the person is assigned.
- (3) Check personnel for cabin crew member – an AOC holder may not use a person, and a person may not serve as a check cabin crew member in an established cabin crew training programme unless, with respect to the aircraft type or position involved, that person —
- (a) holds the qualifications required to serve as a cabin crew member;

- (b) has satisfactorily completed the appropriate training phases for the aircraft or position, including recurrent training and differences training, that are required to serve as a cabin crew member;
  - (c) has satisfactorily completed the appropriate competency and recency of experience checks that are required to serve as a cabin crew member;
  - (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority observed competency check for the check personnel duties; and
  - (e) has been approved by the Authority for the check cabin crew member duties involved.
- (4) Check personnel for flight operations officers – an AOC holder may not use a person, and a person may not serve as a check flight operations officer in an established flight operations officer training programme unless, with respect to the aircraft type or position involved, that person –
- (a) holds the licence required to serve as a flight operations officer;
  - (b) has satisfactorily completed the appropriate training phases for the aircraft or position, including recurrent training and differences training, that are required to serve as a flight operations officer;
  - (c) has satisfactorily completed the appropriate competency and recency of experience checks that are required to serve as a flight operations officer;
  - (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed competency check for the check flight operations officer duties involved; and
  - (e) has been approved by the Authority for the check flight operations officer duties involved.

**149.** A person shall not serve as a check pilot for any light check unless such person has been designated by name for specified function by the Authority within the preceding 12 months.

Check pilot designation

**150.** (1) A person may not serve, and an AOC holder may not use a person for checks unless he or she has completed the curricula approved by the Authority.

Check personnel training

(2) Specific training programme requirements for check personnel are as set out in Schedule 3.

(3) An operator shall ensure that the initial ground training for a check pilot includes –

- (a) check pilot duties, functions, and responsibilities;
  - (b) applicable regulations and the air operator certificate holder's policies and procedures;
  - (c) appropriate methods, procedures, and techniques for conducting the required checks;
  - (d) proper checks of student performance including the detection of –
    - (i) improper and insufficient training, and
    - (ii) personal characteristics of an applicant that could adversely affect safety;
  - (e) appropriate corrective action in the case of unsatisfactory checks; and
  - (f) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft.
- (4) A transition ground training for a check pilot shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the check pilot is in transition.

- (5) An operator shall ensure that the initial and transition flight training for check pilots in an aircraft includes —
- (a) training and practice in conducting flight checks, 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.
- (6) An operator shall ensure that the initial and transition flight training for a check pilots in a flight simulation training device includes —
- (a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by this regulation; and
  - (b) training in the operation of synthetic flight trainers to ensure competence to conduct the evaluations required by this regulation.
- (7) An operator shall accomplish flight training for check pilot in full or in part in an aircraft, in flight in a flight simulation training device, as appropriate.
- 151.** (1) To enable adequate supervision of its training and checking activities, an air operator certificate holder shall forward to the Authority at least five working days prior to the scheduled activity, the dates, location, reporting times and report of all —
- (a) training for which a curriculum is approved in the air operator certificate holder’s training programme; and
  - (b) proficiency, competence and line checks.
- (2) Failure to provide the information required under subregulation (1) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.
- 152.** An operator shall not use a crew member or flight operations officer whose check is terminated in air transport services, until the completion of a satisfactory recheck of that crew member or flight operations officer has been carried out.
- 153.** (1) An operator shall record and maintain for each crew member and flight operations officer, a record of each test and check as required by these Regulations.
- (2) A pilot may complete the curricula required by these Regulations concurrently or intermixed with other required curricula, but completion of each of these curricula shall be recorded separately.
- 154.** (1) A crew member who is required to take a proficiency check, a test or competency check, or recurrent training to maintain qualification for air transport services shall complete those requirements at any time during the eligibility period.
- (2) In these Regulations “eligibility period” means the three month period including the month prior, the month due, and the month after any due date specified by these Regulations.
- (3) In these Regulations, 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.

Monitoring of training and checking activities

Termination of a proficiency, competence or line check

Recording of crew member qualifications

Eligibility period

PART IX — *Flight Rules*A — *Visual Flight Rules*

- 155.** (1) A person shall not taxi an aircraft on a controlled aerodrome unless the person —
- (a) is authorised by the owner, the lessee or a designated agent;
  - (b) is fully competent to taxi the aircraft;
  - (c) is qualified to use the radio, if radio communication is required;
  - (d) has received instruction from a competent person in respect of —
    - (i) aerodrome layout, and
    - (ii) routes, signs, markings, lights, air traffic control signals, instructions, phraseology and procedures; and
  - (e) is able to conform to the operational standards required for safe aircraft movement at the aerodrome.
- (2) A person shall not cause a helicopter rotor to be turned under power, unless there is a qualified pilot at the controls.
- 156.** A pilot-in-command of an aircraft shall before take-off ensure that —
- (a) the weather at the aerodrome and the condition of the runway intended for use is safe for take-off and departure; and
  - (b) the visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum.
- 157.** (1) A person shall not take-off an aircraft for commercial air services or continue to operate an aircraft en-route when icing conditions are expected or encountered, without ensuring that the aircraft is certified for icing operations and has sufficient operational de-icing or anti-icing equipment.
- (2) A person shall not take-off an aircraft when frost, ice or snow is expected which may affect the performance of the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft.
- 158.** A person operating an aircraft other than a balloon or glider shall maintain a cruising altitude or flight level of altimeter settings provided by the Authority.
- 159.** (1) A person shall not operate an aircraft below the following altitudes —
- (a) an altitude allowing continuation of a flight or emergency landing, without undue hazard to persons or property on surface if there is a power unit failure;
  - (b) over congested areas of —
    - (i) a city,
    - (ii) town,
    - (iii) a settlement, or
    - (iv) over an open air assembly of persons;
  - (c) over an altitude of 300 m (1,000 ft) above the highest obstacle within a horizontal radius of 600 m (2,000 ft) of the aircraft; or
  - (d) over congested areas of an altitude of 150 m (500 ft) above the surface, except over open water or sparsely populated area where the aircraft may not operate closer to 150 m (500 ft) to any person, vessel, vehicle or structure.
- (2) A pilot-in-command of an aircraft shall comply with any routes or altitudes for the areas that are prescribed for aircrafts by the Authority.

Operation of aircraft on ground

Take-off conditions

Flight into known or expected icing

Altimeter settings

Minimum safe altitudes – general

## C.360

Minimum safe  
visual flight  
altitudes rules

**160.** A person shall not operate an aircraft below the following altitudes, except when take-off or landing is necessary —

- (a) during the day under visual flight rules at an altitude less than 300 m (1,000 ft) above the surface or within 300 m (1,000 ft) of a mountain, or any obstruction to an aircraft; or
- (b) at night under visual flight rules at an altitude less than 300 m (1,000 ft) above the highest obstacle within a horizontal distance of 8 km from the centre of the intended course.

Instrument  
approach  
operating  
minima

**161.** (1) A person shall not operate to or from an aerodrome using operating minima lower than those which may be established for such aerodrome, unless approved by the Authority.

(2) A person shall not conduct instrument approach and landing operations below 800 m visibility, unless the runway visual range information is provided.

Category II  
operations and  
Category III  
operations –  
general  
operating rules

**162.** (1) A person shall not operate an aircraft in Category II and Category III, unless —

- (a) a pilot-in-command and co-pilot of the aircraft hold the appropriate authorisation and prescribed ratings;
- (b) flight crew-members have adequate knowledge of, and are familiar with the aircraft and the procedures to be used; and
- (c) the instrument panel of the aircraft has appropriate instrumentation for the type of flight control system that is being used.

(2) A pilot-in-command of an aircraft in Category II and Category III may, unless authorised by the Authority, operate a ground component required for such operation, if the related equipment is installed and operating.

(3) A pilot-in-command of an aircraft in Category II and Category III that requires use of a decision height may, unless authorised by the Authority, continue the approach below the authorised decision height —

- (a) if the aircraft is in a position from which a descent to a landing on the intended runway is made at a normal manoeuvres and where such descent rate will allow touchdown to occur within the touchdown zone of the runway of the intended landing; or
- (b) if one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot —
  - (i) the approach light system,
  - (ii) the threshold,
  - (iii) the threshold markings,
  - (iv) the threshold lights,
  - (v) the touchdown zone markings, or
  - (vi) the touchdown zone lights.

(4) A pilot-in-command of an aircraft shall, unless authorised by the Authority, execute an appropriate missed approach before touchdown, if the conditions provided under subregulation (3) are not met.

Category II and  
Category III  
manual

**163.** (1) A person shall not operate an aircraft in Category II and Category III, unless —

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

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

(3) An air operator certificate holder issued with a certificate for Category II and Category III operations as part of its operations manual shall be exempt from the provisions of subregulations (1) and (2).

**164.** The Authority may grant an exemption for the operation of a Category II operation if the operator demonstrates to the satisfaction of the Authority that the proposed operation will be safely conducted.

Exemption from certain Category II operations

**165.** (1) A pilot-in-command of an aircraft may land an aircraft at the nearest suitable aerodrome at which a safe landing will be made whenever an engine of the aircraft fails or is shut down to prevent possible damage.

Diversion decision – engine inoperative

(2) A pilot-in-command of an aircraft may proceed to an aerodrome if he or she decides that proceeding to the aerodrome is safe after considering —

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

**166.** (1) A person shall not operate an aircraft close to another aircraft in a manner likely to cause a collision.

Operating near other aircraft, including formation flights

(2) A person shall not operate an aircraft in formation flight, unless —

- (a) by arrangement with the pilot-in-command of the aircraft in the formation; or
- (b) where the aircraft is in a controlled airspace, in accordance with conditions prescribed by the appropriate air traffic authority.

**167.** (1) A pilot-in-command of an aircraft shall switch the red rotating beacon lights or other lights installed on the aircraft, to show that the engine is running at all times.

Use of aircraft lights

(2) A person shall not operate an aircraft, unless —

- (a) the aircraft is clearly illuminated;
- (b) the anti-collision lights are on; or
- (c) the aircraft is in an area marked by obstruction lights.

**168.** A person shall not operate an aircraft in simulated instrument flight, unless —

Simulated instrument flight

- (a) the aircraft has fully functioning dual controls; and
- (b) the aircraft is operated by a person with a private pilot licence with category and class ratings appropriate to such aircraft.

**169.** A person shall not simulate an abnormal or emergency situation during a commercial air transport service.

In-flight simulation of abnormal situations  
Dropping, spraying, towing, etc.

**170.** Unless authorised by the Authority, a person shall not —

- (a) tow an aircraft or other objects;
- (b) allow parachute descents; or
- (c) drop, dust or spray from an aircraft.

**171.** (1) A person shall not operate an aircraft in an aerobatic flight —

Aerobatic flight

- (a) over a city, town, or settlement;
- (b) over an open air assembly of people;

	<ul style="list-style-type: none"> <li>(c) within the lateral boundaries of the surface areas of Class B, C, D or E airspace designated for an aerodrome;</li> <li>(d) below an altitude of 1,500 ft above the surface;</li> <li>(e) when the flight visibility is less than three statute miles; and</li> <li>(f) unless in compliance with conditions prescribed by the Authority.</li> </ul> <p>(2) A person shall not operate an aircraft in manoeuvres exceeding 60 degrees or pitch of 30 degrees from the level flight altitude, unless the occupants of the aircraft are wearing parachutes.</p>
Flight test area	<b>172.</b> A person shall not fly-test an aircraft over open water or densely populated areas.
Operations in reduced vertical separation minima airspace	<b>173.</b> (1) A person shall not operate an aircraft in Botswana airspace designated as reduced vertical separation minima without approval of the Authority. (2) A reduced vertical separation minima aircraft shall operate in compliance with the conditions of the procedure and restrictions required for the airspace.
Operations in vicinity of controlled or uncontrolled aerodrome	<b>174.</b> (1) A pilot-in-command shall, when approaching to land at an aerodrome – (a) make all turns of the aircraft appropriate to the area of landing; (b) avoid out-bound aircrafts; and (c) comply with the traffic patterns of the aerodrome. (2) A pilot-in-command of an aircraft operating in the vicinity of an aerodrome shall – (a) observe other aerodrome traffic for purposes of avoiding collision; and (b) avoid the pattern of traffic formed by other aircrafts in operation.
Aerodrome traffic pattern altitudes	<b>175.</b> (1) A pilot-in-command of a turbojet, turboprop or large aeroplane shall, when arriving at an aerodrome, enter the traffic pattern at least 1,500 ft, until further descent is required. (2) A pilot-in-command of a turbojet, turboprop or a large aeroplane shall, when departing, climb 1,500 ft as rapidly as practicable.
Compliance with visual and electronic glide slopes	<b>176.</b> (1) A pilot-in-command of an aircraft shall, when approaching to land on a runway served by a visual approach pattern, maintain an altitude at or above the glide slope until a lower altitude is necessary for safe landing. (2) A pilot-in-command of a turbojet, turboprop, or a large aeroplane, shall, when approaching to land on a runway served by an instrument landing system, maintain an altitude at or above the glide slope until a lower altitude is necessary for safe landing.
Restriction or suspension of operations	<b>177.</b> A pilot-in-command of an aircraft or an air operator certificate holder shall, when he or she knows of the aerodrome and runway conditions, restrict or suspend all commercial air transport services to such an aerodrome and runway.
Interception	<b>178.</b> A pilot-in-command of an aircraft shall not conduct an international flight, unless the procedures and signals relating to the interception of the aircraft are available on the flight deck.
Noise abatement procedures	<b>179.</b> (1) A pilot-in-command of an aircraft shall operate the aircraft in accordance with the noise and abatement procedures approved by the Authority. (2) Unless authorised by the Authority, the noise abatement procedures specified by an air operator certificate holder for an aircraft shall be the same type for all aerodromes.
Single pilot operations	<b>180.</b> (1) An aircraft shall not be operated under instrument flight rules or during the night by a single pilot, unless authorised by the Authority. (2) Notwithstanding the provisions of subregulation (1), an aircraft may be operated under instrument flight rules or during the night by a single pilot, if – (a) the flight manual does not require a flight crew of more than one;

- (b) the aircraft is propeller driven;
  - (c) the maximum approved passenger configuration is not more than nine;
  - (d) the maximum certified take-off mass does not exceed 5,700 kg;
  - (e) the aircraft is equipped as follows —
    - (i) a serviceable autopilot that has at least altitude hold and heading selection mode,
    - (ii) a headset with a boom microphone or equivalent, and
    - (iii) means of displaying charts that enables them to be readable in all ambient light conditions; and
  - (f) the pilot-in-command has satisfied the Authority that he or she has the requisite experience, training, and recency as described in subregulation (3).
- (3) A pilot-in-command shall —
- (a) for operations under the IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as pilot-in-command;
  - (b) for operations under the IFR, have accumulated at least 25 hours flight time under the IFR on the class of aeroplane, which may form part of the 50 hours flight time in subregulation (3) (a);
  - (c) for operations at night, have accumulated at least 15 hours flight time at night, which may form part of the 50 hours flight time in subregulation (3) (a);
  - (d) for operations under the IFR, have acquired recent experience as a pilot engaged in a single pilot operation under the IFR of —
    - (i) at least five IFR flight, including three instrument approaches carried out during the preceding 90 days 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 90 days;
  - (e) for operations at night, have made at least three take-offs and landings at night on the class of aeroplane in the single pilot role in the preceding 90 days; and
  - (f) have successfully completed training programmes that include, in addition to the requirements of regulation 133, passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

**181.** (1) A person shall not operate a single engine aircraft, unless the aircraft is continually operated in daylight or visual flight rule over such routes and diversions that permit a safe forced landing to be executed in the event of an engine failure.

Single engine  
operations

(2) A person shall not operate a single turbine powered aircraft at night or in instrument meteorological conditions, unless the airworthiness certification of the aircraft is appropriate and acceptable to the Authority and that the operation of the aircraft is consistent with air transport services as provided by —

- (a) the reliability of the turbine engine;
- (b) the operators maintenance procedures;
- (c) the operating procedures;
- (d) the flight dispatch procedures;
- (e) crew training programmes; and
- (f) equipment and additional requirements as set out in Schedule 4.

(3) A person shall not operate a single turbine powered aircraft at night or in instrument meteorological conditions, unless the aircraft has an engine trend monitoring system, and any aircraft with a certificate of airworthiness issued after 01st January, 2005 shall have an automatic trend monitoring system.

(4) A person shall not operate a multi engine aircraft used for air transport services which does not comply with any of the performance limitations under Part VII of these Regulations, unless the aircraft is continually operated —

- (a) in daylight;
- (b) in visual flight rule, excluding over the top operations; and
- (c) at a mass that will allow the aircraft to climb with critical engine inoperative at least 50 ft a minute when operating at the minimum en-route altitudes of the intended route or any planned diversion or at 5,000 ft mean sea level, whichever is greater.

(5) A multi engine aircraft that is unable to comply with subregulation (4) (c) is, for purposes of this regulation, considered to be a single engine aircraft and shall comply with the requirements under subregulation (1).

*B — Control of Air Traffic*

Air traffic control clearance

**182.** (1) A pilot-in-command of an aircraft shall obtain an air traffic control clearance, before operating a controlled or a portion of a controlled aircraft.

(2) A pilot-in-command of an aircraft shall submit to an air traffic control facility a flight plan for an air traffic control clearance.

(3) A pilot-in-command of an aircraft shall submit to the appropriate air traffic control facility a report with details for a priority clearance.

(4) A person operating an aircraft on a controlled aerodrome shall not taxi on the manoeuvring area or runway without clearance from the aerodrome control tower.

Adherence to air traffic control clearance

**183.** (1) Except in an emergency situation, a person shall not deviate from the clearance, unless he or she has obtained an amended clearance.

(2) Except in an emergency situation, a pilot-in-command of an aircraft shall not operate an aircraft in an airspace requiring a controlled flight.

(3) A pilot-in-command of an aircraft shall as soon as possible notify the air traffic control if he or she intends to deviate from an air traffic control clearance or instruction in an emergency.

Communication

**184.** (1) A pilot-in-command operating an aircraft in a controlled flight shall maintain a continuous listen on the appropriate radio frequency and establish a two-way communication with the appropriate air traffic control facility.

(2) A pilot-in-command operating an aircraft in a controlled flight shall, except when landing at a controlled aerodrome, advise the appropriate air traffic control clearance facility as soon as it ceases to be subject to the air traffic control clearance service.

Route to be flown

**185.** (1) A pilot-in-command of a controlled flight shall, unless otherwise authorised or directed by the appropriate aircraft traffic control —

- (a) operate along the defined centre line of an established air traffic control route; or
- (b) operate directly between the navigation facilities or point defining such route.

(2) A pilot-in-command of a controlled flight operating along an air traffic control route defined by reference to very high frequency Omni-directional range shall change over for primary navigation guidance from the facility behind the aircraft to that ahead of it, or as close as operationally feasible, to the change-over point where established.

**186.** A pilot-in-command of an aircraft shall in the event of a controlled flight inadvertently deviating from its current flight plan, take the following actions —

Inadvertent changes

- (a) the pilot-in-command shall, if the aircraft is off track, adjust the heading of the aircraft to regain track as soon as practicable;
- (b) the pilot-in-command shall, if there is variation in true airspeed, inform the appropriate air traffic control facility if the average true airspeed at cruising level between reporting points varies from that given in the flight plan or is expected to vary by plus or minus five per cent of the true airspeed; or
- (c) the pilot-in-command shall, if there is a change in time estimate, notify the appropriate air traffic control facility and give a revised time estimate as soon as possible if the time estimate for a reporting point, flight information region boundary, or destination aerodrome, whichever comes first, is found to be in excess for three minutes from that notified to the air traffic control, or such other period of time as is prescribed by the appropriate air traffic control authority.

**187.** An operator shall specify procedures by which an aeroplane climbing or descending to an assigned altitude or flight level specially with an autopilot engaged, shall do so at a rate less than 8 m/sec or 1 500 ft./min (depending on the instrumentation available) throughout the last 300 m (1 000ft) of climb or descent to the assigned level when the pilot is made aware of another aircraft at or approaching an adjacent altitude or flight level to avoid unnecessary airborne collision avoidance system (ACAS II) resolution advisories in aircraft at or approaching adjacent altitudes or flight levels.

Operating procedures for rates of climb and descent reports

**188.** (1) A pilot-in-command of a controlled flight shall, unless exempted, report to the appropriate air traffic control facility as soon as possible, the time and level of passing of each designated compulsory reporting point together with any other required information.

Position reports

(2) A pilot-in-command of a controlled flight shall, when requested by the appropriate air traffic control facility, make a report in relation to additional points or intervals.

(3) A pilot-in-command of a controlled flight shall, when operating data link communications providing position information, provide voice position reports to the appropriate air traffic control facility.

**189.** (1) A person shall not operate an aircraft on an aerodrome with an operational control tower, unless a two-way communication is maintained between the aircraft and the control tower.

Operation in vicinity of controlled aerodrome

(2) A pilot-in-command of an aircraft shall, upon arrival at a controlled aerodrome, establish communication as required under subregulation (1), prior to 4 NM from the aerodrome when operating from the surface of up to 2,500 ft.

(3) A pilot-in-command of an aircraft shall on departure establish communication with the control tower before taxi.

(4) A person shall not operate an aircraft on a runway, taxiway, take-off or land an aircraft at an aerodrome with an operating tower, unless an appropriate clearance communication is maintained between the aircraft and the control tower.

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Unlawful interference	<p><b>190.</b> (1) A pilot-in-command of an aircraft shall notify the appropriate air traffic control facility when an aircraft is subjected to unlawful interference.</p> <p>(2) A pilot-in-command of an aircraft shall when the aircraft is subjected to unlawful interference, land the aircraft as soon as practicable.</p>
Time checks	<p><b>191.</b> (1) A pilot-in-command of an aircraft shall use a coordinated universal time in flight operations, expressed in hours and minutes of a 24 hour day, beginning at midnight.</p> <p>(2) A pilot-in-command of an aircraft shall obtain a time check before operating a controlled flight.</p>
Universal signals	<p><b>192.</b> (1) A person operating an aircraft shall observe and receive any designated universal aviation signal as may be required by the interpretation of the signal.</p> <p>(2) A person shall not use a signal likely to conflict with a universal aviation signal.</p>
Visual meteorological conditions	<p><b>193.</b> A person shall not operate an aircraft under visual flight rules when the flight visibility is less than that set out in Schedule 5.</p> <p>Visual flight rules weather minimums 194. A person shall not land or takeoff an aircraft under visual flight rules from an aerodrome located within a controlled zone or enter the aerodrome traffic zone or traffic pattern, unless —</p> <ul style="list-style-type: none"><li>(a) the report ceiling is at 450 m (1,500 ft);</li><li>(b) the reported ground visibility is at 5 km; and</li><li>(c) a clearance is obtained from the air traffic control.</li></ul>
Special visual flight rules operations	<p><b>195.</b> A person shall not conduct a special visual flight rules flight operation to enter a traffic pattern, land or takeoff an aircraft from an aerodrome located in Class B, C, D or E airspace, unless that person is —</p> <ul style="list-style-type: none"><li>(a) authorised by an air traffic control clearance;</li><li>(b) the aircraft remain clear of clouds;</li><li>(c) the flight visibility is at 1.5 km (one statute mile);</li><li>(d) the pilot-in-command is qualified in instrument flight rules operations; and</li><li>(e) the aircraft is qualified to operate for instrument flight rules flight.</li></ul>
Visual flight rules cruising altitudes	<p><b>196.</b> A person operating an aircraft in level cruising flight under visual flight rules at an altitude of 900 m (3,000 ft) from the ground or water shall maintain a flight level appropriate to the track.</p>
Air traffic control clearances for visual flight rules flights	<p><b>197.</b> A pilot-in-command of a visual flight rules flight shall comply with an air traffic control clearance during the aircraft operation.</p>
Visual flight rules flights requiring air traffic control authorisation	<p><b>198.</b> (1) A pilot-in-command of an aircraft shall not operate a visual flight rules flight, unless he or she is —</p> <ul style="list-style-type: none"><li>(a) above flight level 200 and at transonic and supersonic speed;</li><li>(b) authorised by the appropriate air traffic control authority; and</li><li>(c) in accordance with conditions prescribed by the Authority.</li></ul> <p>(2) An air traffic control clearance for visual flight rules flight shall not be granted in an area where a visual meteorological condition of 300 m (1,000 ft) is applied above flight level 290.</p>
Visual meteorological conditions	<p><b>199.</b> A pilot-in-command of a visual flight rules flight operating as a controlled flight shall when he or she finds it not practicable or possible to maintain a flight in visual meteorological condition —</p> <ul style="list-style-type: none"><li>(a) request an amended clearance enabling the aircraft to continue in visual meteorological condition to its destination or to an alternative aerodrome;</li></ul>

- (b) continue to operate in visual meteorological condition and notify the appropriate air traffic control facility of the action taken;
- (c) request authorisation to operate as a special visual flight rules flight within a controlled zone; or
- (d) request a clearance to operate under instrument flight rules.

**200.** A pilot-in-command of an aircraft who wishes to change from visual flight rules to instrument flight rules shall —

- (a) if a flight plan is submitted, communicate the necessary changes to be effected in the flight plan; or
- (b) submit a flight plan to the appropriate air traffic control facility and obtain a clearance before proceeding in instrument flying route when in controlled airspace.

Change from  
visual flight  
rules to  
instrument  
flight rules

### C — Instrument Flight Rules

**201.** Any aircraft operated in accordance with instrument flight procedures shall comply with the instrument flight rules and the aerodrome instrument approach procedures approved by the State where the operation will take place.

Applicability

**202.** A pilot-in-command shall not operate an aircraft in a controlled airspace under instrument flight rules, unless the he or she has —

- (a) filed an instrument flight rules flight plan; and
- (b) received an appropriate air traffic control clearance.

Instrument  
flight rules in  
controlled  
airspace

**203.** (1) A pilot-in-command of an instrument flight rules flight operating outside a controlled airspace within an area designated by the air traffic control authority shall maintain a listening watch on the appropriate radio frequency and establish a two-way communication with the air traffic control facility providing flight information.

Instrument  
flight rules  
outside  
controlled  
airspace

(2) A pilot-in-command of an instrument flight rules flight operating outside a controlled airspace for which the appropriate air traffic control authority requires a flight plan, shall report to the air traffic control facility providing the flight information the appropriate radio frequency and establish a two-way communication.

**204.** Unless otherwise authorised by the Authority, a pilot-in-command of an aircraft in commercial air transport services shall not accept a clearance to take-off from an aerodrome under instrument flight rules, unless the weather conditions are —

- (a) 1,500 m (one statute mile) visibility for an aircraft with two engines; or
- (b) 800 m (half statute mile) visibility for helicopters.

Instrument  
flight rules –  
takeoff  
minimums for  
commercial  
air transport

**205.** Unless when necessary for take-off or landing, a person shall not operate an aircraft under instrument flight rules below —

- (a) the applicable minimum altitudes prescribed by the authority —
  - (i) over high terrain or in mountainous areas at a level which is at least 600 m (2,000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft, or
  - (ii) at a level which is at least 300 m (1,000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft; or
- (b) a minimum en-route altitude and minimum obstruction clearance altitude prescribed for a particular route or route segment within 40.7 km (22 NM) of the very high frequency omni-directional range.

Minimum  
altitudes for  
instrument  
flight rules  
operations

C.368

Minimum altitudes for autopilot	<p><b>206.</b> A person shall not use an autopilot for —</p> <ul style="list-style-type: none"><li>(a) en-route operations at an altitude above the terrain that is less than 500 ft;</li><li>(b) instrument approach operations at an altitude above the terrain that is less than 50 ft below the minimum descent altitude or decision height;</li></ul> <p>or</p> <ul style="list-style-type: none"><li>(c) a category III approach without the approval of the Authority.</li></ul>
Instrument flight rules – cruising altitudes	<p><b>207.</b> (1) A person operating an aircraft under instrument flight rules in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned to the aircraft by the air traffic controller.</p> <p>(2) A person operating an aircraft in level cruising flight under instrument flight rules shall maintain the altitude or flight level appropriate to the track of the cruising level.</p>
Cruising altitude in uncontrolled airspace	<p><b>208.</b> (1) A person operating an aircraft in level cruising flight under instrument flight rules outside a controlled airspace shall maintain a flight level appropriate to the track of cruising levels for flights above flight level 410.</p> <p>(2) A person may deviate from the cruising altitude provided under subregulation (1), if authorised by the air traffic controller for a flight at or below 900 m (3,000 ft) above mean sea level.</p>
Instrument flight rules communication	<p><b>209.</b> A pilot-in-command of an aircraft operated in a controlled airspace under instrument flight rules shall have a continuous watch on the appropriate frequency and shall report —</p> <ul style="list-style-type: none"><li>(a) the time and altitude of passing a designated reporting point, or the reporting points specified by an air traffic controller;</li><li>(b) any weather forecast conditions encountered; and</li><li>(c) any information relating to the safety of the aircraft.</li></ul>
Malfunction of facility reports	<p><b>210.</b> A pilot-in-command of an aircraft operated in a controlled airspace under instrument flight rules shall report to the air traffic controller any malfunction of navigation, approach or communication equipment in the flight, including —</p> <ul style="list-style-type: none"><li>(a) the aircraft identification;</li><li>(b) the equipment affected;</li><li>(c) the degree to which the capability of the pilot is impaired; and</li><li>(d) the nature and extent of assistance required from the air traffic controller.</li></ul>
Continuation of instrument flight rules flights	<p><b>211.</b> A pilot-in-command of an aircraft shall not continue the aircraft towards an aerodrome or heliport of intended landing, unless the available meteorological information indicates the conditions at the aerodrome or heliport at the expected time of arrival.</p>
Instrument approach procedures	<p><b>212.</b> A person shall not make an instrument approach at an aerodrome except in accordance with instrument flight rules minimums and instrument approach procedures established for the aerodrome by the Authority.</p>
Commencing an instrument approach	<p><b>213.</b> A pilot-in-command of an aircraft in commercial air transport services shall not continue an approach past the final approach fix or begin the final approach at an aerodrome, unless —</p> <ul style="list-style-type: none"><li>(a) a source approved by the Authority issues a weather report for the aerodrome; and</li><li>(b) the latest weather report for such aerodrome reports the visibility to be equal to or more than the minimums prescribed for the procedure.</li></ul>
Operations below decision height or minimum decision altitude	<p><b>214.</b> A pilot-in-command of an aircraft shall not operate an aircraft at an aerodrome or heliport below the authorised minimum descent altitude or continue an approach below the authorised decision height, unless —</p>

- (a) the aircraft is continuously in a position from which a descent to a landing on the intended runway is made at a normal rate of descent using normal manoeuvres;
- (b) a descent approach will allow touchdown to occur within the touchdown zone of the runway intended for landing;
- (c) the reported flight visibility is not less than the visibility prescribed in the standard instrument approach used or the controlling runway visual range is above the specified minimum; or
- (d) the visual reference for the intended runway is distinctly visible and identifiable to the pilot for —
  - (i) the threshold,
  - (ii) the threshold markings,
  - (iii) the threshold lights,
  - (iv) the runway end identifier lights,
  - (v) the visual approach slope indicator,
  - (vi) the touchdown zone or touchdown zone markings,
  - (vii) the touchdown zone lights,
  - (viii) the runway or runway markings, or
  - (ix) the runway lights.

**215.** (1) A pilot-in-command of an aircraft who wishes to change from instrument flight rules flight to visual flight rules flight, shall notify the appropriate air traffic control facility that the instrument flight rules flight is cancelled and communicate the change to be made to his or her flight plan.

Change from instrument flight rules to visual flight rules flight

(2) A pilot-in-command of an aircraft under instrument flight rules who encounters a visual meteorological condition shall not cancel the flight unless such flight is operated for a reasonable period of time in uninterrupted visual meteorological condition.

**216.** A pilot-in-command of an aircraft shall continue a flight if a two-way radio communication failure occurs under instrument flight conditions and —

Communication under instrument flight rules flight

- (a) the route assigned in the last air traffic control clearance is received;
- (b) the radar vectored by the direct route from the point of radio failure to the fix, route or airway is specified in the vector clearance;
- (c) in the absence of an assigned route or a route that the air traffic controller has advised on is expected in a further clearance;
- (d) in the absence of an assigned route or a route that the air traffic controller has advised on is expected in a further clearance by the route filed in the flight plan; or
- (e) the altitude or flight level assigned in the last air traffic control clearance is received.

**217.** An operator of an aircraft shall establish an operational procedure designed to ensure that the aircraft used to conduct a precision approach, crosses the threshold by a safe margin with the aircraft in the landing configuration and altitude.

Threshold crossing height

**218.** (1) An aircraft shall be provided with navigation equipment which will enable it to proceed —

Navigation equipment

- (a) in accordance with its operational flight plan; and
- (b) in accordance with the requirements of air traffic services, except when, if not so precluded by the appropriate authority, navigation for flights under VFR is accomplished by visual reference to landmarks.

(2) For operations where a navigation specification for performance-based navigation (PBN) has been prescribed, an aeroplane shall, in addition to the requirements specified in subregulation (1) —

- (a) be provided with navigation equipment which will enable it to operate in accordance with the prescribed navigation specifications;
- (b) have information relevant to the aeroplane navigation specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of the Design or State of Registry; and
- (c) have information relevant to the aeroplane navigation specification capabilities included in the MEL.

(3) The State of the operator shall, for operations where a navigation specification for PBN has been prescribed, ensure that the operator has established and documented —

- (a) normal and abnormal procedures including contingency procedures;
- (b) flight crew qualification and proficiency requirements in accordance with the appropriate navigation specifications;
- (c) a training programme for relevant personnel consistent with the intended operations; and
- (d) appropriate maintenance procedures to ensure continued airworthiness in accordance with the appropriate navigation specifications.

(4) The State of the operator shall issue a specific approval for operations based on PBN authorization required (AR) navigation specifications.

(5) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, an aeroplane 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 authorised by the State of the operator for the MNPS operations concerned.

(6) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive —

- (a) the aircraft shall be 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. The threshold for the alert shall not exceed  $\pm 90$  m (300 ft), and
  - (iv) automatically reporting pressure-altitude; and
- (b) the State of the operator shall issue a specific approval for RVSM operations.

(7) Prior to granting the RVSM specific approval required in accordance with subregulation (6) (b), the Authority shall be satisfied that —

- (a) the vertical navigation performance capability of the aeroplane satisfies the requirements specified in Schedule 6;
- (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.
- (8) The State of the operator, in consultation with the State of Registry if appropriate, shall ensure that, in respect of those aircraft mentioned in subregulation (6), adequate provisions exist for —
- (a) receiving the reports of height-keeping performance issued by the monitoring agencies established in accordance with Civil Aviation (Air Traffic 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.
- (9) The State of the operator that has issued an RVSM specific approval to the operator shall establish a requirement which ensures that a minimum of two aeroplanes of each aircraft type grouping of the operator have their height-keeping performance monitored, at least once every two years or within intervals of 1 000 flight hours per aeroplane, whichever period is longer. If the operator aircraft type grouping consists of a single aeroplane, monitoring of that aeroplane shall be accomplished within the specified period.
- (10) Once an operator obtains RVSM operational approval, the operator shall contact monitoring agencies to arrange for an initial height monitoring flights within six months and make plans for long term monitoring, and ad hoc height monitoring flights may also be required in the interests of RVSM safety due to extraordinary circumstances.
- (11) An aeroplane shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the aeroplane to navigate in accordance with subregulation (1) and, where applicable, subregulations (2), (5) and (6).
- (12) On flights in which it is intended to land in instrument meteorological conditions, an aeroplane shall be provided with radio equipment capable of receiving signals providing guidance to a point from which a visual landing can be effected and capable of providing such guidance for each aerodrome at which it is intended to land in instrument meteorological conditions and for any designated alternate aerodromes.

Cap. 71:01  
(Sub. Leg.)

- 219.** (1) Any person who contravenes the provisions of these Regulations commits an offence and is liable to a fine not exceeding P5,000,000 or to imprisonment for a term not exceeding 10 years, or to both.
- (2) Where criminal proceedings are not authorised under subregulation (1), the Authority may impose an appropriate administrative penalty, as set out in Schedule 7 to these Regulations, on a person who —
- (a) hinders or obstructs an authorised officer, inspector or authorised person in the exercising of his or her powers or the performance of his or her duties;
  - (b) refuses or fails to give his or her name and address, or gives a false name or address when called upon to do so by an authorised officer, or inspector;
  - (c) obstructs or impedes another person from exercising any privilege, power or duty conferred on such other person by the Authority or under these Regulations;
  - (d) makes or causes to be made, orally or in writing —

Offences

- (i) a misleading or false statement for the purpose of obtaining any licence, rating, certificate, approval, authorisation, exemption or other document under these Regulations, or
  - (ii) a misleading or false entry in any logbook, record, record or report which is required to be kept or maintained under these Regulations;
  - (e) falsifies, counterfeits, alters, defaces or adds anything to, any licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations;
  - (f) does, causes or permits to be done, an act contrary to, or who fails to comply with any provision of these Regulations;
  - (g) exercises a privilege granted by, or uses any licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations, of which he or she is not the holder;
  - (h) unless otherwise authorised in these Regulations, permits a licence, rating, certificate, approval, authorisation, exemption or other document issued under these Regulations, of which he or she is the holder, to be or privileges thereof to be exercised by another person;
  - (i) commits an act by —
    - (i) interference with any flight crew member, air traffic controller or aircraft maintenance engineer,
    - (ii) tampering with any aircraft or any part thereof, or
    - (iii) disorderly conduct or otherwise, which is likely to endanger the safety of an aircraft or its occupants;
  - (j) enters in a place within the boundaries of a licensed aerodrome or heliport which is closed to the public, without the permission of an aerodrome or heliport operator;
  - (k) gives false information pertaining to the investigation of an aviation accident or incident; and
  - (l) operates or attempts to operate an aircraft in respect of which no valid certificate of registration or valid certificate of airworthiness is issued.
- (3) Where criminal proceedings are instituted, the administrative penalties for offences under subregulation (2) may be used as guide in determining the appropriate penalty.

Revocation of  
S.I. No. 31 of  
2013

**220.** The Civil Aviation (Aircraft Operations) Regulations are hereby revoked.

SCHEDULES  
SCHEDULE 1

**En Route Aerodrome-Extended Range Operations by Twin Engine Aeroplanes**

*(reg. (80 (2))*

<b>Planning Minima</b> <i>(RVR/visibility required &amp; ceiling, if applicable)</i>		
<b>Type of Approach</b>	<b>Aerodrome with;</b> at least two separate approach procedures based on two separate aids serving two separate runways	<b>Aerodrome with;</b> at least two separate approach procedures based on two separate aids serving one runway or, at least one approach procedure based on one aid serving one runway
<b>Precision Approach CAT I, III (Instrument Landing System, Microwave Landing System)</b>	Precision Approach CAT I Minima	Non-Precision Approach Minima
<b>Precision Approach CAT I (Instrument Landing System, Microwave Landing System)</b>	Non-Precision Approach Minima	Circling minima or, if not available, non-precision approach minima plus 60 m (200 ft)/1,000 m
<b>Non-Precision Approach</b>	The lower of non-precision approach minima plus 60 m (200 ft)/1,000 m or	The higher of non-precision approach minima plus 60 m (200 ft)/ 1,000 m or circling minima
<b>Circling Approach</b>	circling minima	Circling Minima

## SCHEDULE 2

**Cabin Crew Training Programme***(reg. 138 (3))*

The following sections provide the different types of training that should be provided, as a minimum, to cabin crew members —

**1. Initial Training**

Initial training is required for persons who have not previously operated as a cabin crew member. The goal of initial training is to ensure that each trainee acquires the competencies, knowledge and skills required to perform the duties and responsibilities related to the safety of passengers and flight during normal, abnormal and emergency situations. This is accomplished through classroom instruction and computer-based training (CBT) complemented by a series of hands-on and simulated exercises such as first aid and firefighting. Cabin crew trainees must complete initial training before they are assigned duties as cabin crew members. Initial training shall include, as a minimum —

- (a) aviation indoctrination;
- (b) aircraft visit;
- (c) familiarization flight;
- (d) duties and responsibilities;
- (e) normal, abnormal and emergency procedures;
- (f) aircraft type training;
- (g) dangerous goods;
- (h) human performance or Crew Resource Management;
- (i) cabin health and first aid; and
- (j) duties and responsibilities relating to aviation security.

**2. Aircraft Type Training**

Aircraft type training is required to gain a qualification on the aircraft model that the cabin crew member will be assigned on (e.g. ATR 42/72, E170 or A330). This training should include, but is not limited to, the following elements, if applicable to the particular aircraft —

- (a) aircraft description;
- (b) cabin configuration (number and distribution of cabin crew seats and number of passenger seats);
- (c) cabin layout (interior design, stowage compartments such as overhead bins, and closets, etc.);
- (d) galleys;
- (e) lavatories;
- (f) flight deck familiarization and egress;
- (g) crew rest areas (normal and emergency egress) and other remote areas;
- (h) exits (type, number, location and operation);
- (i) assisting evacuation means (slide, slide-raft, life raft, rope, etc.);
- (j) safety and emergency equipment, including location and operation;
- (k) aircraft systems relevant to cabin crew duties —
  - (i) air conditioning, ventilation, and pressurization systems,
  - (ii) communication systems and associated signalling panels,
  - (iii) control panels,
  - (iv) electrical system (galley, lavatory, in-flight entertainment system, in-seat electrical system, circuit breaker panels, etc.),

- (v) evacuation alarm system,
- (vi) fire prevention system,
- (vii) lighting system (interior, exterior and emergency lights),
- (viii) oxygen system (cabin and flight deck),
- (ix) smoke detection system and smoke removal, and
- (x) water and waste systems;
- (l) installed emergency locator transmitter;
- (m) normal procedures and the related hands-on and/or simulated exercises;
- (n) abnormal and emergency procedures and the related hands-on and/or simulated exercises; and
- (o) design-related elements that may impact on normal or emergency procedures (stairs, smoke curtain, social areas, non-forward-facing passenger seats, cargo areas if accessible from the passenger compartment during flight, etc.)

This training and the associated checking should be accomplished through classroom instruction, CBT as well as hands-on and simulated exercises with a representative training device capable of reproducing the appropriate environment/equipment characteristics, or on an actual aircraft. A minimum of ten flights is required.

### 3. Differences Training

Differences training is required to gain competence before the cabin crew member is assigned to duty on an aircraft that has differences from the model or series that the crew member is previously qualified on. Examples of different models include an ATR 42 500 vs ATR 72 500 Airbus A320 vs. A340 or a Boeing B737 vs. B777. Examples of different series include an ATR 72 500 vs ATR 72 600, B777-200 vs. B777-300 or an A330-200 vs. A330-300.

The training should include the following as a minimum, as applicable to the particular aircraft —

- (a) exits (type, number, location and operation);
- (b) assisting evacuation means (slide, slide-raft, life raft, rope, etc.);
- (c) safety and emergency equipment, including location and operation;
- (d) aircraft systems relevant to cabin crew duties;
- (e) normal procedures and the related hands-on and/or simulated exercises;
- (f) abnormal and emergency procedures and the related hands-on and/or simulated exercises; and
- (g) design-related elements that may impact on normal or emergency procedures (stairs, smoke curtain, social areas, non-forward-facing passenger seats, cargo areas if accessible from the passenger compartment during flight, etc.).

This training and the associated checking should be accomplished through classroom instruction, CBT, as well as hands-on and simulated exercises with a representative training device capable of reproducing the appropriate environment/equipment characteristics, or on an actual aircraft.

### 4. Aircraft Visit

The purpose of an aircraft visit is to familiarize each cabin crew member with the aircraft environment and its equipment. Each cabin crew trainee having no previous comparable operating experience should participate in a visit to an aircraft prior to participating on a familiarization flight. The visit is typically conducted on board a stationary aircraft. Aircraft visits should be conducted by suitably qualified persons and in accordance with a syllabus described in the operations manual. They should be conducted in accordance with national regulations, where applicable. The aircraft visit should provide an overview of the aircraft's exterior, interior and systems including the following, if applicable to the particular aircraft —

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- (a) cabin crew stations;
- (b) cabin layout (interior design, stowage compartments such as overhead bins, and closets, etc.);
- (c) galleys;
- (d) lavatories;
- (e) flight deck familiarization and egress;
- (f) crew rest areas and any other remote areas;
- (g) safety and emergency equipment;
- (h) exits (location and their environment);
- (i) assisting evacuation means (location and stowage);
- (j) aircraft systems relevant to cabin crew duties —
  - (i) communication systems and associated signalling panels,
  - (ii) control panels,
  - (iii) electrical system (galley, lavatory, in-flight entertainment system, in-seat electrical system, circuit breaker panels, etc.),
  - (iv) evacuation alarm system,
  - (v) fire prevention system,
  - (vi) lighting system (interior, exterior and emergency lights),
  - (vii) oxygen system (cabin and flight deck),
  - (viii) smoke detection system,
  - (ix) water and waste systems; and
- (k) cargo areas if accessible from the passenger compartment during flight.

### 5. Familiarization Flight

A familiarization flight is also referred to as “line indoctrination”. Each cabin crew trainee having no previous comparable operating experience should participate in a familiarization flight as described below. Familiarization flights should be conducted in accordance with national regulations, where applicable. The familiarization flight should be completed within a specified number of days of fulfilling the requirements of the ground-training portion of the operator’s training programme. A minimum of two flights is required.

During the familiarization flight, the cabin crew trainee should be additional to the minimum number of operating cabin crew members required by the Authority. The familiarization flight should be conducted under supervision. It should be structured and involve the cabin crew trainee in the participation of safety-related pre-flight, in-flight, pre-landing and post-flight duties. Familiarization flights should form part of the training record for each cabin crew member.

### 6. Recurrent Training

Recurrent training is conducted annually to ensure the maintenance of competencies, knowledge and skills through a series of hands-on exercises, simulated exercises, written exams, etc. for general training elements such as first-aid as well as for training elements relevant to each aircraft type on which the cabin crew member will be assigned duties. It may also be provided to familiarize crew members with new requirements, procedures or equipment introduced since their last training. Recurrent training ensures that cabin crew members, by practising most competencies and skills, maintain the level of performance required for their duties and responsibilities.

Recurrent training has a twelve months validity period counted from the end of the month when the check was taken (e.g., training and checking completed on 10th December, 2013, validity until 31st December, 2014). Recurrent training should include the following, as a minimum —

- (a) exits (type, number, location and operation);
- (b) assisting evacuation means (slide, slide-raft, life raft, rope, etc.);

- (c) safety and emergency equipment, including location and operation;
- (d) aircraft systems relevant to the cabin crew duties;
- (e) normal procedures and the related hands-on and/or simulated exercises;
- (f) abnormal and emergency procedures and the related hands-on or simulated exercises, including —
  - (i) firefighting (including a live firefighting exercise, as required by the Authority),
  - (ii) smoke removal,
  - (iii) decompression,
  - (iv) evacuation on land and on water (including a wet drill, as required by the Authority),
  - (v) flight and cabin crew member incapacitation, and
  - (vi) crew resource management;
- (g) passenger handling and crowd control;
- (h) aviation security procedures;
- (i) first aid;
- (j) dangerous goods; and
- (k) review of recent incidents or accidents pertinent to the operator.

This training and the associated checking should be accomplished through classroom instruction or CBT, and hands-on and simulated exercises with a representative training device capable of reproducing the appropriate environment/equipment characteristics, or on an actual aircraft.

## 7. Requalification Programmes

Requalification programmes should be defined for cabin crew members whose qualifications have expired for any reason (e.g. prolonged absence from flying duties), as part of the process to regain qualification enabling the cabin crew member to perform the required duties and responsibilities. This is determined based on the applicable validity periods, namely the time elapsed since the cabin crew member's last required training. The cabin crew member may need to follow a specific series of steps in order to regain qualification.

Requalification should be conducted in accordance with national regulations, where applicable. National regulations may require requalification based on different time frames or circumstances. The operator should establish a process, based on the applicable validity periods of the required training, to monitor when a cabin crew member's qualifications expire. The cabin crew member should complete the training required for requalification prior to being assigned as part of the operating crew. Depending on the period of time that elapses between this date and the date on which the cabin crew member attends training will determine what form of requalification requirements are necessary.

Each operator's training programme is approved by the Authority. Therefore, the amount and type of training required for requalification depend on the length of each training programme. This training and the associated checking should be accomplished through classroom instruction, or CBT, as well as hands-on and simulated exercises with a representative training device capable of reproducing the appropriate environment and the equipment characteristics, or on an actual aircraft. The validity of training expires on the first day of the month following the month in which the training was completed. Where training has expired, the Cabin crew member shall requalify as follows —

- (a) if a cabin crew member has not performed any flying duties during the preceding three months (90 days), a minimum of two flights under appropriate supervision is required; and
- (b) if a cabin crew member has not performed any flying duties during the preceding six months, refresher training is required. The last required training may be aircraft type specific or operator conversion training or recurrent training, as relevant to the cabin crew member's particular case. An operator may replace refresher training by recurrent training, in which case the twelve months validity period will count from that new completion date. An operator must ensure that refresher training is conducted by suitably qualified persons and, for each cabin crew member, includes at least the following —

- (i) emergency procedures including pilot incapacitation,
  - (ii) evacuation procedures including crowd control techniques,
  - (iii) the operation and actual opening of all normal and emergency exits for passenger evacuation in an aeroplane or representative training device,
  - (iv) demonstration of the operation of all other exits; and the location and handling of emergency equipment, including oxygen systems, and the donning of life jackets, portable oxygen and protective breathing equipment, or
  - (v) a minimum of two 2 flights under appropriate supervision by persons approved by the Authority;
- (c) if a period of 13 up to 24 months or part thereof has elapsed since the last required training, the Cabin crew member shall complete Annual Training and a minimum of four flights;
  - (d) if a period of 24 up to 36 months or part thereof has elapsed since the last required training and the Cabin crew member has three continuous years' experience with the air operator, the Cabin crew member shall complete Annual Training, Line Indoctrination and a minimum of ten 10 flights;
  - (e) if a period of 36 months or more has elapsed since the last required Annual Training and the Cabin crew member does not have three continuous years' experience with the air operator, the Cabin crew member shall complete Initial Training; and
  - (f) if a period of more than 36 months has elapsed since the last required Annual Training with the air operator, the Cabin crew member shall complete Initial Training.

## **8. In-Charge Cabin Crew Member Training**

### **8.1 Definition and Goal of In-Charge Cabin Crew Member Training**

The in-charge cabin crew member (also referred to as cabin leader, lead cabin crew member, on-board leader, senior cabin crew member, etc.) is a cabin crew leader who has overall responsibility for the conduct and coordination of cabin procedures applicable during normal operations and during abnormal and emergency situations for flights operated with more than one cabin crew member.

In multi-cabin crew operations, an in-charge cabin crew member should be designated by the operator. The in-charge cabin crew member has the responsibility to the flight crew for coordination of normal, abnormal and emergency procedures specified in the operations manual and for managing situations with the other cabin crew members. Prior to being designated as an in-charge cabin crew member, the following criteria should be met —

- (a) minimum experience considered acceptable to the Civil Aviation Authority; and
- (b) successful completion of the operator's in-charge cabin crew member training (as required by national regulations).

**Note:** Start-up operators should establish alternative minimum experience requirements acceptable to the Authority.

Completion of the operator's cabin crew training programme provides specialized competencies and skills relevant to becoming a qualified cabin crew member. In-charge cabin crew training is usually additional or enhanced training which is specific to the duties and responsibilities of a cabin crew member leader and provides him/her with the competencies and skills required to assume that role.

The training encompasses specific aspects of the operator's standard operating procedures, which are relevant to the in-charge cabin crew member. Since the scope of this manual is limited to safety training, aspects of service training are excluded from this chapter. The goal of this training is to enable the in-charge cabin crew member to carry out all the specific tasks that are assigned to him/her during day-to-day operations and normal, abnormal and emergency situations in order to participate in the safe operation of aircraft. This training includes the interactions with the flight and cabin crew, the management of the cabin environment and interfacing with other personnel, such as ground staff, law enforcement officers, airport security, medical personnel, etc. It also includes the completion of administrative tasks related to the cabin operations.

## **8.2 Content of In-Charge Cabin Crew Member Training**

Operators should develop a specific training programme for in-charge cabin crew members. The content of this training programme should be in accordance with national regulations, where applicable. It is highly recommended that operators make this training mandatory for any cabin crew member that is designated as in-charge cabin crew member. Overall, in-charge cabin crew member training should cover the following topics, to address the competencies specified in the ICAO competency frameworks: The training should cover as a minimum —

- (a) briefings (in normal, abnormal and emergency situations) taking due account of special circumstances of flights (e.g. weather forecast conditions, political turmoil at destination, special categories of passengers, etc.);
- (b) communication, cooperation and coordination with the crew and with other personnel;
- (c) operator's procedures and legal requirements;
- (d) administrative tasks required by the operator;
- (e) human performance;
- (f) reporting systems and requirements;
- (g) fatigue management; and
- (h) leadership skills.

## **8.3 In-Charge Cabin Crew Member – Recurrent Training**

Operators should ensure that in-charge cabin crew members maintain the required skills and remain proficient on the duties and responsibilities specific to that role. In order to achieve this goal, cabin crew members designated as in-charge cabin crew should receive recurrent training. The delivery methods used may vary: an operator may develop a standalone in-charge cabin crew member recurrent training programme or embed aspects of this programme as part of its recurrent training programme.

If the operator chooses to develop a standalone recurrent training programme specific for in-charge cabin crew members, this should be conducted in addition to the regular annual recurrent training required for all cabin crew. It is recommended that this training programme be provided annually. Where in-charge cabin crew member recurrent training is mandated by the Authority of the operator, it should be in accordance with national regulations. Training should address the following items —

- (a) communication, cooperation and coordination within the crew;
- (b) human performance;
- (c) reporting systems and requirements;
- (d) fatigue risk management;
- (e) leadership skills;
- (f) safety review/reinforcement (from sources such as SMS, audit feedback, etc.); and
- (g) operator procedural reminders and legal updates.

SCHEDULE 3  
CHECK PERSONNEL TRAINING  
(*reg. 150 (2)*)

**Training for Check Personnel – General**

1. No operator may use a person, nor may any person serve as a check person 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 and differences training, that are required to serve as PIC, flight engineer, cabin crewmember, or flight operations officer, as applicable.
2. Each AOC holder shall ensure that initial ground training for check personnel includes —
  - (a) check personnel 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, or
    - (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.
3. Transition ground training for all check personnel, 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 person is in transition.

**Training for Check Personnel of Flight Crew**

1. For check pilots, each AOC holder shall ensure that the initial and transition flight training includes —
  - (a) training and practice in conducting flight evaluations (from the left and right pilot seats for 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;
  - (c) the safety measures (to be taken from either pilot seat for check pilots) for emergency situations that are likely to develop during an evaluation.
2. For check flight engineers and check flight navigators, each AOC holder shall ensure training to ensure competence to perform assigned duties to include:
  - (a) the safety measures for emergency situations that are likely to develop during a check;  
or
  - (b) the potential results of improper, untimely or non-execution of safety measures during a check.
3. Each AOC holder shall ensure that the initial and transition flight training for check personnel (simulator) includes —
  - (a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the checks required by this part (this training and practice shall be accomplished in a flight simulation training device); or
  - (b) training in the operation of flight simulation training devices, to ensure competence to conduct the checks required by these Regulations.
4. An AOC holder may accomplish flight training for check personnel, in full or in part in an aircraft or in a flight simulation training device, as appropriate.

5. The AOC holder shall record the training in each individual's training record maintained by the AOC holder.

**Training for check cabin crew members**

For check cabin crewmembers, each AOC holder shall ensure that the training includes —

- (a) the safety measures for emergency situations that are likely to develop during a check;  
and
- (b) the potential results of improper, untimely or non-execution of safety measures during a check.

**Training for Check Flight Operations Officers**

1. For check flight operations officers, each AOC holder shall ensure that the training includes —

- (a) the safety measures for emergency situations that are likely to develop during a check;  
and
- (b) the potential results of improper, untimely or non-execution of safety measures during a check.

2. The AOC holder shall record the training in each individual's training record maintained by the AOC holder.

SCHEDULE 4

**Additional Requirements for Approved operations by Single-Engine turbine-Powered Aeroplanes at night or in Instrument Meteorological Conditions (IMC)**

*(reg. 181 (2) (f))*

**1. Turbine Engine Reliability**

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

1.2. To minimize the probability of in-flight engine failure, the engine shall be equipped with:

- (a) an ignition system that activates automatically, or is capable of being operated manually, for take-off and landing, and during flight, in visible moisture;
- (b) a magnetic particle detection or equivalent system that monitors the engine, accessories gearbox, and reduction gearbox, and which includes a flight deck caution indication; and
- (c) an emergency engine power control device that permits continuing operation of the engine through a sufficient power range to safely complete the flight in the event of any reasonably probable failure of the fuel control unit.

**2. Systems and Equipment**

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

- (a) two separate electrical generating systems, each one capable of supplying all probable combinations of continuous in-flight electrical loads for instruments, equipment and systems required at night or in IMC;
- (b) a radio altimeter;
- (c) an emergency electrical supply system of sufficient capacity and endurance, following loss of all generated power, to as a minimum —
  - (i) maintain the operation of all essential flight instruments, communication and navigation systems during a descent from the maximum certificated altitude in a glide configuration to the completion of a landing,
  - (ii) lower the flaps and landing gear, if applicable,
  - (iii) provide power to one pitot heater, which must serve an air speed indicator clearly visible to the pilot,
  - (iv) provide for operation of the landing light specified in paragraph 2.1 (j),
  - (v) provide for one engine restart, if applicable, and
  - (vi) provide for the operation of the radio altimeter;
- (d) two attitude indicators, powered from independent sources;
- (e) a means to provide for at least one attempt at engine re-start;
- (f) airborne weather radar;
- (g) a certified area navigation system capable of being programmed with the positions of aerodromes and safe forced landing areas, and providing instantly available track and distance information to those locations;
- (h) for passenger operations, passenger seats and mounts which meet dynamically-tested performance standards and which are fitted with a shoulder harness or a safety belt with a diagonal shoulder strap for each passenger seat;

- (i) in pressurized aeroplanes, sufficient supplemental oxygen for all occupants for descent following engine failure at the maximum glide performance from the maximum certificated altitude to an altitude at which supplemental oxygen is no longer required;
- (j) a landing light that is independent of the landing gear and is capable of adequately illuminating the touchdown area in a night forced landing; and
- (k) an engine fire warning system.

### **3. Minimum Equipment List**

The Authority shall require the minimum equipment list of the operator approved in accordance with these Regulations to specify the operating equipment required for night or IMC operations, and for day or VMC operations.

### **4. Flight Manual Information**

The flight manual shall include limitations, procedures, approval status and other information relevant to operations by single-engine turbine-powered aeroplanes at night and/or in IMC.

### **5. Event Reporting**

5.1 The operator approved for operations by single-engine turbine-powered aeroplanes at night or in IMC shall report all significant failures, malfunctions or defects to the Authority who in turn will notify the State of Design.

5.2 The Authority shall review the safety data and monitor the reliability information so as to be able to take any actions necessary to ensure that the intended safety level is achieved. The Authority will notify major events or trends of particular concern to the appropriate Type Certificate Holder and the State of Design.

### **6. Operator Planning**

6.1 Operator route planning shall take account of all relevant information in the assessment of intended routes or areas of operations, including the following:

- (a) the nature of the terrain to be overflown, including the potential for carrying out a safe forced landing in the event of an engine failure or major malfunction;
- (b) weather information, including seasonal and other adverse meteorological influences that may affect the flight; and
- (c) other criteria and limitations as specified by the State of the Operator.

6.2 The operator shall identify aerodromes or safe forced landing areas available for use in the event of engine failure, and the position of these shall be programmed into the area navigation system.

### **7. Flight Crew Experience – Training and Checking**

7.1 The Authority shall prescribe the minimum flight crew experience required for night or IMC operations by single-engine turbine-powered aeroplanes.

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

### **8. Route Limitations Over Water**

The State of the operator shall apply route limitation criteria for single-engine turbine-powered aeroplanes operating at night or in IMC on over water operations if beyond gliding distance from an area suitable for a safe forced landing or ditching having regard to the characteristics of the aeroplane, seasonal weather influences, including likely sea state and temperature, and the availability of search and rescue services.

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**9. Operator Certification or Validation**

The operator shall demonstrate the ability to conduct operations by single-engine turbine-powered aeroplanes at night or in IMC through a certification and approval process specified by the State of the operator.

## SCHEDULE 5

**Visual Meteorological Conditions***(reg. (193))*

<b>Airspace and VMC Minimums</b>		
Airspace	A****B C D E F.C  Above 900 m (3,000 ft) AMSL or above 300 m (1,000 ft) above terrain, whichever is greater At and below 900m (3,000 ft) AMSL or 300 m (1,000 ft) above terrain, whichever is higher.	
Distance from cloud	1,500 m horizontally 300m (1,000 ft) vertically	Clear of cloud and in sight of the surface
Flight Visibility	8km at and above 3,050m (10,000 ft) AMSL 5 km below 3,050m (10,000 ft) AMSL)	5km **
<p>*When the height of the transition altitude is lower than 3,050 m (10,000 ft) AMSL, FL 100 should be used in lieu of 10,000 ft.</p> <p>**When so prescribed by the appropriate ATC Authority;</p> <p>Lower flight visibilities to 1,500 m may be permitted for flight operating:</p> <p>At speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacle in time to avoid collision; or</p> <p>In circumstances in which the probability of encounters with other traffic would normally be low, e.g in areas of low volume traffic and for aerial work at low levels.</p> <p>Helicopters may be permitted to operate in less than 1,500 m flight visibility, if manoeuvred at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.</p> <p>***The VMC minima in Class A airspace are included for guidance to pilots and do not imply acceptance of VFR flights in Class A airspace.</p>		

## SCHEDULE 6

**Altimetry System Performance Requirements for Operations In RVSM Airspace***(reg. 218 (7) (a))*

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.

## SCHEDULE 7

**Administrative Penalties***(reg. 219 (2))*

(1) The administrative penalties, in respect of the offences under regulation 219 (2), shall apply to an individual as indicated in Table A.

TABLE A

<b>PENALTIES APPLICABLE TO AN INDIVIDUAL</b>			
<i>Regulation</i>	<i>1st offence</i>	<i>2nd offence</i>	<i>Subsequent offence</i>
219 (2) (a)	P 5,000	P 10,000	P 15,000
219 (2) (b)	P 5,000	P 10,000	P 15,000
219 (2) (c)	P 5,000	P 10,000	P 15,000
219 (2) (d)	P 15,000	P 20,000	P 25,000
219 (2) (e)	P 10,000	P 20,000	P 30,000
219 (2) (f)	P 10,000	P 20,000	P 30,000
219 (2) (g)	P 10,000	P 20,000	P 30,000
219 (2) (h)	P 10,000	P 20,000	P 30,000
219 (2) (i)	P 5,000	P 10,000	P 15,000
219 (2) (j)	P 10,000	P 20,000	P 30,000
219 (2) (k)	P 5,000	P 10,000	P 15,000
219 (2) (l)	P 10,000	P 20,000	P 30,000

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(2) The administrative penalties, in respect of the offences under regulation 219 (2), shall apply to an organisation as indicated in Table B.

TABLE B

<b>PENALTIES APPLICABLE TO AN ORGANISATION</b>			
<i>Regulation</i>	<i>1st offence</i>	<i>2nd offence</i>	<i>Subsequent offence</i>
219 (2) (a)	P 15,000	P 30,000	P 50,000
219 (2) (b)	P 15,000	P 30,000	P 50,000
219 (2) (c)	P 15,000	P 30,000	P 50,000
219 (2) (d)	P 15,000	P 30,000	P 50,000
219 (2) (e)	P 25,000	P 40,000	P 60,000
219 (2) (f)	P 25,000	P 50,000	P 80,000
219 (2) (g)	P 25,000	P 50,000	P 80,000
219 (2) (h)	P 35,000	P 60,000	P 100,000
219 (2) (i)	P 5,000	P 10,000	P 15,000
219 (2) (j)	P 25,000	P 50,000	P 120,000
219 (2) (k)	P 15,000	P 30,000	P 80,000
219 (2) (l)	P 35,000	P 60,000	P 120,000

MADE this 6th day of April, 2022.

THULAGANO SEGOKGO,  
*Minister of Transport and Communications.*