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PART I
PRELIMINARY

Title

1. These regulations may be cited as the Civil Aviation (Aircraft Operations) Regulations, 2018.

Interpretation

2. In these regulations, unless the context otherwise directs—

“Accelerate-stop Distance Available (ASDA)” means the length of the take-off run available plus the length of stop-way if provided;

“aerial work” means an aircraft operation in which an aircraft is used for services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue, aerial advertisement and other specialised services;

“aerodrome” means 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;

“aerodrome operating minima” means the limits of usability of an aerodrome for—

(a) take-off, expressed in terms of runway visual range or visibility or both and, if necessary, cloud conditions;
(b) landing in 2D instrument approach operations, expressed in terms of visibility or runway visual range or both, minimum descent altitude or height (MDA/H) and, if necessary, cloud conditions; and
(c) landing in 3D instrument approach operations, expressed in terms of visibility or runway visual range or both and decision altitude or height (DA/H) as appropriate to the type or category of the operation or both;

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

“aeronautical product” means any aircraft, aircraft engine, propeller, or subassembly;

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

“aircraft” has the meaning given to it in the Act;

“aircraft operating manual” means a manual, acceptable to the State of the Operator, 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;

“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 aircraft and an obstruction; and
(b) expediting and maintaining an orderly flow of air traffic;

“air traffic control unit” means—

(a) an area control centre;
(b) an approach control unit; or
(c) an aerodrome control tower;

“air traffic service” means—

(a) a flight information service;
(b) an alerting service;
(c) an air traffic advisory service; or
(d) an air traffic control service;
“airworthy” means the status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe 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 which is an alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;

(b) en-route alternate which is an alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route;

(c) destination alternate which is an alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing;

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

“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;

“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;

“Class 1 Electronic Flight Bag (EFB)” means an electronic flight bag which—

(a) is not mounted to the aircraft, connected to aircraft systems for data, or connected to a dedicated aircraft power supply;

(b) can be temporarily connected to an existing aircraft power supply for battery recharging;

“Class 1 Electronic Flight Bag Hardware” means portable commercial off-the-shelf (COTS) based computers, considered to be portable electronic devices (PED) with no Federal Aviation Administration (FAA) or European Aviation Safety Agency (EASA) design, production, or installation approval for the device and its internal components;

“Class 2 Electronic Flight Bag (EFB)” means an electronic flight bag which—

(a) is typically mounted;

(b) can be temporarily connected to an existing aircraft power supply for battery recharging;

“Class 2 Electronic Flight Bag Hardware” means portable COTS-based computers, considered to be portable electronic device with no Federal Aviation Administration (FAA) or European Aviation Safety Agency (EASA) design, production, or installation approval for the device and its internal components;

“Class 3 Electronic Flight Bag Hardware” means an Electronic Flight Bag installed in accordance with applicable airworthiness regulations;

“Class A aeroplanes” means multi-engine aeroplanes powered by turbo-propeller engines with a maximum certificated mass exceeding 5,700 kilograms; and or multi-engine turbojet-powered aeroplanes;

“Class B aeroplanes” means propeller-driven aeroplanes, other than single-engine aeroplanes, with a maximum certificated mass of 5,700 kilograms or less;

“Class C aeroplanes” means aeroplanes powered by two or more reciprocating engines with a maximum certificated mass exceeding 5,700 kilograms;

“Class D aeroplanes” means single-engine aeroplanes;

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

“Configuration Deviation List (CDL)” means a list established by the organization responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction;
“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 program designed to improve the safety of flight operations by optimising the safe, efficient and effective use of human resources, hardware and information through improved crew communication and co-ordination;

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

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

“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;

“cruising level” means a level maintained during a significant portion of a flight;

“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 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, for example, flight duty, administrative work, training, positioning and standby when it is likely to induce fatigue;

“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;

“Electronic Flight Bag (EFB)” means an electronic display system intended primarily for flight deck use that includes the hardware and software necessary to support an intended function and can display a variety of aviation data or perform basic calculations;

“Electronic Flight Bag Administrator” means the person appointed by the operator, held responsible for the administration of the Electronic Flight Bag system within the company who is —

(a) the primary link between the operator and the Electronic Flight Bag system and software suppliers; and

(b) overall in charge of the Electronic Flight Bag system;

(c) responsible for ensuring that any hardware conforms to the required specification; and that no unauthorised software is installed;

(d) responsible for ensuring that only the current version of the application software and data packages are installed on the Electronic Flight Bag system;

“Electronic Flight Bag System” includes the hardware and software needed to support an intended function;

“Emergency Locator Transmitter (ELT)” means a generic term describing equipment which broadcasts distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated and includes the following —

(a) automatic fixed Emergency Locator Transmitter (ELT(AF)) which is an automatically activated emergency locator transmitter which is permanently attached to an aircraft;

(b) automatic portable Emergency Locator Transmitter (ELT(AP)) which is an automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft;

(c) automatic deployable Emergency Locator Transmitter (ELT(AD)) which is an emergency locator transmitter 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;

(d) survival Emergency Locator Transmitter (ELT(S)) which is an emergency locator transmitter which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors;
“engine” means a unit used or intended to be used for aircraft propulsion which consists of at least those components and equipment necessary for functioning and control, but excludes the propeller or rotors;

“examiner” means any person authorised by the Authority to conduct—
(a) a proficiency test, or
(b) a practical test for a licence or rating; or
(c) a knowledge test under these regulations;

“extended diversion time operations critical fuel” means the fuel quantity necessary to fly to an en-route alternate aerodrome considering—
(a) the most critical point on the route; and
(b) the most limiting system failure;

“extended diversion time operations significant system” means an aeroplane system whose failure or degradation could adversely affect the safety particular to an extended diversion time operations flight, or whose continued functioning is specifically important to the safe flight and landing of an aeroplane during an extended diversion time operations diversion;

“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 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, suitably qualified in accordance with the law relating to personnel licensing, who supports, briefs and 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 time” means, for—
(a) 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;
(c) for airships or free balloons means the total time from the moment an airship or free balloon first becomes detached from the surface to the moment when it next becomes attached thereto or comes to rest thereon; “general aviation operation” means an aircraft operation other than a commercial air transport services or an aerial work operation;
“flight simulation training device” means any one of the following three types of apparatus in which flight conditions are simulated on the ground —

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

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

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

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

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

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

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

“hosted application” means a software running on an Electronic Flight Bag that is not installed or considered part of aircraft type design;

“human factor principle” means aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance;

“human performance” refers to human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations;

“instrument approach operations” means an approach and landing using instruments for navigation guidance based on an instrument approach procedure which includes —

(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; that is provided by —

(i) a ground-based radio navigation aid; or

(ii) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these;

“lateral and vertical navigation guidance” means the guidance provided either by —

(a) a ground-based radio navigation aid; or

(b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these;

“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.

“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;

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

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

“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” means an aeroplane of a maximum certificated take-off mass of over 5 700 kg;

“maintenance” refers to the performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair;

“Maintenance Organisation’s Procedures Manual” is a document endorsed by the head of the maintenance organisation which details the maintenance organisation’s structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems;

“Maintenance Programme” is 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 Certificate” 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 approved data and the procedures described in the maintenance organisation’s procedures manual or under an equivalent system;

“maximum diversion time” refers to maximum allowable range, expressed in time, from a point on a route to an en-route alternate aerodrome;

“maximum mass” means maximum certificated take-off mass;

“Minimum Descent Altitude (MDA)” means a specified altitude in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference, referenced to mean sea level;

“Minimum Descent Height (MDH)” means a specified height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference referenced to aerodrome elevation or runway threshold if the runway threshold is more than two metres (7ft) below the aerodrome elevation;

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

“mounting device” means devices that may—

(a) include arm-mounted, cradle, or docking-stations, etc.; or
(b) have ship’s power and data connectivity; or
(c) require quick-disconnect for egress;

“night” are the hours between sunset and sunrise or as may be prescribed by the appropriate authority;

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

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

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

“operations specifications” refers to the authorisations, 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;

“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)” refers to area navigation based on performance requirements for aircraft operating along an air traffic service route, on an instrument approach procedure or in a designated airspace;

“performance class 1 helicopter” a helicopter with performance such that, in case of critical power unit failure, the helicopter is able to safely continue the flight to an appropriate landing, unless the failure occurs prior to reaching the take-off decision point or after passing the landing decision point, in which cases the helicopter must be able to land within the rejected take-off or landing area;

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

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

“Pilot-in-Command (PIC)” means the pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe operation of a flight;

“point of no return” refers to the last possible geographic point at which an aircraft can proceed to the 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;

“precomposed information” means information previously composed into a static, composed state (non-interactive) that is contained in composed displays which has consistent, defined, and verifiable content, and formats that are fixed in composition;

“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” refers to alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded;

“publish” with reference to civil aviation requirements includes aeronautical information as contained in the aeronautical information publication or any other mode of communication that maybe developed by the applicable Authority from time to time;

“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;

“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;

“repair” means a design change to an aeronautical product intended to restore it to an airworthy condition and to ensure that the aircraft continues to comply with the design aspects of the airworthiness requirements used for the issuance of a Type certificate for the aircraft type after it has been damaged or subjected to wear;

“rest period” means a continuous, uninterrupted and defined period of time, following duty or prior to duty, during which a crew member is free of all duties, standby and reserve;

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

“safe forced landing” is 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, policies and procedures;

“small aeroplane” means an aeroplane of a maximum certificated take-off mass of 5 700 kg or less;

“special airworthiness certificate” means an experimental certificate, special flight permit and a restricted category certificate of airworthiness;

“State of Operator” means the State in which the operator’s principal place of business is located, or if there is no such business, the operator’s permanent place of residence;

“State of Registry” means the State on whose register the aircraft is entered;

“stowed” means a portable device that is placed in a secure stowage location but is not available for use or view by the pilot in that location;

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

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

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

“threshold time” means the range, expressed in time, established by the State of the Operator, to an en-route alternate aerodrome, whereby any time beyond requires an Extended Diversion Time Operation approval from the State of the Operator;

“Type A software applications” means paper replacement applications primarily intended for use during flight planning, on the ground, or during noncritical phases of flight;

“Type B Software Applications” means paper replacement applications that provide the aeronautical information required to be accessible for each flight at the pilot station and are primarily intended for use during flight planning and all phases of flight and includes miscellaneous, non-required applications (e.g., aircraft cabin and exterior surveillance video displays, maintenance applications);

“Type C Software Applications” means software approved by the Authority and is non-EFB software applications found in avionics and include intended functions for Communications, navigation, and surveillance that require Federal Aviation Administration (FAA) or European Aviation Safety Agency (EASA) design, production, and installation approval;

“viewable stowage” means a portable device that is secured in an existing provision with the intended function to hold charts or acceptable portable device viewable to the pilot (e.g., kneeboards);

“Visual Meteorological Conditions (VMC)” means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima;

“V1” means a take-off decision speed;

“Vmo” means a maximum operating speed;

“Vso” means a stalling speed or the minimum steady flight speed in landing configuration;

“6.9 Vso” means the number of feet per minute obtained by multiplying the aircraft’s minimum steady flight speed by 6.9.

PART II

GENERAL OPERATIONS REQUIREMENTS FOR AIRCRAFT OPERATIONS

Registration markings

3. No person shall operate an aircraft registered in Zimbabwe unless the aircraft displays proper markings prescribed in the applicable Civil Aviation Aircraft Registration and Markings Regulations.
Civil Aviation (Aircraft Operations) Regulations, 2018

Civil aircraft airworthiness

4. (1) No person shall operate an aircraft unless the aircraft is airworthy.

(2) Subject to subsection (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 airworthiness certificate operational restrictions

5. No person shall operate an aircraft with a special certificate of airworthiness except as provided in the conditions issued with the certificate.

Aircraft instruments and equipment

6. No person shall operate an aircraft unless—
   (a) it is equipped with instruments and equipment appropriate to the type of operation conducted and the route being flown; and
   (b) it is in compliance with the requirements of applicable Civil Aviation Equipment and Instruments Regulations.

Inoperative instruments and equipment

7. (1) No person may take-off in an aircraft with inoperative instruments or equipment installed, except as authorised by the Authority.

(2) No person shall 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) the aircraft is dispatched in accordance with an approved minimum equipment list for that aircraft; and
   (b) the Authority has issued operations specifications authorising operations in accordance with an approved minimum equipment list; and
   (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; and
   (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 approved 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 where such instruments and equipment are—
   (a) determined by the pilot-in-command that their absence is not a hazard to safe operation; and
   (b) deactivated and placarded “inoperative”; or
   (c) removed from the aircraft cockpit control, placarded and the maintenance recorded in accordance with the applicable Civil Aviation Airworthiness Regulations.

(4) The inoperative instruments and equipment referred to in subsection (1) shall not be—
   (a) part of the visual flight rules day instruments; or
   (b) required on the aircraft’s minimum equipment list; or
   (c) required by the applicable Civil Aviation Equipment and Instrument Regulations; or
   (d) required for the specific kind of flight operation being conducted; or
   (e) required to be operational by an Airworthiness Directive issued by the Authority; or
   (f) required by the certification airworthiness requirements which are essential for safe operations under all operating conditions.
(5) The operator, where deactivation of the inoperative instrument or equipment involves maintenance, shall record such maintenance in accordance with the applicable airworthiness regulations.

(6) Notwithstanding subsection (4), an aircraft with inoperative instruments or equipment may be operated under a special flight permit issued under the applicable airworthiness regulations.

Civil aircraft flight manual, marking and placard requirements

8. (1) No person shall operate a Zimbabwe registered aircraft unless there is available in the aircraft—
   (a) a current, approved aeroplane or rotorcraft flight manual; and
   (b) the operator’s operations manual approved by the Authority; or
   (c) where no aeroplane or rotorcraft flight manual exits, markings and placards, or any combination which provide the pilot-in-command with the necessary limitations for safe operation.

(2) No person shall operate an aircraft within or over Zimbabwe without complying with the operating limitations—
   (a) specified in the approved aeroplane or rotorcraft flight manual;
   (b) specified in the approved markings and placards where no aeroplane or rotorcraft flight manual exists; or
   (c) prescribed by the aircraft’s state of registry.

(3) An operator shall display in the aircraft all placards, listings, instrument markings or combination thereof, containing those operating limitations prescribed by the aircraft’s state of registry for visual presentation.

(4) An operator shall update an aeroplane or rotorcraft flight manual by implementing changes made mandatory by the State of Registry.

Required aircraft and equipment inspections

9. (1) No operator shall operate a Zimbabwe aircraft unless—
   (a) an annual inspection within the preceding 12 months has been conducted; or
   (b) a 100 hour inspection has been conducted; or
   (c) progressive or continuous airworthiness maintenance program approved by the Authority is being followed; and
   (d) an altimeter and pitot-static system inspection within the preceding 12 months has been conducted; and
   (e) a transponder check within the preceding 12 months for transponder equipped aircraft has been conducted; and
   (f) an emergency locator transmitter check within the preceding 12 months for emergency locator transmitter-equipped aircraft has been conducted; or
   (g) Authority approval has been granted.

(2) An operator whose aircraft is maintained under a maintenance and inspection programme approved by the Authority may not be required to have a current annual or a 100-hour inspection in its maintenance records.

Documents to be carried on aircraft—all operations

10. (1) No person shall fly an aircraft unless there is on board aircraft documents which are required to be carried in an aircraft under these regulations.

(2) The documents to be carried on board a flight providing an air transport service are—
   (a) Aircraft Radio Licence; and
   (b) the certificate of airworthiness in force in respect of the aircraft; and
   (c) the licences and certificates for crew members of the aircraft; and
   (d) copy of mass and balance documentation, if any, required with respect to the flight; and
   (e) copy of the certificate of release to service, if any, in force with respect to the aircraft; and
   (f) technical logbook required by these regulations; and
(g) operations manual, if any, required by these regulations to be carried on the flight; and
(h) aircraft certificate of registration; and
(i) aircraft journey logbook; and
(j) a list of passenger names and points of embarkation and disembarkation; and
(k) cargo manifest, including special loads information; and
(l) a copy of the air operator certificate and the associated operations specifications; and
(m) a noise certificate, if required; and
(n) aeroplane or rotorcraft flight manual; and
(o) a minimum equipment list; and
(p) operational flight plan; and
(q) a filed notice to air men's briefing documentation; and
(r) meteorological information; and
(s) maps and charts required for the flight and possible diversions; and
(t) forms for complying with the reporting requirements of the Authority and the air operator certificate holder; and
(u) list of special situation passengers; and
(v) a filed air traffic control flight plan; and
(w) search and rescue information or any other document which may be required by the Authority or States concerned with a flight.

(3) The documents to be carried on board a flight for international commercial air transport are—
   (a) the documents specified in subsection (2); and
   (b) a copy of procedure to be followed by pilot-in-command of an intercepted aircraft and the visual signals for use by intercepting and intercepted aircraft; and
   (c) general declaration.

(4) The documents to be carried on board a flight providing aerial work operations are—
   (a) radio licence; and
   (b) certificate of airworthiness; and
   (c) licences and certificates of flight crew members of the aircraft; and
   (d) technical logbook required by these regulations; and
   (e) copy of the certificate of release to service, if any, in force with respect to the aircraft; and
   (f) aircraft certificate of registration; and
   (g) a copy of air operator certificate and associated operations specifications; or
   (h) any other document required by the Authority.

(5) The documents to be carried on board a flight over a territory of any country other than Zimbabwe for the purpose of aerial work includes the documents specified in subsections (3) and (4);

(6) The documents to be carried on board a flight over a territory of any country other than Zimbabwe for the purpose of general aviation includes—
   (a) aircraft radio licence;
   (b) the certificate of airworthiness in force in respect of the aircraft;
   (c) the licences of aircraft flight crew members;
   (d) a certificate of registration;
   (e) a copy of notified procedure to be followed by pilot-in-command of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft;
   (f) a journey logbook;
   (g) if it carries passengers, a list of names, places of embarkation and destination; and
(h) if it carries cargo, a manifest and detailed declarations of the cargo;
(i) air operator certificate and associated operations specifications or any other document required by the Authority.

(7) The documents to be carried on board a flight for the purpose of a general aviation flight within Zimbabwe includes—

(a) the licence in force in respect of the aircraft radio station installed in the aircraft; and
(b) certificate of airworthiness in force in respect of the aircraft; and
(c) licences and certificates of flight crew members of the aircraft; and
(d) copy of the certificate of release to service, if any, in force with respect to the aircraft; and
(e) aircraft’s certificate of registration; and
(f) a noise certificate, if required; and
(g) the aeroplane or rotorcraft flight manual; and
(h) a category II or III operations manual, as applicable; and
(i) a filed notice to air men briefing documentation; and
(j) the forms for complying with reporting requirements of the Authority; and
(k) the filed air traffic control flight plan; and
(l) air operator certificate and associated operations specifications or any other document required by the Authority.

Production of documents

11. (1) The owner or operator shall, after being requested to do so by the Authority, produce for examination—

(a) aircraft radio licence;
(b) certificate of airworthiness in force in respect of the aircraft;
(c) certificate of registration in force with respect to the aircraft;
(d) aircraft logbook, engine logbooks and variable pitch propeller logbooks required to be kept under these regulations;
(e) 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;
(g) operations manuals or other data required to be made available under these regulations;
(h) the record made by any flight recorder installed under the applicable Civil Aviation Equipment and Instrument regulations;
(i) 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.

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

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

(a) keep such records for a period of not less than two years after the date of the last entry therein; and

(b) produce it or cause to be produced to the Authority immediately, and in any case not later than seven days after being requested to do so.

(4) A person who refuses to have his or her licence, certificate or any record specified in subsection (1) inspected by the Authority shall have his or her licence or certificate suspended or revoked.
Preservation of records

12. (1) Subject to section (11) (3), 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 an operator of the aircraft, continue to preserve the documents or records as if he or she has not ceased to be an operator.

(2) Subject to subsection (1) and in the event of death of a person required by these regulations to preserve the documents or records, his or her representative shall produce such records to the Authority upon request.

(3) An operator or his or her representative, in the event of someone becoming a new operator, shall deliver, or cause to be delivered to that person upon demand—

(a) the certificate of release to service; and
(b) the logbooks; and
(c) the mass and balance schedule; and
(d) any record made by a flight recorder and—
   (i) preserved in accordance with these regulations; or
   (ii) required to be preserved in respect of that aircraft;

and
(e) any other record required by the Authority.

(4) An operator or his or her representative shall deliver—

(a) log books relating to engine or variable pitch propeller that has been removed from the aircraft and installed in another aircraft operated by another person, to such person;

(b) any person’s records that he or she has been keeping in accordance with these regulations to such person upon demand if that person becomes a flight crew member of an aircraft registered in Zimbabwe, engaged in air transport services in Zimbabwe and operated by another person.

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

PART III

AIRCRAFT MAINTENANCE AND INSPECTION REQUIREMENTS

Aircraft maintenance requirements

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

(2) No owner or operator shall perform any maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in the applicable airworthiness and aircraft operations regulations.

(3) No operator shall operate an aircraft for which a manufacturer’s maintenance manual or instructions for continued airworthiness, has been issued that contains an airworthiness limitations section, unless the following are complied with—

(a) the mandatory replacement times, inspection intervals and related procedures set out in Operations Specifications approved by the Authority; or

(b) an inspection programme approved in accordance with applicable airworthiness regulations.

(4) The owner or operator shall use one of the following inspection programmes as appropriate for the aircraft and the type operation—

(a) annual or 100-hour inspection, whichever comes first; or

(b) progressive; or

(c) continuous airworthiness maintenance program.

(5) No aircraft shall be approved for return to service after inspection unless—

(a) the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with; and
(b) the aircraft, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with the selected inspection program.

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

(a) instructions and procedures for the conduct of inspection for the particular make and model aircraft, including necessary tests and checks;

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

(7) The instructions referred to in subsection (6) (a) shall set forth in detail the parts and areas of the aeronautical products, including survival and emergency equipment required to be inspected.

(8) Upon changing from one inspection program to another, the operator shall apply the time in service, calendar times, or cycles of operation accumulated under the previous programme, in determining when the inspection is due under the new programme.

Annual inspections

14. (1) An operator may use an annual inspection programme for non-complex aircraft with a maximum certificated take-off mass of less than 5700 kg that is not used for reward or hire.

(2) An annual inspection referred to in subsection (1) may be performed by an Aircraft Maintenance Organisation holding an approval in accordance with applicable Airworthiness Regulations.

(3) No person may operate an aircraft which is under the annual inspection programme unless, within the preceding 12 calendar-months, the aircraft has had—

(a) an annual inspection carried out in accordance with applicable Civil Aviation Airworthiness Regulations and has been approved for return to service by an approved aircraft maintenance organisation;

(b) an inspection for the issuance of an airworthiness certificate shall be completed by an approved aircraft maintenance organisation.

Annual or 100-hour inspections

15. (1) An operator may operate or give flight instruction for compensation or hire in an a non-complex aircraft with a certificated maximum take-off mass less than 5700 kg provided—

(a) within the preceding 100 hours of time in service the aircraft has received an annual or a 100-hour inspection, and

(b) been approved for return to service in accordance with the applicable Civil Aviation Airworthiness Regulations.

(2) The operator may exceed the 100-hour limitation by not more than 10 hours while en route to reach a place where the inspection can be done and the excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service.

(3) An annual inspection under this section may be performed and released to service by an Approved Aircraft Maintenance Organisation approved in accordance with the applicable Civil Aviation Airworthiness Regulations.

(4) A 100-hour inspection under this paragraph may be performed and released to service by an Approved Aircraft Maintenance Organisation approved in accordance with applicable Civil Aviation Airworthiness Regulations.

Maintenance required

16. An owner or operator of an aircraft shall—

(a) have an aircraft inspected, 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, 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.

**Progressive inspection**

17. (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—

(a) identify the following to supervise or conduct the progressive inspection—
   (i) an Approved Maintenance Organisation appropriately rated in accordance with the Civil Aviation Airworthiness Regulations; or
   (ii) 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 flying time, calendar time and flight cycles 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; and
   (iv) sample reports and records and instructions;

(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 subsection (1) shall provide for the complete inspection of the aircraft within each 12 months period and be consistent with the current manufacturer’s recommendations, field service experience, and the kind of operation in which the aircraft is engaged.

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

(4) The owner or operator shall, in the event of the progressive inspection being discontinued, immediately notify the Authority, in writing, of the discontinuance and—

(a) after the discontinuance, the first annual inspection under these regulations will be due within 12 calendar-months after the last complete inspection of the aircraft under the progressive inspection;

(b) the 100-hour inspection will be due within 100 hours of any previous complete inspection;

(c) a complete inspection of the aircraft, for the purpose of determining when the annual and 100 hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection:

Provided that a routine inspection of the aircraft and a detailed inspection of several components will not be considered to be a complete inspection.

(5) 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.
(6) Each owner or operator shall include in the inspection 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 aircraft.

(7) 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.

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

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

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

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

Changes to aircraft maintenance programmes

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

(2) An owner or operator of an aircraft may petition the Authority to reconsider the requirements contained in the notification referred to in subsection (1), within 30 days after receiving such notification.

(3) The Authority shall take no action until it is able to make a final decision on the petition referred to in subsection (2) to reconsider the notification as submitted by the operator to the Authority except in the case of an emergency requiring immediate action in the interest of safety made in terms of applicable Civil Aviation General Procedures and Policies.

Maintenance records

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

(a) the entire aircraft, which includes—

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

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

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

(iv) any addition or removal of equipment;

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

(vi) when maintenance was performed; and

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

(b) the life-limited products, which include—

(i) the total time in service; and

(ii) the date of the last overhaul; and

(iii) the time in service since the last overhaul; and

(iv) the date of the last inspection;

(c) the instruments and equipment, the serviceability and operating life of which are determined by their time in service, which include—
(i) the records of the time in service as are necessary to determine their serviceability or to compute their operating life; and
(ii) the date of last inspection.

**Maintenance and inspection records retention**

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

(a) records of the maintenance, preventive maintenance, minor modifications, and records of the 100 hour, annual, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft which include—

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

(b) records containing the following information—

   (i) the total time-in-service of the airframe, each engine and each propeller;
   (ii) the current status of all life-limited aircraft parts or aeronautical product;
   (iii) the time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis;
   (iv) the current inspection status of the aircraft, including the time since the last inspection required by the inspection programme under which the aircraft and its appliances are maintained;
   (v) the current status of applicable airworthiness documents 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 upon lease or sale of aircraft**

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

**PART IV**

**FLIGHT CREW REQUIREMENTS**

**Composition of flight crew**

22. (1) No person shall operate a Zimbabwe registered aircraft unless—

(a) the composition of the flight crew is not less than that specified in the—

   (i) flight manual; or
   (ii) other documents associated with the airworthiness certificate;

(b) the number and composition of the flight crew used for commercial air transport services, is not less than the number specified in the operator’s operations manual.

(2) The operator shall include additional flight crew members in addition to the minimum number in subsection (1) when necessitated by considerations related to—

(a) the type of aircraft used; or

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(b) the type of operation involved; or
(c) the duration of flight between points where flight crew members are changed.

(3) An operator of a Zimbabwe registered aircraft with a maximum mass of 5 700kg or more, providing
air transport, shall have not less than two pilots as members of the flight crew.

(4) Without prejudice to the preceding provisions of these regulations, an operator shall ensure that—
(a) all flight crew members—
   (i) hold an applicable and valid licence acceptable to the Authority; and
   (ii) 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) a qualified pilot is designated as the pilot-in-command who may delegate the conduct of the flight
to another suitably qualified pilot.

Flight crew qualifications

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

(2) No person shall operate an aircraft in air transport service or aerial work unless the person is qualified
for the specific service and in the specific type of aircraft used.

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

Pilot authorisation in lieu of type rating

24. (1) The Authority may authorise a pilot to operate an aircraft requiring a type rating without a type
rating for a period not exceeding 60 days provided that—
(a) the pilot has demonstrated to the satisfaction of the Authority that an equivalent level of safety
may be achieved through the operating limitations on the authorisation;
(b) the pilot shows that compliance with these regulations is impracticable for the flight or series of
flights;
(c) the operations—
   (i) involve —
       A. only a ferry flight; or
       B. training to qualify on type; or
       C. test flight; or
       D. skills test for a pilot licence or rating issuance;
   and
   (ii) are within Zimbabwe, unless, by agreement with the Authority of the other State; and
   (iii) are not for compensation or hire unless the reward or hire involves payment for the use of
the aircraft for training or taking a skill test; and
   (iv) involve only the carriage of crew members considered essential for the flight.

(2) The Authority may authorise an additional period if the purpose of the authorisation provided by
subsection (1) cannot be accomplished within the time limit of the authorisation.

Licences required

25. (1) No person shall act as pilot-in-command or in any other capacity as a required flight crew
member of a—
(a) Zimbabwe aircraft, unless the person carries in his or her possession, the appropriate and current
licence for the flight crew position for that type of aircraft issued by the Authority; or
(a) foreign aircraft, unless the person carries in his or her personal possession a valid and current
licence for that type of aircraft issued by the State of Registry.
(2) The flight crew for domestic and international air transport service shall hold a valid radio telephony operator licence or endorsement issued or rendered valid by the State of Registry, authorising operation of the type of radio transmitting equipment fitted in the aircraft.

**Rating required for instrument flight rules operations**

26. No person shall act as a pilot-in-command of an aircraft under instrument flight rules or instrument meteorological conditions unless—

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

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

**Special authorisation required for Category II or III operations**

27. (1) No person shall act as a pilot of an aircraft in a Category II or III operation unless—

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

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

(2) Notwithstanding subsection (1), an authorisation is not required for an individual pilot of an operator who has operations specifications approving Category II or III operations.

**Pilot logbooks**

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

(2) An operator may record details of flights flown by a pilot in an acceptable computerised format maintained by the operator.

(3) The operator shall make available on request, to the pilot concerned, the records referred to in subsection (2) and section 155(3), including differences and familiarisation training.

**Pilot-in-command, co-pilot and cruise relief currency**

29. (1) No person shall act as a pilot-in-command or co-pilot of an aircraft unless within the preceding 90 days that person has—

(a) made three take-offs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class, and if a type rating is required, of the same type; or

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

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

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

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

(4) The Authority shall decide under which conditions the requirements of section (1) for each variant or each type of aeroplane can be combined when a pilot-in-command or a co-pilot is flying—

(a) several variants of the same type of aeroplane; or

(b) different types of aeroplanes with similar characteristics in terms of operating procedures, systems and handling.

(5) No person shall act as a cruise pilot in an aircraft providing air transport service unless he or she has within the preceding 90 days—

(a) operated on the same type of aircraft as a—

(i) pilot-in-command; or
(ii) co-pilot; or
(iii) cruise relief pilot;
or
(b) carried out flying skill refresher training including normal, abnormal and emergency procedures specific to cruise flight—
   (i) on the same type of aircraft or
   (ii) in a flight simulator training device approved by the authority.

(6) The Authority shall decide under which conditions the requirements of section (5) for each variant or each type of aeroplane can be combined when a cruise relief 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.

Pilot currency—instrument flight rules operations

30. (1) No person shall act as a pilot-in-command under instrument flight rules, or in instrumental meteorological conditions, unless the person has, within the past six months—
   (a) logged at least six hours of instrument flight time including at least three hours in flight in the category of aircraft; and
   (b) completed at least six instrument approaches.

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

Pilot currency—general aviation operations

31. (1) No person shall act as a pilot of an aircraft type certificated—
   (a) for more than one pilot unless, in the preceding six 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;
   (b) for a single pilot unless, in the preceding six months, the person has passed a proficiency check carried out by the Authority.

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

Pilot privileges and limitations

32. A pilot shall not conduct flight operations unless the operations are within the privileges and limitations of each licence he or she holds.

PART V

Crew member duties and responsibilities

Authority and responsibility of pilot-in-command

33. (1) A pilot-in-command of an aircraft shall—
   (a) be responsible for the following during flight—
      (i) the operations; and
      (ii) safety of the aircraft; and
      (iii) safety of all persons on board, during flight; and
      (iv) the safety of all cargo on board;
   (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 applicable Civil Aviation Rules of the Air Regulations, except that he or she may deviate from those regulations—
(i) to avoid immediate danger or in an emergency situation; or
(ii) to comply with the laws of any state other than Zimbabwe within which the aircraft is operating;
(iii) in any other situation that render such departure absolutely necessary in the interests of safety.

(2) The pilot-in-command shall be responsible for duties listed in subsection (1) when the aeroplane is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engines used as primary propulsion units are shut down.

Authority and responsibility Flight operations Officer or Dispatcher

34. (1) A flight operations officer or flight dispatcher 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 Air Traffic Service flight plans;
(c) sign when applicable and file the Air Traffic Service flight plan with the appropriate Air Traffic Service unit; and
(d) furnish the pilot-in-command while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight.

(2) 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 shall include, where necessary—
(a) notification to the appropriate authorities of the nature of the situation without delay; and
(b) requesting for assistance if required; and
(c) initiating such procedures as outlined in the operations manual while avoiding taking any action that would conflict with Air Traffic Control procedures; and
(d) conveying 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.

(3) Where some of the flight operations officer or dispatcher duties have been delegated the delegated person shall be—
(a) adequately trained for the scope of the delegated functions; and
(b) approved by the Authority.

Compliance with local regulations

35. (1) An operator shall ensure that—
(a) all pilots are familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, aerodromes to be used and the air navigation facilities relating thereto;
(b) other members of the flight crew are familiar with such of these laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the aircraft.

(2) A pilot-in-command shall comply with the relevant laws, regulations and procedures of—
(a) the State in which the aircraft is operated; and
(b) the Authority, where such laws, regulations and procedures exceed but are not in conflict with those of the State in which the aircraft is operated.

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

(4) When the Authority identifies a case of non-compliance or suspected non-compliance by a foreign operator, the Authority shall immediately notify —
(a) the operator; and
(b) if the issue warrants it, the State of the Operator;
a case of non-compliance or suspected non-compliance by a foreign operator with laws, regulations and
procedures applicable within Zimbabwe, or a similar serious safety issue with that operator.

(5) Where the State of the Operator and the State of Registry are different, such notification referred to
in subsection (4) shall also be made to the State of Registry, if the issue falls within the responsibilities of that
State and warrants a notification.

(6) In the case of notification to States as specified in subsections (4) and (5), if the issue and its
resolution warrant it, the Authority shall engage the State of the Operator and the State of Registry, as applicable,
concerning the safety standards maintained by the operator.

(7) The pilot-in-command, 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, shall—

(a) notify the relevant authority responsible for civil aviation of the violation without delay; and

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

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

Negligent or reckless operation of aircraft

36. (1). No person shall wilfully, recklessly or negligently cause or permit an aircraft to endanger any life
or property.

(2) Any person who contravenes this section shall be guilty of an offence and liable to a fine not exceeding
level 14, or to imprisonment for a period not exceeding five years, or to both such fine and such imprisonment.

Fitness of flight crew members

37. (1) No person shall act as a flight crew member at any time when he or she is aware of any decrease
in the medical fitness which might render him or her unable to safely and properly execute the duties of a flight
crew member.

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

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

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

(3) Any person who contravenes this section shall be guilty of an offence and liable to a fine not exceeding level 12, or to imprisonment for a period not exceeding three years, or to both such fine and such imprisonment.

Prohibition on use of psychoactive substances, including narcotics, drugs or alcohol

38. (1) No person shall act or attempt to act as a flight crew member of an aircraft—

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

(b) while under the influence of alcohol; or

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

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

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

(3) A person shall on request of the Authority, 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 where there is a
reasonable basis to believe that such person may not have been in compliance with this section.

(4) Any test information provided to the Authority under the provisions of this section may be used
as evidence in any legal proceedings.
(5) Any person who contravenes this section shall be guilty of an offence and liable to a fine not exceeding level 14, or to imprisonment for a period not exceeding five years, or to both such fine and such imprisonment.

Flight crewmember use of seat belts and shoulder harnesses

39. (1) A flight crew member occupying a pilot seat shall, at all times and while seated at his or her workstation, fasten his or her seat belt.

(2) A flight crew member occupying a pilot seat equipped with a shoulder harness shall fasten that harness during take-off and landing.

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

(4) A cabin crew member occupying a station equipped with a shoulder harness shall fasten that harness during take-off and landing:

Provided that where the cabin crew member cannot perform the required duties with the harness fastened, such harness may be unfastened.

(5) 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 crewmembers at duty stations

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

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

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

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

(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 him or her at the duty station.

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

(a) for the assigned pilot-in-command during the en route cruise portion of the flight by a pilot who—

(i) holds an airline transport pilot licence; and

(ii) holds an appropriate type rating; and

(iii) is currently qualified as pilot-in-command or co-pilot; and

(iv) is qualified as pilot-in-command of that aircraft during the en route cruise portion of the flight;

or

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

Required crew member equipment

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

(2) A pilot shall have, at his or her station—

(a) all normal, abnormal and emergency procedures checklists containing at least the pre-take off, after take off, before landing, landing and emergency procedures;

(b) 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 diversion.

(3) 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 crewmember in commercial air transport.

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

Flight operations checklists

42. (1) A pilot-in-command shall ensure that the flight crew uses and follows the approved checklist when operating an aircraft—
(a) during and after all phases of operation;
(b) in emergency;
(c) to ensure compliance with the operating procedures in—
   (i) the aircraft operating manual; or
   (ii) the aircraft flight manual; or
   (iii) operations manual; or
   (iv) other documents associated with the certificate of airworthiness.

(2) The design and the utilisation of the checklist shall observe Human Factor principles.

Production of flight documents

43. A pilot-in-command shall produce documentation required to be carried in the aircraft within a reasonable time when requested to do so by the Authority.

Search and rescue information

44. (1) The pilot-in-command shall have on board the aircraft essential information concerning the search and rescue services in the areas over which he or she intends to operate the aircraft during all international flights.

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

Admission to cockpit

45. (1) No pilot-in-command shall admit any person to the cockpit of an aircraft engaged in commercial air transport services unless the person being admitted is—
(a) an operating flight crew member; or
(b) a representative of the Authority responsible for certification, licensing or inspection, if this is required for the performance of his or her official duties; or
(c) any person authorised by the Authority, with the agreement of the operator, and in accordance with instructions contained in the operations manual.

(2) A pilot-in-command shall ensure that in the interest of safety—
(a) admission to the cockpit does not cause distraction to the flight crew or interfere with the flight’s operations; and
(b) all persons carried in the cockpit are made familiar with the relevant safety procedures and emergency equipment.

(3) The pilot-in-command shall give a Civil Aviation Inspector free and uninterrupted access to the flight deck of the aircraft whenever such inspector is performing the duties of conducting an inspection, and he or she presents his or her Inspector’s Credential to the crew.

(4) Any person who contravenes this section shall be liable to a civil penalty referred to in section 228(2).
Duties during critical phases of flight: commercial air transport

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

(2) No pilot-in-command shall permit a flight crew member to engage in any activity during a critical phase of flight which could distract or interfere with the performance of that flight crew member’s assigned duties.

Manipulation of the controls: commercial air transport

47. (1) No pilot-in-command shall 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.

(2) Any person who contravenes this regulation commits an offence and is liable to a fine not exceeding level 14, or to imprisonment for a term not exceeding five years, or to both.

Simulated abnormal situations in flight: commercial air transport

48. No person shall 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 the technical log— commercial air transport and aerial work

49. (1) A pilot-in-command shall ensure that all portions of the technical logbook are completed at the appropriate points before, during and after flight operations.

(2) The portions of the technical log book referred to in subsection (1) include—

(a) the journey logbook; and

(b) the aircraft maintenance records section.

Reporting mechanical irregularities

50. 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—

(a) in accordance with the Minimum Equipment List or other approved or prescribed procedure; and

(b) for commercial air transport operations and aerial work operations, entered in the aircraft maintenance records section of the technical log for the aircraft at the appropriate points before, during and at the end of that flight time.

Reporting of facility and navigation aid inadequacies

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

Reporting of incidents and hazardous conditions

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

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

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

(c) faulty air traffic control procedures; or

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

(e) failure of an air traffic control unit facility.

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

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

(b) submit to the Authority a written bird strike report after landing.
(3) A pilot-in-command shall inform the appropriate air traffic control unit if the situation permits—
(a) when an in-flight emergency involving dangerous goods on board occurs; or
(b) the runway braking action special air report) when the runway braking action encountered is not as good as reported.

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

(5) The reports stipulated in this section shall give such details as may be pertinent to the safety of other aircraft.

**Accident notification**

53. (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, 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 that pilot-in-command was responsible for the flight.

**Operation of cockpit voice and flight data recorders**

54. (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) No pilot-in-command shall 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.

(4) Operational checks and evaluations of recordings from the Flight Data Recorder and Cockpit Voice Recorder systems shall be conducted to ensure the continuous serviceability of the recorders.

**Crew member oxygen supply**

55. (1) No person shall commence a flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments is less than 700 hPa unless sufficient stored breathing oxygen is carried to supply—
(a) all crew members and 10 percent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by the crew members and the passengers is between 700 hPa and 620 hPa; and
(b) the crew and passengers for any period that the atmospheric pressure in compartments occupied by the crew members and the passengers is less than 620 hPa.

(2) A pilot-in-command shall not commence a flight to be operated with a pressurised aircraft unless a sufficient quantity of stored breathing oxygen is carried to supply the crew and passengers, 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—
(a) when an aircraft is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa; or
(b) 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 applicable regulations on civil aviation equipment and instrument.

(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 is required.

**Carriage of dangerous goods**

56. No person shall carry dangerous goods in an aircraft except in accordance with the applicable Civil Aviation (Dangerous Goods) Regulations.

**Portable electronic devices and electronic flight bags**

57. (1) No pilot-in-command or any other crew member shall permit any person to use, or shall any person use a portable electronic device on board an aircraft that may adversely affect the performance of aircraft systems and equipment unless—

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

(b) for commercial air transport operations, the operator makes a determination of acceptable devices and publishes that information in the operations manual for the crew members’ use; and

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

(2) The operator shall include the procedures for use of such equipment in the operations manual.

(3) No operator shall use an electronic flight bag unless the operator—

(a) is authorised to do so in its operations specifications; and

(b) complies with the electronic flight bag requirements prescribed in the First Schedule.

**Microphone**

58. A flight crew member shall use a boom or throat microphone to communicate with another flight crew member and air traffic service when the aircraft is below the transition level or altitude.

**PART VI**

**Flight Planning and Preparation**

**Submission of flight plan**

59. (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 Flight Rules flight within 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 in order to avoid the possible need for interception for the purpose of 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, or such further period as may be determined from time to time, 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 subsection (2), no person shall take-off an aircraft in air transport service unless—
(a) the flight plan has been filed with the Authority; or
(b) he or she has been authorised to do so by the Authority.

Contents of a flight plan

60. 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.

Planned reclearance

61. A person shall notify the appropriate Air Traffic Control facility, if during flight planning it is determined that there is a possibility of changing destination but still complying with minimum fuel supply planning requirements, of that possibility when the flight plan is submitted.

Changes to flight plan

62. (1) The pilot-in-command shall report any change to a flight plan submitted for a flight under either instrument flight rules or visual flight rules and operated as a controlled flight as soon as is practicable to the appropriate Air Traffic Control facility.

(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 appropriate Air Traffic Control facility.

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

(4) Where the coordination referred to in subsection (3) has not been possible, operational instructions do not relieve a pilot of the responsibility for obtaining an appropriate clearance from an Air Traffic Services unit, if applicable, before making a change in the flight plan.

Closing a flight plan

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

(2) A pilot in command where a flight plan is submitted for a portion of a flight with no arrival destination, shall close that flight plan en route with the appropriate Air Traffic Control facility.

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

(4) A pilot-in-command shall include the following information in the arrival reports—
(a) aircraft identification;
(b) departure aerodrome;
(c) in the case of a diversionary landing, destination aerodrome;
(d) arrival aerodrome; and
(e) time of arrival.

**Aircraft airworthiness and safety precautions**

64. (1) No pilot-in-command shall operate an aircraft unless flight preparation forms have been completed certifying that he or she is satisfied that—

(a) the aircraft is airworthy, duly registered and the appropriate certificates are aboard the aircraft; and
(b) the instruments and equipment installed in the aircraft are sufficient and 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; and
(d) the mass of the aircraft and centre of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected; and
(e) any load carried is properly distributed and safely secured; and
(f) a check has been completed indicating that the operating limitations can be complied with for the flight to be undertaken; and
(g) operational flight plan requirements have been complied with.

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

**Adequacy of operating facilities**

65. (1) No pilot-in-command shall commence a flight unless—

(a) it has been determined by every reasonable means available that the ground or water areas and facilities available and directly required for such flight and for the safe operation of the aircraft, are adequate, including communication facilities and navigation aids; and
(b) the pilot is satisfied that the aerodromes at which the flight is intended to take-off or land and any alternative aerodrome at which a landing may be made are suitable for the purpose and in particular are adequately manned and equipped to ensure the safety of the aircraft and its passengers; and
(c) subject to the stipulated in the aeronautical information, publication conditions of use, aerodromes and their facilities are kept continuously available for flight operations during their hours of operations, irrespective of weather conditions; and
(d) an operator as part of its safety management system, shall access the level of rescue and fire fighting service protection available at any aerodrome intended to be specified in the operation flight plan in order to ensure that an acceptable level of protection is available for the aerodrome intended to be used; and
(e) information related to the level of protection that is considered acceptable by the operator is contained in the operations manual.

(2) An operator shall ensure that any inadequacy of facilities observed in the course of operations is reported to the Authority without undue delay.

**Weather reports and forecasts**

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

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

(a) a careful study of available current weather reports and forecasts taking into consideration fuel and oil requirements; and
(b) an alternative course of action if the flight may not be completed as planned because of weather conditions.
(3) A pilot-in-command who is unable to communicate by a radio with an Air Traffic Control unit at the aerodrome of destination shall not begin a flight to an aerodrome within a control zone if the information which is reasonably practicable for the pilot-in-command to obtain indicates that he or she will arrive at the aerodrome when the ground visibility is less than 10 kilometres or the cloud ceiling is less than 1,500 feet, unless the pilot-in-command has obtained from an Air Traffic Control unit at that aerodrome permission to enter the aerodrome traffic zone.

**Weather limitations for visual flight rules flights**

67. No pilot-in-command shall commence a flight to be conducted in accordance with visual flight rules unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under visual flight rules, shall, at the appropriate time, allow visual flight rules operations.

**Instrument flight rules destination aerodromes**

68. No pilot-in-command shall 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 minimum—

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

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

**Instrument flight rules destination alternate requirement**

69. (1) No person shall commence a flight which is to be conducted in accordance with instrument flight rules, in an aeroplane, without at least one destination alternate aerodrome listed in the operational and Air Traffic System flight plan unless—

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

   (i) 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; or

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

   (iii) 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) where the aerodrome is isolated such that it does not require the selection of a destination alternate aerodrome and is planned in accordance with—

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

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

(c) for each flight into an isolated aerodrome—

   (i) a point of no return shall be determined; and

   (ii) the flight shall not be continued past the point of no return unless a current assessment of meteorological conditions, traffic and other operational conditions indicate that a safe landing can be made at the estimated time of use; and

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

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

      A. a cloud base of at least 300 metres (1000 feet) above the minimum associated with the instrument approach procedure, and
B. visibility of at least six kilometers or of four kilometers more than the minimum associated with the instrument approach procedure.

(2) The operator shall select and specify in the operational and Air Traffic Service flight plans two destination alternate aerodromes 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;
(b) meteorological information is not available.

(3) The Authority may approve the reduction of the cloud base and visibility requirements under subsection (1) for—
(a) helicopters, powered-lift aircraft and airships; or
(b) air transport, where no other suitable destination exists.

(4) No person shall commence a flight which is 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 Estimated Time of Arrival —
   (i) a cloud base of at least 300 metres (1000 feet) above the minimum associated with the instrument approach procedure; and
   (ii) visibility of at least six kilometres or of four kilometres 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.

(5) Notwithstanding the provisions specified in subsection (1), the Authority may approve operational variations to alternate aerodrome selection criteria, 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.

(6) The specific safety risk assessment referred to in subsection (5) shall include at least the—
(a) capabilities of the operator;
(b) overall capability of the aeroplane and its systems;
(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 measures.

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

(8) The Authority may approve a margin of time referred to in subsection (7) for the estimated time of use of an aerodrome.

Instrument flight rules alternate aerodrome selection criteria

70. (1) No pilot-in-command shall designate an alternate aerodrome in an instrument flight rules flight plan where alternate minimums are published, 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 flight rules planning alternate, a pilot-in-command shall ensure that the meteorological conditions at the alternate at the estimated time of arrival shall be at or above—
(a) for a precision approach procedure, a ceiling of at least 183 metres (600 feet) and visibility of not less than three kilometres; or
(b) for a non-precision approach procedure, a ceiling of at least 244 metres (800 feet) and visibility of not less than five kilometres.

**Offshore alternates for helicopter operations**

71. (1) No person shall select an off-shore landing site as an alternate when it is possible to carry enough fuel for an on-shore alternate landing site.

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

(3) A person selecting an off-shore alternate landing site shall consider the following—
   (a) the off-shore alternate may be used only after a point of no return;
   (b) one engine inoperative performance capability prior to arrival at the alternate;
   (c) helideck availability guarantee;
   (d) weather information at the helideck shall be from a source approved by the Authority;
   (e) for instrument flight rules operations, the availability of a prescribed an instrument approach procedure; and
   (f) mechanical reliability of critical control systems and critical components.

**Commercial air transport operations take-off alternate aerodromes**

72. (1) No person shall release or take-off an aircraft without a suitable take-off alternate specified in the operational flight plan if either—
   (a) the meteorological conditions at the aerodrome of departure are below the operator’s established aerodrome landing minima for that operation; or
   (b) if it would not be possible to return to the aerodrome of departure for other reasons.

(2) An operator shall ensure that each take-off alternate landing site shall be located within—
   (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 International Standard Atmosphere and still-air conditions using the actual take-off mass; or
   (b) for aeroplanes with three or more engines, two hours of flight time at an all engines operating cruising speed, determined from the aircraft operating manual, calculated in International Standard Atmosphere and still-air conditions using the actual take-off mass.

(3) For aeroplanes engaged in extended diversion time operations where an alternate aerodrome meeting the distance criteria referred to in subsection (2) 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.

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

(5) The operator shall ensure that all flights are planned so that the diversion time to an aerodrome where a safe landing can be made does not exceed the cargo compartment fire suppression time capability of the aeroplane, when one is identified in the relevant aeroplane documentation, reduced by an operational safety margin specified by the Authority.

**Maximum distance from an adequate aerodrome for twin-engined aeroplanes without an Extended Diversion Time Operations approval**

73. (1) An operator who has not been specifically granted an extended diversion time operations approval by the Authority, shall not operate a two-engined aeroplane over a route which contains a point further from an adequate aerodrome than, in the case of—
   (a) large, turbine engine powered aeroplanes the distance flown in 60 minutes at the one-engine-inoperative cruise speed determined in accordance with subsection (2) with either—
      (i) a maximum approved passenger seating configuration of 20 or more persons; or
      (ii) a maximum take-off mass of 45 360 kg or more;
(b) or reciprocating engine powered aeroplanes—

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

(ii) 300 nautical miles, whichever is less.

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

(a) international standard atmosphere; or

(b) level flight for turbine powered aeroplanes at—

(i) flight level 170; or

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

or

(c) level flight for piston powered aeroplanes—

(i) at flight level 80; or

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

or

(d) maximum continuous thrust or power on the remaining operating engine;

(e) an aeroplane mass not less than that resulting from—

(i) take-off at sea-level at maximum take-off mass until the time elapsed since take-off is equal to the applicable threshold stated in subsection (1);

(ii) all engines climb to the optimum long range cruise altitude until the time elapsed since take-off is equal to the applicable threshold stated in subsection (1); and

(iii) all engines cruise at the long range cruise speed at this altitude until the time elapsed since take-off is equal to the applicable threshold stated in subsection(1).

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

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

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

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

*En route alternate aerodromes for Extended Diversion Time operations*

74. (1) No operator shall conduct operations beyond the threshold distance determined in accordance with section 73, unless approved to do so by the Authority.

(2) Operators 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;

(b) for aircraft with two turbine engines—

(i) 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.
(ii) 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, prior to conducting an extended range operations by turbine-engine aircraft flight.

(3) An air operator certificate holder shall, in requesting diversion operations by twin engine aircraft 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.

(4) In addition to the requirements in subsection (1) all operators shall ensure that the following are taken into account—

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

Requirements for Extended Diversion Time Operations (EDTO)

75. (1) Unless the operation has been specifically approved by the Authority, 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 International Standard Atmosphere and still-air conditions at the one-engine-inoperative cruise speed for aeroplanes with two turbine engines and at the all engines operating cruise speed for aeroplanes with more than two turbine engines, exceeds a threshold time established for such operations by the Authority.

(2) When the diversion time exceeds the threshold time, the operation is considered to be an Extended Diversion Time Operation (EDTO).

(3) The Authority may approve the maximum diversion time for an operator of a particular aeroplane type engaged in extended diversion time operations.

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

(a) for all aeroplanes the most limiting Extended Diversion Time Operation 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 that the aeroplane is extended diversion time operation certified.

(5) Notwithstanding the provisions in subsection (4) 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 operations beyond the time limits of the most time-limited system.

(6) The specific safety risk assessment referred to in subsection (5) shall include at least the following—

(a) capabilities of the operator;
(b) overall reliability of the aircraft;
(c) reliability of each time-limited system;
(d) relevant information from the aircraft manufacturer; and
(e) specific mitigation measures.

(7) For aeroplanes engaged in extended diversion time operation, the additional fuel required by section 76 (3) shall include the fuel necessary to comply with the extended diversion time operation critical fuel scenario as established by the Authority.

(8) A flight shall not proceed beyond the threshold time in accordance with subsection (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.

(9) The Authority shall determine an alternative course of action if any conditions are identified that would preclude a safe approach and landing at that aerodrome during the estimated time of use.

(10) An operator shall ensure that the required en-route alternate aerodromes for extended diversion time operation by turbine-engine aircraft are selected and specified in air traffic control flight plans in accordance with the extended diversion time operation time approved by the Authority.

(11) No person shall select an aerodrome as an extended diversion time operation by turbine-engine aircraft 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 the Third Schedule.

Fuel and oil planning and contingency factors—Fuel requirements

76. (1) No pilot shall take-off an aeroplane without sufficient amount of usable fuel and oil to—
(a) complete the planned flight safely; and
(b) to allow for deviations from the planned operation.

(2) The amount of usable fuel referenced in subsection (1) shall, as a minimum, be based on—
(a) current aircraft-specific data derived from a fuel consumption monitoring system, if available; or
(b) if current aircraft-specific data is not available, data provided by the aircraft manufacturer; and
(c) 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 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 specified in subsection (2);
(c) contingency fuel, which shall be the amount of fuel required to compensate for unforeseen factors which shall be five 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 metres (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—
A perform a missed approach at the destination aerodrome;
B climb to the expected cruising altitude;
C. fly the expected routing;
D. descend to the point where the expected approach is initiated; and
E. conduct the approach and landing at the destination alternate aerodrome; or
(ii) where two destination alternate aerodromes are required, the amount of fuel, as calculated in subparagraph(i) required to enable the aircraft to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel; or
(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 metres (1 500 ft) above destination aerodrome elevation in standard conditions; or

(e) where the aerodrome of intended landing is an isolated aerodrome—
   (i) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes plus 15 per cent of the flight time planned to be spent at cruising level, including final reserve fuel, or two hours, whichever is less; or
   (ii) for a turbine-engine aeroplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel;

(f) 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 State of the Operator; or
   (ii) for a turbine-engine aeroplane, the amount of fuel required to fly for 30 minutes at holding speed at 450 metres (1 500 ft) above aerodrome elevation in standard conditions;

(g). additional fuel, which shall be the supplementary amount of fuel required if the minimum fuel calculated in accordance with paragraphs (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 pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route;—
       A. fly for 15 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions; and
       B. make an approach and landing;
   (ii) allow an aeroplane engaged in extended diversion time operation to comply with the extended diversion time operation critical fuel scenario as established by the Authority;
   (iii) meet additional requirements not covered above;

(h) discretionary fuel, which shall be the extra amount of fuel to be carried at the discretion of the pilot-in-command.

(4) Operators shall determine one final reserve fuel value for each aeroplane type and variant in their fleet rounded up to an easily recalled figure.

(5) No pilot shall commence a flight or continue from the point of in-flight re-planning unless the usable fuel on board meets the requirements in subsection (3) (a), (b), (c), (d) and (e).

(6) Notwithstanding the provisions in subsection 3 (a), (b), (c), (d) (e) and (f) 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.

(7) The specific safety risk assessment referred to in subsection (6) shall include at least the—

(a) flight fuel calculations;

(b) capabilities of the operator to include—
   (i) a data-driven method that includes a fuel consumption monitoring programme; or
   (ii) the advanced use of alternate aerodromes;

(c) specific mitigation measures.

(8) 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.

(9) A person computing the required minimum fuel supply shall ensure that for a flight of more than 2,000 nautical miles, the minimum fuel supply calculation includes an additional amount of fuel equal to that necessary to fly 10 percent of the total time for the flight from take-off to destination.
(10) No person shall commence a Visual Flight Rules flight, unless there is enough fuel to fly to the first point of intended landing and assuming normal cruising speed for—
   (a) flights during the day or night for at least 45 minutes; and
   (b) international flights, for at least an additional 15 per cent of the total flight time calculated for cruise flight.

(11) No person shall commence a flight in a helicopter under visual flight rules, unless there is enough fuel to fly to the first point of intended landing and assuming normal cruising speed for—
   (a) 20 minutes thereafter; and
   (b) international flights, at least an additional 10 per cent of the total flight time calculated.

(12) No person shall commence a flight under instrument flight rules unless there is enough fuel to—
   (a) fly to the first point of intended landing and execute an instrument approach;
   (b) execute a missed approach;
   (c) fly at normal cruising speed in a piston powered aeroplane for 45 minutes; and
   (d) in a rotocraft, turbojet or turbofan aeroplane, for 30 minutes at a holding speed at 450 metres (1500 feet) above the aerodrome, plus a reserve for contingencies specified by the operator and approved by the Authority.

In-flight fuel management

77. (1) An operator shall establish policies and procedures, to ensure that in-flight fuel checks and fuel management are performed.

(2) The policies and procedures referred to in subsection (1) shall be subject to the Authority’s approval.

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

(4) The pilot-in-command shall request delay information from Air Traffic Control 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.

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

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

Flight planning document distribution and retention for commercial air transport

78. (1) No Pilot In Command for commercial air transport operations, shall take off without completing and signing the following flight preparation retention documents prior to departure—
   (a) an operational flight plan, including notice to airman and weather pertinent to the flight planning decisions regarding—
      (i) minimum fuel supply; and
      (ii) en route performance; and
      (iii) destination and alternate aerodromes;
   (b) a load manifest, showing—
      (i) the distribution of the load; and
      (ii) centre of gravity; and
      (iii) take-off and landing mass; and
      (iv) compliance with maximum operating mass limitations, and performance analysis; and

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

(2) No person shall commence a flight in air transport service unless all flight release documents, specified in the operations manual and signed by the pilot-in-command, are retained and available at the point of departure.

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

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

Aircraft loading, mass and balance

79. (1) No person shall operate an aircraft unless—
(a) all loads carried are properly distributed and safely secured and comply with the aircraft limitations; and
(b) the calculations for the mass of the aircraft and centre of gravity location indicate that the flight can be conducted safely, taking into account the flight conditions expected; and

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

Maximum allowable mass to be considered on all load manifests

80. A pilot-in-command shall ensure that the maximum allowable mass for a flight does not exceed the maximum allowable take-off mass—
(a) for the specific runway and conditions existing at the take-off time; and
(b) considering anticipated fuel and oil consumption that allows compliance with applicable en route performance, landing mass, and landing distance limitations for destination and alternate aerodromes.

Operational control

81. (1) An operator or a designated representative shall have responsibility for operational control.

(2) The operator shall delegate responsibility for operational control only to the pilot-in-command and to a flight operations officer or flight dispatcher if an operator’s approved method of control and supervision of flight operations requires the use of flight operations officer or flight dispatcher personnel.

(3) No person shall commence—
(a) a flight under a flight following system without specific authority from the operator to exercise operational control over the flight; or
(b) a passenger carrying flight in air transport service for which there is a published schedule, unless the operator has issued a flight release for that specific operation or series of operations.

Operational flight plan: commercial air transport

82. (1) No pilot shall commence a flight unless the operational flight plan is approved and signed by the pilot-in-command and, where applicable, signed by the flight operations officer or flight dispatcher.

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

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

(4) The operational flight plan shall include the routing and fuel calculations, with respect to the meteorological and other factors expected, to complete the flight to the destination and all required alternate aerodromes.
(5) The pilot in command shall file a copy of the operational flight plan referred to in subsection (1) 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.

(6) The pilot in command shall complete the operational flight plan for every intended flight.

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

PART VII
AIRCRAFT OPERATING AND PERFORMANCE LIMITATIONS

Maximum allowable weights

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

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

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

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

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

(2) An operator shall ensure that the performance data used to determine compliance with the appropriate requirements of this part is contained in—

(a) the aeroplane flight manual;

(b) the rotorcraft flight manual; or

(c) any other authorised source.

(3) The operator performing calculations in relation to performance data under subsection (1) shall account for the aircraft configuration, environmental conditions, and the operation of any system which may have an adverse effect on the performance.

(4) When determining the resulting take-off obstacle accountability area, the operating conditions, such as the crosswind component and navigation accuracy, must be taken into account.

General weight and obstruction clearance limitations

84. (1) No person shall commence a flight without ensuring that the maximum take-off mass for the flight does not exceed the maximum take-off mass or maximum landing mass, or any applicable en route performance or landing distance limitations.

(2) No person shall 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.

Performance limitations for Aircraft used in air transport service

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

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

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

(4) The owner or operator of an aircraft shall ensure that, under all conditions that could reasonably be expected to be encountered, the aircraft is operated in compliance with—

(a) the terms and conditions of the certificate of Airworthiness and Aircraft Flight Manual issued in respect of such aircraft;
(b) the operating limitations, the markings and placards as prescribed by the appropriate authority of the State of Registry; and

(c) the mass limitations prescribed in section 83 or as imposed by compliance with the applicable noise certification standards under which the aircraft was certified unless otherwise authorised in exceptional circumstances by the competent authority of the State in which the aerodrome is situated for a certain aerodrome or a runway where there is no noise disturbance problem.

(5) In complying with subsection (4), the owner or operator shall take account of airframe configuration, environmental conditions and the operation of systems which may have an effect on the performance of the aircraft, when appropriate, including aircraft mass, operating procedures, the pressure altitude appropriate to the elevation of the aerodrome, temperature, wind, runway gradient and condition of runway.

(6) Performance Class 3 helicopters shall only be operated in conditions of weather and light, and over such routes and diversions there from, which may permit a safe forced landing to be executed in the event of an engine failure.

(7) The provisions of subsection (6) shall apply to performance Class 2 helicopters prior to the take-off decision point or after passing the landing decision point.

(8) Only performance Class 1 helicopters shall be permitted to operate from elevated heliports in built-up urban areas.

(9) No owner or operator of a Class A or C aeroplane shall start a take-off unless the aeroplane is able, in the event of a critical power-unit 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 safely transition to the en route phase of flight.

(10) For the purposes of subsection (9), 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.

(11) No owner or operator of a Class A or C aeroplane shall operate such aeroplane unless it is able, in the event of the critical engine becoming inoperative at any point along the route or planned diversions there from, to continue the flight to an aerodrome at which the requirements of subsection (12) can be met, without flying below the minimum obstacle clearance altitude at any point.

(12) No owner or operator of a Class A or C aeroplane shall operate such aeroplane unless it is able, 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 was not made during the establishment of the aeroplane’s performance data.

(13) An owner or operator may, in meeting the requirements of subsections (11) and (12), make allowance for normal fuel consumption and if applicable, the ability to jettison fuel en route.

(14) An owner or operator of aeroplanes without approved performance data may submit an alternative means of meeting the requirements of subsections (9), (11) and (12) to the Director for approval.

Performance calculations

86. (1) The operator shall issue operating instructions and provide information on aeroplane climb performance with all engines operating to enable the pilot in command to determine the climb gradient that can be achieved during the departure phase for the existing take off conditions and intended take off technique.

(2) No person shall commence a flight in an aircraft used to provide air transport service without ensuring that the applicable operating and performance limitations required by these regulations are accurately computed based on the aircraft flight manual, rotorcraft flight manual, or other data source approved by the Authority.

(3) 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 these regulations 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; or
(c) two engine failures, for aircraft having three or more engines, if applicable.

(4) 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;

(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 and ice;
   (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.

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

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

**Take-off limitations**

87. (1) The pilot in command, when determining the maximum permitted take-off mass for flight in an aeroplane used to provide air transport service, shall ensure the following requirements are met—

(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;
   (ii) the length of any clearway referred to in subparagraph (i) shall not be greater than half the length of the runway; and
   (iii) the accelerate-stop distance shall not exceed the length of the runway plus the length of any stopway, at any time during take-off until reaching V1;

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

(d) where the critical engine fails at any time after the aeroplane reaches V1, to continue the take-off and clear all obstacles either—
   (i) by a height of at least 10.7 metres (35 feet) vertically for turbine engine powered aeroplanes or 15.2 metres (50 feet) for reciprocating engine powered aeroplanes; and
   (ii) by at least 60 metres (200 feet) horizontally within the aerodrome boundaries and by at least 90 metres (300 feet) horizontally after passing the boundaries, without banking more than 15 degrees at any point on the take-off flight path.
(2) In determining the length of the runway available, account shall be taken of the loss due to alignment.

(3) The operator shall take account of charting accuracy when assessing compliance with subsection (1).

(4) No person shall commence take-off in a helicopter used in air transport service that, in the event of a critical engine failure, cannot—

(a) for performance Class 1 helicopters—
   (i) at or before the take-off decision point, discontinue the take-off and stop within the rejected take-off area; or
   (ii) after the take-off decision point, continue the take-off and then climb, clearing all obstacles along the flight path, until a suitable landing site is found;

(b) for performance Class 2 helicopters—
   (i) before reaching a defined point after take-off, safely execute a forced landing within the rejected take-off area; or
   (ii) at any point after reaching a defined point after take-off, continue the take-off and then climb, clearing all obstacles along the light path, until a suitable landing site is found.

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

En route limitations— all engines operating

88. A pilot-in-command shall not commence a flight in a reciprocating engine powered aircraft used in air transport service at a weight that does not allow—

(a) a rate of climb of at least 6.9 Vso with all engines operating;

(b) an altitude of at least 300 metres (1 000 feet) above all terrain and obstructions within 10 nautical miles of each side of the intended track.

En route limitations— one engine inoperative

89. (1) The aircraft shall be able, in the event of a critical engine failing, or for other reasons, at any point in the take-off, either—

(a) to discontinue the take-off and stop within the accelerate-stop distance available; or

(b) to continue the take-off and clear all obstacles along the flight path by an adequate vertical or horizontal distance; and

(c) continue the flight to an aerodrome, without flying below the minimum flight altitude at any point, at which the 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, without flying below the minimum flight altitude at any point be able to land, with assurance that it can come to a stop; or

(d) for a seaplane, to a satisfactorily low speed, within the landing distance available; and

(e) 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.

(2) An operator shall ensure that the one engine inoperative en-route net flight path data shown in an aeroplane flight manual, appropriate to the meteorological conditions expected for the flight, complies with subsection (3) or (4) at all points along the route.

(3) The operator shall ensure that net flight path referred to under subsection (1), has a positive gradient at 1 500 feet above the aerodrome, where the landing is assumed to be made after engine failure.

(4) The flight path referred to in subsection (1) and (2) shall be calculated using meteorological conditions requiring the operation of ice protection systems, and the effect of their use on the net flight path must be taken into account.

(5) The operator shall ensure that the gradient of the net flight path shall be positive, at least 1 000 feet above all terrain and obstructions along the route within 9.3 kilometres (5 nm) on either side of the intended track.
(6) The operator shall ensure that the net flight path permits the aeroplane to continue flight from the cruise altitude to an aerodrome where a landing can be made the clearing vertically, by at least 2,000 feet, all terrain and obstructions along the route within 9.3 kilometres (5 nm) on either side of the intended track in accordance with the following—

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

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

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

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

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

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

(7) A pilot-in-command shall increase the width margins referred to in subsection (6) to 18.5 kilometres (10 nm) if the navigational accuracy does not meet the 95 per cent containment level.

(8) 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 with two engines inoperative

90. (1) No pilot-in-command shall 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 subsections (2) to (6).

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

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

(4) A pilot-in-command shall take into account—

(a) altitudes and meteorological conditions requiring ice protection systems to be operable and the effect of their use on the net flight path data; and

(b) if the navigational accuracy does not meet the 95 per cent containment level, the width margin to 18.5 kilometres (10 nm).

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

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

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

(8) In the case of aeroplanes having three or more engines, on any part of a route where the location of en-route alternate aerodromes and the total duration of the flight are such that the probability of a second engine becoming inoperative must be allowed for if the general level of safety implied by the Standards of this section 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.
(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—
(a) is not less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made; and
(b) to arrive to the intended landing at least 1,500 feet 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.

Landing limitations

91. (1) No pilot-in-command shall commence a flight in an aircraft used to provide air transport service unless the aircraft mass on arrival at either the intended destination aerodrome or any planned alternate aerodrome would allow a full stop landing from a point 50 feet above the intersection of the obstruction clearance plane and the runway, and within—
(a) for turbine engine powered aeroplanes, 60 per cent of the effective length of each runway; and
(b) for reciprocating engine powered aeroplanes, 70 per cent of the effective length of each runway.

(2) An obstruction clearance plane referred to in subsection (1) shall be a plane—
(a) sloping upward from the runway at a slope of 1:20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area;
(b) where in the plane view, the centre line of the specified area coincides with the centre line of the runway, beginning at the point where the obstruction clearance plane intersects the centre line of the runway and proceeding to a point at least 1,500 feet from the beginning point;
(c) where the centre line coincides with the take-off path over the ground for the runway (in the case of take-offs) or with the instrument approach counterpart (for landings), or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4,000 feet radius until a point is reached beyond which the obstruction clearance plane clears all obstructions; or
(d) which extends laterally 200 feet on each side of the centre line at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centre line at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter, it extends laterally 500 feet on each side of the centre line.

(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—
(i) probable wind velocity and direction;
(ii) runway conditions;
(iii) the ground handling characteristics of the aeroplane; and
(iv) any other conditions such as landing aids and terrain.

(4) Where the runway at the landing destination is reported or forecast to be wet or slippery, the person determining the landing limit shall ensure that landing distance available shall be at least 115 per cent of the required landing distance unless, based on a showing of actual operating landing techniques on wet or slippery runways—
(a) a shorter landing distance not less than that required by subsection(1) has been approved for a specific type and model of aeroplane; and
(b) the information in paragraph (a) is included in the aircraft flight manual.
(5) The pilot-in-command may take-off, where a turbine powered transport aeroplane is prohibited from taking off because it does not meet the requirements of subsection (1), if an alternate aerodrome is specified that meets all the requirements of subsection (1).

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

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

(a) for performance class 1 helicopters—
   (i) before the landing decision point, clear all obstacles on the approach path and be able to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin, or
   (ii) after the landing decision point, land and stop within the landing distance available; or

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

PART VIII
PASSENGERS AND PASSENGER HANDLING

Unacceptable conduct

92. No person on board an aircraft may—

(a) interfere with a crew member in the performance of the crew member’s duties; or

(b) refuse to fasten his or her seat belt and keep it fastened while the seat belt sign is lighted; and; or

(c) wilfully, recklessly or negligently act or omit to act in such a manner as to endanger the aircraft or persons and property therein; or

(d) secrete himself or herself or secrete cargo on board an aircraft; or

(e) in the case of non commercial aircraft, smoke while the no-smoking sign is lighted; or

(f) smoke in any part of the aircraft including lavatory; or

(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 of any other means.

Refuelling with passengers on-board

93. No person shall allow an aeroplane to be refuelled or defueled when passengers are embarking, on board, disembarking, or in the case of a helicopter rotors are turning 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.

Inflight emergency

94. A pilot-in-command shall ensure that in an emergency or in turbulence situation, all passengers aboard the aircraft are instructed—

(a) of such emergency; and

(b) to fasten their seat belts so as to be secured in their seats; or

(c) to take any action as may be appropriate to the circumstances.
Nuisance Aircraft Collusion Avoidance System resolution advisories

95. (1) The operator shall specify in the operations manual procedures by which an aeroplane climbing or descending to an assigned altitude or flight level to avoid unnecessary airborne collision avoidance system resolution advisories.

(2) The procedure referred to in subsection (1) shall include the requirement for a rate of climb or descent of less than 1 500ft per minute throughout the last 1 000ft when the pilot is made aware of another aircraft at or approaching an adjacent altitude or flight level.

Alcohol or drugs

96. (1) No Flight crew or cabin crew member shall permit any person who is intoxicated, or who demonstrates, by manner or physical indications, that he or she is under the influence of drugs, to—

(a) board an aircraft; or
(b) be served alcohol.

(2) No person shall—

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

(3) The operator shall establish procedures to ensure that any person referred to in subsections (1) and (2) is refused embarkation or if such person is on board retrained or disembarked.

Passenger compliance with instructions

97. A passenger on an air transport service flight shall comply with any instructions given by flight and cabin crew members in compliance with these regulations.

Denial of transportation

98. (1) An aircraft operator may deny transportation to a passenger who refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority.

(2) No operator may deny transportation to a passenger with disability.

(3) Every operator shall establish measures for reasonable accommodation for passengers with disabilities unless if accommodation of a passenger causes an obstruction to the safe evacuation of other passengers from the aircraft.

Carriage of persons without compliance with passenger carrying requirements

99. No pilot-in-command shall allow a person to be carried on board aircraft without compliance with the passenger carrying requirements unless—

(a) there is an approved seat with an approved seat belt for the person; and
(b) the seat is so located that the occupant is not in any position to interfere with the flight crew members performing their duties; and
(c) there is unobstructed access from the approved seat to the flight deck or a regular or emergency exit; and
(d) there is a means for notifying such person when—

(i) smoking is prohibited;
(ii) seat belts shall be fastened;
(e) such person has been orally briefed by a crew member on the use of emergency equipment and exits.

Cabin crew at duty stations

100. (1) A cabin crew member shall remain at his or her duty station with a safety belt and shoulder harness fastened during taxing of an aircraft except when performing duties related to the safety of the aircraft and its occupants.
(2) A cabin crew member shall, during taxi of an aircraft, 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 the event of an emergency evacuation.

(3) Cabin Crew members or other person qualified in emergency evacuation procedures for the aircraft, when passengers are on board a parked aircraft, shall be placed in the following manner—
(a) if only one cabin crew member is required, that cabin crew member shall be located in accordance with the air operator certificate holder’s operations manual procedures; or
(b) if more than one cabin crew member is required, those crew members shall be spaced throughout the cabin to provide the most effective assistance for the evacuation in case of an emergency.

Evacuation capability

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

Arming of automatic emergency exits

102. No person shall cause an aircraft carrying passengers to move on the surface, for take-off or landing unless each automatically deployable emergency evacuation assisting means, installed on the aircraft, is ready for evacuation.

Accessibility of emergency exits and equipment

103. No person shall allow carry-on baggage or other items to block access to the emergency exits, when the aircraft is moving on the surface, during take-off or landing, or while passengers remain on board.

Stops where passengers remain on board

104. (1) The pilot-in-command shall, at stops where passengers remain on board the aircraft, 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 refuelling with passengers on board, the pilot-in-command or an operator’s representative shall ensure that the applicable manual procedures are followed.

Passenger loading and unloading

105. No person shall load or unload passengers on a propeller driven aircraft unless—
(a) all engines are shut down; or
(b) the aircraft is using a passenger jetway to load and unload.

Carriage of persons with reduced mobility

106. (1) No cabin crew member shall 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.

Exit row seating

107. (1) No crew member shall allow a passenger to sit 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; or
   (ii) grasp and push, pull, turn, or otherwise manipulate those mechanisms; or
   (iii) push, shove, pull, or otherwise open emergency exits; or
   (iv) lift out, hold, deposit on nearby seats; or
   (v) manoeuvre over the seatbacks and objects of the size and weight of over-wing window and exit doors; or
   (vi) remove obstructions of size and weight similar to over-wing exit doors; or
   (vii) reach the emergency exit expeditiously; or
   (viii) maintain balance while removing obstructions; or
   (ix) exit expeditiously; or
   (x) stabilise an escape slide after deployment; or
   (xi) assist others in getting off an escape slide.
(b) lacks the capacity to perform one or more of the applicable functions listed in paragraph (a) without assistance; or
(c) lacks the ability to read and understand instructions related to emergency evacuation provided by the air operator certificate holder in printed or graphic form; or
(d) lacks the ability to understand oral crew commands; or
(e) lacks sufficient visual capacity to perform one or more of the functions specified in paragraphs (a) to (d) without the assistance of visual aids beyond contact lenses or eyeglasses; or
(f) lacks sufficient aural capacity to hear and understand instructions given by cabin crew members, without assistance beyond a hearing aid; or
(g) lacks the ability to adequately impart information orally to other passengers; or
(h) is travelling with small children; or
(i) has a condition or responsibilities, that might—
   (i) prevent the person from performing one or more of the functions listed above; or
   (ii) 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) does not meet the selection criteria;
   (b) has a non-discernible condition that shall prevent the passenger from performing the evacuation functions;
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(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) No pilot-in-command shall 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 section an operator shall—
(a) establish procedures that address the requirements of this section; and
(b) submit their procedures for review and approval to the Authority.

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

Prohibition against carriage of weapons

108. (1) No person shall, while on board an aircraft providing air transport service, carry a deadly or dangerous weapon without Authority approval, either concealed or unconcealed.

(2) Notwithstanding the provisions of subsection (1), an aircraft operator certificate holder may permit a person to transport a weapon in accordance with the aircraft operator certificate holders approved security programme, if—
(a) the weapon is unloaded; and
(b) the weapon and ammunition are securely stowed in a place inaccessible to any person during the flight.

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

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

Oxygen for medical use by passengers

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

(2) No person shall smoke within 10 feet of oxygen storage and dispensing equipment carried for the medical use of a passenger.

(3) No crew member shall 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

110. (1) No crew member shall 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 subsection (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

111. (1) No pilot in command shall take-off or land 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.

(2) No pilot in command shall taxi an aircraft, take-off or land unless each passenger serving cart is secured in its stowed position.

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

(a) can 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) is conspicuously marked with maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin;

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

(d) is 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) is not installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment;

(f) is fully enclosed and made of material that is at least flame resistant;

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

(h) is not 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.

(4) A cabin crew member may allow cargo, including a carry-on baggage, to be carried anywhere in the passenger compartment of a small aeroplane, if it is—

(a) carried in an approved cargo rack, bin, or compartment installed in or on the aircraft;

(b) secured by an approved means; or

(c) carried in accordance with each of the following—

(i) 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;

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

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

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

(v) 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;

(vi) it is not carried directly above seated occupants;

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

(viii) 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.
Stowage of food, beverage and passenger service

112. No person shall allow the movement of an aircraft on the surface, take-off or landing—

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

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

Securing of passenger cabin and galley

113. (1) In this section

“approved stowage area” means—

(a) the area under a passenger seat; or

(b) a locker, overhead or other, utilised in accordance with the placarded mass limitation of the locker.

(2) Before take-off and landing and whenever deemed necessary in the interests of aviation safety, the Pilot In Command shall ensure that—

(a) all equipment, baggage and loose articles in the cabin of the aeroplane, including passenger service items and crew members’ and passengers’ personal effects, are properly secured and stowed so as to avoid the possibility of injury to persons or damage to such aeroplane through the movement of such articles caused by in-flight turbulence or by unusual accelerations or manoeuvres; and

(b) all aisles, passage ways, exits and escape paths are kept clear of obstructions.

(3) All solid articles shall be placed in approved stowage areas in the aeroplane at all times whenever the seat belt lights are illuminated or when so directed by the Pilot in Command of such aeroplane.

(4) No take-off or landing shall be commenced by the Pilot-In-Command of the aeroplane unless he or she has been informed of the safe condition of the cabin.

Passenger information signs and briefings

114. (1) 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.

(2) A pilot-in-command of an aircraft shall ensure that the crew and passengers are made familiar, by means of an oral briefing or by other means, with the location and use of the following items, where appropriate—

(a) seat belts;

(b) emergency exits;

(c) life jackets;

(d) oxygen dispensing equipment; and

(e) other emergency equipment provided for individual use, including passenger emergency briefing cards.

(3) No person shall commence a take-off of an aircraft unless the passengers are briefed prior to take-off and in accordance with the air operator certificate holder’s operations manual procedures on—

(a) smoking limitations and prohibitions;

(b) emergency exit location and use;

(c) use of safety belts;

(d) emergency floatation means, location and use;

(e) location and the general manner of use of the principal emergency equipment for collective use;

(f) fire extinguisher location and operation;

(g) placement of seat backs;

(h) emergency use of oxygen; and

(i) the passenger briefing card.
(4) A pilot-in-command shall ensure that the passengers in an aircraft are briefed to keep their seat belts fastened while seated immediately before or after turning the seat belt sign off.

(5) A pilot-in-command of an aircraft may delegate the responsibility of briefing passengers under this section to any other crew member on board the aircraft.

(6) The pilot in command of an aircraft shall ensure that the passenger safety briefing has been conducted prior to take-off.

(7) 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.

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

(9) 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 briefing—extended diversion time operations

115. No person may commence extended diversion time operations unless all passengers have been orally briefed on the location and operations of life preservers, life rafts and other flotation means, including a demonstration of the method of donning and inflating a life preserver.

Passenger seats, safety belts and shoulder harnesses

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

(3) 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.

(4) 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.

(5) When a cabin crew member is required in an air transport service, the pilot-in-command may delegate the responsibility specified in subsection (1) to a cabin crew member.

(6) No person may, during take-off and landing use or permit the use by more than one person who have reached their second birth day, a safety belt provided for one occupant.

Passenger seat backs

117. (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 the requirement in subsection (1) 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.

Age restriction

118. (1) No operator shall employ a pilot who has attained the age of 65 years to operate an aircraft used to provide air transport service.
(2) No person may serve nor may any Air Operator Certificate holder use a person as a required Pilot In Command in single pilot international operations if that person has reached his or her 60th birthday.

(3) An Air Operator Certificate holder for aircraft engaged in commercial air transport operations requiring more than one pilot may have both flight crew members with age up to 65 years.

(4) Check airmen and examiners who have reached their 65th birthday or who do not hold an appropriate medical certificate may continue their check airman functions, but may not serve as or occupy the position of a required pilot flight crew member on an aeroplane engaged in international commercial air transport operations.

Licence requirements for pilot-in-command

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

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

(b) a type rating for that aircraft.

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

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

(b) a type rating for that aircraft; and

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

Licence requirements for co-pilot and cruise pilot

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

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

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

(2) No pilot may act as a cruise relief pilot in commercial air transport operations unless he or she holds an Airline Transport Pilot Licence with category, and if applicable, class and type ratings, and has completed all training to serve as Pilot-In-Command with the exception of initial operating experience.

Persons qualified in flight release

121. No person shall act as a flight operations officer in releasing a scheduled passenger-carrying aircraft unless that person—

(a) holds a flight operations officer licence or an airline transport pilot licence; and

(b) is currently qualified by the operator for the operation and type of aircraft used.

Flight operations officer/flight dispatcher

122. (1) When the Operator requires that a flight operations officer or flight dispatcher, employed in conjunction with an approved method of control and supervision of flight operations, that flight operations officer or flight dispatcher shall be licensed in accordance with the provisions of applicable Civil Aviation personnel licensing regulations.

(2) In accepting proof of qualifications other than the option of holding of a flight operations officer or flight dispatcher licence, the Authority, in accordance with the approved method of control and supervision of flight operations, shall require that, as a minimum, such persons meet the requirements specified in applicable Civil Aviation personnel licensing regulations for the flight operations officer or flight dispatcher licence.

(3) A flight operations officer or flight dispatcher shall not be assigned to duty unless that person has—

(a) satisfactorily completed an operator-specific training course that addresses all the specific components of its approved method of control and supervision of flight operations specified in the Fourth Schedule;

(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.
(4) For the purpose of the qualification flight, the flight operations officer or flight dispatcher must be able to monitor the flight crew intercommunication system and radio communications, and be able to observe the actions of the flight crew.

(5) The flight operations officer or dispatcher shall have demonstrated to the operator knowledge of—
(a) the contents of the operations manual; and
(b) the radio equipment in the aeroplanes used; and
(c) the navigation equipment in the aeroplanes used; and
(d) 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;
   (iv) the aeroplane loading instructions;
   (v) skills related to human performance relevant to dispatch duties; and
   (vi) the ability to perform the duties specified in section 34.

(6) A flight operations officer or flight dispatcher shall not be assigned to duty after 12 consecutive months of absence from such duty, unless the provisions of requalification specified in the applicable Civil Aviation Personnel Licensing regulations are met.

Company procedures indoctrination

123. (1) No person shall 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.

(2) The company’s indoctrination training shall cover the following areas—
(a) a complete review of operations manual procedures pertinent to the flight crew member or flight operation officer’s duties;
(b) the operator’s organisation, scope of operation, and administrative practices as applicable to crew member assignments and duties;
(c) the appropriate provisions of any applicable Civil Aviation Regulations and other laws and guidance materials;
(d) the operator’s policies and procedures;
(e) crew member and operators duties and responsibilities;
(f) operators testing programme for alcohol and narcotic psychoactive substances;
(g) contents of the operator’s certificate holders and operations specifications; and
(h) other applicable crew member manuals.

(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

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

(2) An operator or owner of an aircraft not holding a permanent approval to carry dangerous goods shall ensure that 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—
(a) an awareness is gained of the hazards associated with dangerous goods; and
(b) they are knowledgeable on how to identify such goods.

(3) The operator shall have his staff trained in accordance with guiding principles specified in the applicable Civil Aviation Dangerous Goods Regulations and as stipulated in the Twelfth Schedule.
Security training programmes

125. (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 and the 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 the behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behaviour 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

126. (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.

Initial aircraft ground and flight and emergency equipment training

127. (1) No person shall serve as a crew member unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crew member position approved by the Authority for the emergency equipment available on the aircraft to be operated.

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

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

(a) protective breathing equipment drill; and
(b) fire-fighting drill; and
(c) 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;
(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.

(7) The syllabi for initial emergency equipment drill is as specified in the Thirteenth Schedule.

Initial aircraft type ground, flightcrew, cabin crew and flight operations officer training

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

(2) The aircraft type to be used for initial aircraft ground training for a flight crew member shall include—
(a) aircraft-specific performance;
(b) mass and balance;
(c) operational policies;
(d) systems, limitations, normal, abnormal and emergency procedures;
(e) use of checklist;
(f) flight planning;
(g) navigation systems;
(h) autoflight including autopilot, auto thrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators, cockpit familiarisation.

(3) Instructions for flight training referred to in subsection (1) 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;
(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.

(4) 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.

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

(6) For cabin crew members, 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 they operate.

(7) For flight operations officers, aircraft initial ground training shall include the pertinent portions of the Operations Manual relating to aircraft-specific flight preparation procedures, performance, mass and balance, systems, limitations for the aircraft types they operate.

(8) Provisions relating to training syllabus for flight crews are as specified in the Fifth Schedule.
(9) Provisions relating to training syllabus for cabin crew members are as specified in the Sixth Schedule.

(10) Provisions relating to training syllabus for flight operation officers are as detailed in the Fourth Schedule.

Initial specialised operations training

129. (1) No person shall serve as a flight crew member unless that person has completed the appropriate initial specialised operations training curriculum approved by the Authority.

(2) Specialised operations for which initial training curricula shall be developed include—
(a) a low visibility operations including low Category II and III operations;
(b) an extended diversion time operations;
(c) a specialised navigation;
(d) a pilot-in-command right seat qualification;
(e) reduced visual separation minima; and
(f) command course for aircraft above 5700kg.

(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 minima; and
   (ii) knowledge of specialised equipment, such as Initial Navigation System, Loran and Omega;
(b) Category II and Category III operations approaches including—
   (i) special equipment, procedures and practice; and
   (ii) a demonstration of competency;
(c) standard minimum take-offs; including—
   (i) runway and lighting requirements;
   (ii) rejected take-offs at or near V1 with a failure of the most critical engine;
   (iii) taxi operations; and
   (iv) procedures to prevent runway incursions under low visibility conditions;
(d) extended range operations with two turbine engine aircrafts;
(e) airborne radar approaches; and
(f) autopilot.

(4) Some of the operations that require specialised training are indicated in the Fourteenth Schedule.

Aircraft differences

130. (1) No person may serve nor may any Air Operator Certificate holder use a person as a flight operations officer or crew member on an aircraft of a type for which a differences curriculum is included in the Air Operator Certificate holder’s approved training programme, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

(2) The aircraft differences training shall be as stipulated in the Fifteenth Schedule.

Introduction of new equipment or procedures

131. No person may serve nor may any Air Operator Certificate holder use a person as a flight crew member when that service would require expertise in the use of new equipment or procedures for which a curriculum is included in the Air Operator Certificate holder’s approved training programme, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.
Aircraft and instrument proficiency checks

132. (1) No person shall 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 appropriate class and category.

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

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

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

(a) includes all manoeuvres and procedures required for a type rating practical test; and

(b) is conducted by an examiner approved by the Authority.

Competency checks flight operations officer

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

(2) Examiners of the flight operations officer 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 examiner 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) Examiners 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 examiner 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 aircraft or other special operations authorised by the Authority unless that flight operations officer submits special operations competency checks to the Authority.

Supervised line flying pilots

134. (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—

(a) made at least two take-offs and landings in the type of aircraft used; and

(b) 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 evaluation

135. (1) The Authority shall conduct competency checks for cabin crew members to evaluate that each candidate’s proficiency level is sufficient to successfully perform assigned duties and responsibilities.

(2) The Authority or designated examiner approved by the Authority shall observe and evaluate competency checks for cabin crew members.

(3) The areas to be evaluated are set out in the Sixth Schedule.

Line observations for flight operations officers

136. No person shall serve as a flight operations officer unless within the preceding 12 months of that service, that person has observed, in the cockpit, the conduct of two complete flights over routes representative of those for which that person is assigned duties.

Route and area checks for pilot qualification

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

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

(3) A pilot-in-command of an aircraft shall demonstrate operational competency by navigation over the route or area to be flown and aerodromes to be used as pilot-in-command under the supervision of a check pilot.

(4) The pilot-in-command shall make actual approaches while accompanied by a pilot who is qualified 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; or

(b) the descent from the initial approach altitude can be made by day in visual meteorological conditions; or

(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.

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

Pilot proficiency checks

138. (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 a type of aircraft.

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

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

(4) The pilot-in-command shall demonstrate to the check pilot knowledge in the following—
(a) the terrain and minimum safe altitudes;
(b) the seasonal meteorological conditions;
(c) the search and rescue procedures;
(d) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place;
(e) the procedures applicable to—
   (i) flight paths over heavily populated areas of high air traffic density;
   (ii) obstructions;
   (iii) physical layout;
   (iv) lighting, approach aids;
   (v) arrival, departure, holding and instrument approach procedures;
   and
   (vi) applicable operating minimums;
and
(f) notices to airman.

Single pilot operations under the Instrument flight Rules (IFR) or at night

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

(2) The pilot-in-command shall—
(a) for operations under the Instrument Flight Rules or at night, have accumulated at least 50 hours flight time on the class of aircraft, of which at least 10 hours shall be as pilot-in-command;
(b) for operations under the Instrument Flight Rules, have accumulated at least 25 hours flight time under the Instrument Flight Rules on the class of aeroplane, which may form part of the 50 hours flight time in paragraph (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 paragraph (a);
(d) for operations under the Instrument Flight Rules, have acquired recent experience as a pilot engaged in a single pilot operation under the Instrument Flight Rules of—
   (i) at least five Instrument Flight Rules flights, including three instrument approaches carried out during the preceding 90 days on the class of aeroplane in the single pilot role; or
   (ii) an Instrument Flight Rules instrument approach check carried out on such an aircraft 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 aircraft in the single pilot role in the preceding 90 days; and
(f) have successfully completed training programmes that include passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

(4) An aircraft shall not be operated under instrument flight rules or during the night by a single pilot, unless authorised by the Authority.

(5) Notwithstanding the provisions of subsection (3), an aircraft may be operated under instrument flight rules or during the night by a single pilot, if the—
(a) flight manual does not require a flight crew of more than one;
(b) aircraft is propeller driven;
(c) maximum approved passenger configuration is not more than nine;
(d) maximum certified take-off mass does not exceed 5 700 kilograms;
(e) aircraft is equipped as described by the Authority; and
(f) pilot-in-command has satisfied the Authority that he or she has the requisite experience, training, and has the checking requirements of the aircraft.
Pilot in Command low minimums authorisation

140. (1) A pilot-in-command who has not completed 15 flights performing pilot-in-command duties in an aircraft type, including five approaches to landing using Category I or II operations procedures, shall not plan or initiate an instrument approach when the Decision Height or Minimum descent altitude is less than three hundred feet and the visibility is less than 2,000 metres.

(2) A pilot-in-command who has not completed 20 flights performing pilot-in-command duties in an aircraft including five approaches and landing using Category III operations procedures, shall not plan for or initiate an approach when Decision Height or Minimum descent altitude is less than 100 feet or the visibility is less than 400 metres runway visual range.

Designated special aerodromes and heliports—pilot in command qualification

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

(2) No person shall serve as pilot-in-command for operations at special aerodromes or helipad qualifications unless within the preceding 12 months the pilot-in-command—
(a) has been qualified by the operator through a pictorial means acceptable to the Authority for that aerodrome or heliport; or
(b) the assigned co-pilot has made three take-offs and landings at that aerodrome or heliport while serving as a flight crew member for the operator.

(3) Designated special aerodrome or helipad qualifications limitations are not applicable if the operation occurs—
(a) during daylight hours;
(b) when the visibility is at least five kilometres; and
(c) when the ceiling at that aerodrome is at least 1,000 feet above the lowest initial approach altitude prescribed for an instrument approach procedure.

Recurrent training-flight crew members

142. (1) No person may serve nor may any air operator certificate holder use a person as a flight crew member unless within the preceding 12 months that person has completed the recurrent ground and flight training curricula approved by the Authority.

(2) The recurrent ground training shall include training on—
(a) aircraft systems and limitations and normal, abnormal and emergency procedures emergency equipment and drills;
(b) crew resource management;
(c) transportation of dangerous goods; and
(d) safety and security training.

(3) The recurrent flight training curriculum 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 take off to the lowest applicable minimum low visibility take off and two approaches to the lowest approved minimums for the air operator certificate holder, one of which is to be a missed approach.

(4) The syllabus for flight crew recurrent training is specified in the Seventh Schedule.

(5) 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.

(6) 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.
(7) The period of validity of a line check referred to under subsection (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.

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

(9) The period of validity of an emergency and safety equipment check referred to under subsection
(8) 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.

(10) 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 shall undergo 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.

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

(12) 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.

Use of flight simulation training devices

143. (1) Each flight simulation training device that is used for flight crewmember qualification shall—
(a) be specifically approved by the Authority for—
   (i) the Air Operator Certificate holder;
   (ii) the type of aircraft, including type variations, for which the training or check is being
        conducted; and
   (iii) the particular manoeuvre, procedure, or crewmember function involved;
(b) maintain the performance, functional, and other characteristics that are required for approval;
(c) be modified to conform with any modification to the aircraft being simulated that results in changes
to performance, functional, or other characteristics required for approval;
(d) be given a daily functional pre-flight check before use; and
(e) have a daily discrepancy log completed by the appropriate instructor or check airman at the end
    of each training or check flight.

(2) The simulation device shall have the same technology for the basic flight instruments (attitude
indicator, airspeed, altimeter, heading reference) as those of the aircraft used by the operator.

(3) Operators that have electronic or glass displays shall use simulators that have electronic or glass
displays.

(4) Operators that have standard instruments shall use simulators that have standard instruments.

Approval of a flight simulation training device for credit in training and checking

144. (1) No Air Operator Certificate holder may use a flight simulation training device for training or
checking unless that simulator has been specifically approved for the Air Operator Certificate holder in writing
by the Authority.
(2) No Air Operator Certificate holder may use a simulator for credit in training, recency and checking other than that specified in the Authority’s approval.

Recurrent training and re-establishment of qualifications—cabin crew members

145. (1) No person may serve nor may any Air Operator Certificate holder use a person as a cabin crew member unless within the preceding 12 calendar-months that person has completed the recurrent ground curricula approved by the Authority relevant to the type and variant of aircraft and operations to which he or she is assigned.

(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 these regulations.

(3) The period of validity of recurrent training and the associated checking required by this regulation shall be 12 months.

(4) If issued within the final three calendar months of validity of a previous check, the period of validity referred to in subsection (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 section is conducted by suitably qualified persons.

(6) The recurrent ground training shall include training on—

(a) aircraft-specific configuration, equipment and procedures;
(b) emergency and first aid equipment and drills;
(c) crew resource management;
(d) recognition or transportation of dangerous goods; and
(e) security training.

(7) An operator shall ensure that every 12 months, the programme of practical training includes the following—

(a) emergency procedures, including pilot incapacitation;
(b) evacuation procedures, including crowd control techniques;
(c) touch-drills by each cabin crew member for opening normal and emergency 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;
(e) portable oxygen and protective breathing equipment;
(g) first aid and the contents of the first aid kit;
(h) stowage of articles in the cabin;
(i) security procedures;
(j) incident and accident review; and
(k) crew resource management.

(8) 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 window;
(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 halon extinguishers, an alternative extinguishing agent may be used; and
(ii) the donning and use of protective breathing equipment by each cabin crew member in an 
enclosed, simulated smoke-filled environment;
(d) the use of pyrotechnics, actual or representative devices; and
(e) a demonstration of the use of the life-raft, or slide-raft, where fitted.

(9) Specific normal and emergency programme training requirements for cabin crew members are set 
out in the Eighth Schedule.

(10) A required cabin crew member who, due to a period of inactivity, has not met the recurrent training 
requirements in paragraphs in this section shall complete the initial Air Operator Certificate training programme 
and competency check.

**Recurrent training and re-establishment of qualifications—flight operations officers**

146. (1) No person may serve nor may any Air Operator Certificate holder use a person as a flight operations 
officer unless within the preceding 12 calendar-months that person has completed the recurrent ground curricula 
approved by the Authority relevant to the types and variants of aircraft and positions to which he or she is 
assigned.

(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 and 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 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.

**Training for other staff**

147. (1) An operator shall provide initial, recurrent and refresher training and checking for any person 
whose function is essential to safe operations in terms of these regulations.

(2) The training specified in subsection (1) shall be given to the following—
(a) flight followers;
(b) ground service personnel whose function involves working in, on or around the operator’s aircraft; 
and
(c) any other person deemed necessary by the Authority.

**Training programme approval**

148. (1) An air operator shall submit his or her ground and flight training programme and any amendments 
thereto to the Authority for approval.

(2) The interim and formal approval process shall be as determined by the Authority.

(3) The Authority may approve an operator to have its training programme either whole or in part 
contracted to another organisation in accordance with the provisions specified by the Authority.

(4) The Authority may extend the validity period of any required training, check or demonstration of 
competency by up to 30 days where the Authority is satisfied that the application is justified and that aviation 
safety is not likely to be compromised:

Provided the request for extension is submitted prior to the expiration of the training, check or 
demonstration of competency.
Flight instructor qualifications

149. No person shall serve as an instructor in an established training programme, with respect to the aircraft type involved, unless such person—

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

Flight instructor training

150. (1) No operator shall use a person as a check pilot in an established training programme unless authorised by the Authority 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;
(b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a pilot-in-command;
(c) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a pilot-in-command;
(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;
(f) has been approved by the Authority for the check pilot duties involved as applicable; and
(g) within the preceding 24 calendar months, satisfactorily conducts instruction under the observation of an inspector from the Authority.

(2) An Air Operator Certificate holder may accomplish the observation check for a flight instructor, in part or in full, in an aeroplane or a flight simulation training device.

(3) Each Air Operator Certificate holder shall ensure that initial ground training for flight instructors includes the following—

(a) flight instructor duties, functions, and responsibilities;
(b) applicable regulations and the Air Operator Certificate holder’s policies and procedures;
(c) appropriate methods, procedures, and techniques for conducting the required checks;
(d) proper evaluation of student performance including the detection of—
  (i) improper and insufficient training;
  (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 aeroplane;
(g) except for holders of existing flight instructor licences or rating—
  (i) the fundamental principles of the teaching-learning process;
  (ii) teaching methods and procedures; and
  (iii) the instructor-student relationship.

(4) Each Air Operator Certificate holder shall ensure that the transition ground training for flight instructors includes the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the flight instructor is in transition.

(5) Each Air Operator Certificate holder shall ensure that the initial and transition flight training for flight instructors includes the following—
(a) the safety measures for emergency situations that are likely to develop during instruction;

(b) the potential results of improper, untimely or non-execution of safety measures during instruction;

(c) for pilot flight instructor—
   (i) inflight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence as an instructor; and
   (ii) the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction.

(6) An Air Operator Certificate holder may accomplish the flight training requirements for flight instructors in full or in part in flight or in a flight simulation training device, as appropriate.

(7) An Air Operator Certificate holder shall ensure that the initial and transition flight training for flight instructors (flight simulation training device) includes the following—

(a) training and practice in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight instruction required by these regulations which may be accomplished in full or in part in a flight simulation training device;

(b) training in the operation of flight simulation training devices, to ensure competence to conduct the flight instruction required by these regulations.

Check airman designation

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

Check airman qualifications

152. (1) A person shall not serve as a check pilot in an aircraft or a flight simulation training device in a training programme unless, with respect to the aircraft type involved, that person has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as pilot-in-command.

(2) An operator shall ensure that initial ground training for check pilots includes—

(a) check pilot duties, functions, and responsibilities;

(b) applicable regulations and the air operator certificate holder’s policies and procedures;

(c) appropriate methods, procedures, and techniques for conducting the required checks;

(d) proper evaluation of student performance including the detection of—
   (i) improper and insufficient training; and
   (ii) personal characteristics of an applicant that could adversely affect safety;

(e) appropriate corrective action in the case of unsatisfactory checks;

and

(f) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft.

(3) An operator shall ensure that the initial and transition flight training for check pilots in an aircraft includes—

(a) training and practice in conducting flight evaluations, from the left and right pilot seats for 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, for emergency situations that are likely to develop during an evaluation.

(4) An operator shall ensure that the initial and transition flight training for check pilots in a Flight Simulation Training Device includes—
(a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by these regulations; and

(b) training in the operation of synthetic flight trainers to ensure competence to conduct the evaluations required by these regulations.

(5) An operator shall accomplish flight training for check pilot in full or in part in an aircraft in flight or in a flight simulation training device, as appropriate.

**Monitoring of training and checking activities**

153. (1) To enable adequate supervision of its training and checking activities, the Air Operator Certificate holder shall forward to the Authority at least two weeks locally and one month abroad before the scheduled activity dates, report times and report location 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 subsection (1) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.

**Termination of a proficiency, competence or line check**

154. No operator shall use a crew member or flight operations officer whose check is terminated in commercial air transport, unless a recheck of that crew member or flight operations officer has been carried out.

**Recording of crew member qualifications**

155. (1) The operator shall record and maintain for each crew member and flight operations officer, a record of each test and check as required by these regulations.

(2) A pilot may complete the curricula required by these regulations concurrently or intermixed with other required curricula, but completion of each of these curricula shall be recorded separately.

(3) An Operator shall keep all training records of all personnel for periods of prescribed by the Authority.

**Eligibility period**

156. (1) In this section—

“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.

(2) 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.

(3) For calculation of the next due date, completion of the requirement in subsection (2) at any time during the period shall be considered as completed in the month due.

**Reductions in requirements**

157. (1) The Authority may authorise reductions in, or waive, certain portions of the training requirements of these regulations, taking into account the previous experience of the crew members.

(2) Any Air Operator Certificate holder’s request for reduction or waiver shall be made in writing and outline the basis under which the request is made.

(3) If the request was for a specific crew member, the correspondence from the Authority authorising the reduction and the basis for it shall be filed in the record the Air Operator Certificate holder maintains for that crew member.

(4) A person may not complete the programmed hours of flight training for the particular aircraft if—

(a) he or she progresses successfully through flight training; or
(b) recommended by their instructor or a check airman; or
(c) successfully completes the appropriate flight check for a check airman; or
(d) permitted by the Authority.

(5) Whenever the Authority finds that 20 per cent of the flight checks given at a particular training organisation during the previous six months are unsuccessful, the method of approval in subsection (4) will not be used by the Air Operator Certificate holder at that organisation until the Authority finds that the effectiveness of their flight training there has improved.

**Records of cosmic radiation**

158. For each flight of an aeroplane above 15,000 m (49,000 ft.), each Air Operator Certificate holder shall maintain records so that the total cosmic radiation dose received by each crew member over a period of 12 consecutive months can be determined.

**PART IX**

**Flight Rules**

**Operation of aircraft on the ground**

159. (1) A person shall not taxi an aircraft on a controlled aerodrome unless the person—
(a) is authorised by the owner, the lessee or a designated agent;
(b) is fully competent to taxi the aircraft;
(c) is qualified to use the radio, if radio communication is required;
(d) has received instruction from a competent person in respect of—
   (i) aerodrome layout; and
   (ii) routes, signs, markings, lights and signals; and
(e) is able to conform to the operational standards required for safe aircraft movement at the aerodrome.

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

**Take off conditions**

160. 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 will allow for safe take-off and departure; and
(b) the Runway Visual Range or visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum.

**Flight into known or expected icing**

161. (1) No person shall conduct a take-off or continue a flight in an aeroplane when icing conditions are reported to exist or are forecast to be encountered along the route to be flown unless the aeroplane is equipped to be operated in such conditions and the aircraft type certificate authorises flight in such conditions.

(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.

(3) No person may take off an aircraft for commercial air transport operations when conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless—
(a) the aircraft has been inspected for icing; and
(b) the procedures approved by the Authority are followed to ensure ground de-icing and anti-icing is accomplished.

(4) In no case shall a flight be initiated or continued in icing conditions where in the opinion of the Pilot In Command, the conditions experienced may adversely affect the safety of the flight.
(5) No person shall operate an aeroplane in icing conditions at night unless the aeroplane is equipped with a means to illuminate a representative surface or otherwise detect the formation of ice.

(6) No person shall conduct or attempt to conduct a take-off in an aeroplane that has frost, ice or snow adhering to any of its critical surfaces.

(7) Notwithstanding subsection (6), a person may conduct a take-off in an aeroplane that has frost adhering to the underside of its wings that is caused by cold-soaked fuel, if the take-off is conducted in accordance with the aeroplane manufacturer’s instructions for take-off under such conditions.

(8) Where conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, no person shall conduct or attempt to conduct a take-off in an aeroplane unless the operator has established an aeroplane inspection programme in accordance with a surface contamination programme approved by the Authority and the dispatch and take-off of the aircraft are in accordance with that programme.

(9) The inspection referred to in subsection (8) shall be performed by—
   (a) the pilot-in-command;
   (b) a flight crew member of the aircraft who is designated by the pilot-in-command; or
   (c) a person, other than a person referred to in paragraph (a) or (b), who—
      (i) is designated by the operator of the aeroplane; and
      (ii) has successfully completed an aeroplane surface contamination training programme approved for such operator.

(10) Where, before commencing take-off, a crew member of an aeroplane observes that there is frost, ice or snow adhering to the wings of the aeroplane, the crew member shall immediately report that observation to the pilot-in-command, or a flight crew member designated by the pilot-in-command, shall inspect the wings of the aeroplane before take-off.

(11) Before an aeroplane is de-iced or anti-iced, the pilot-in-command of the aeroplane shall ensure that the crew members and passengers are informed of the decision to do so.

(12) An air service operator is not required to have a programme referred to in subsection (8) if it includes a statement in its operations manual that the operator will not dispatch its aeroplane into any region or country where it could be reasonably expected that surface contamination could at anytime form on the aeroplane, while parked or operating on the ground.

Altimeter settings

162. A person operating an aircraft other than a balloon or glider shall maintain a cruising altitude or flight level referenced to an altimeter setting provided by the control tower.

Minimum safe altitudes—general

163. (1) No person shall 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) 300 m (1 000 ft) above the highest obstacle within a horizontal radius of 600 m (2 000 ft) of the aircraft over any congested area of a city, town, or settlement, or over any open-air assembly of persons;
   (c) 150 m (500 ft) above the surface, except over open water or sparsely populated areas where the aircraft may not be operated closer than 150 m (500 ft) to any person, vessel, vehicle, or structure.

(2) Pilots of helicopters are not subject to the proximity restrictions provided they are operated in a manner that is not hazardous to persons and property on the surface.

(3) A pilot-in-command of an aircraft shall comply with any routes or altitudes for the areas that are prescribed for aircraft by the Authority.

Minimum safe Visual Flight Rules altitudes

164. No person shall, except for take-off or landing purposes, operate an aircraft below—
   (a) altitude less than 300 metres (1 000 feet) above the surface or within 300 metres (1 000 feet) of a mountain, or any obstruction to an aircraft during the day under Visual Flight Rules; or
(b) an altitude less than 300 metres (1 000 feet) above the highest obstacle within a horizontal distance of eight kilometres from the centre of the intended course at night under visual flight rules.

Instrument approach operating minima

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

(2) Each operator’s method for determining aerodrome-operating minima shall accurately account for—
(a) the type, performance and handling characteristics of the aircraft;
(b) the composition and experience of the flight crew;
(c) the dimensions and characteristics of the runways selected for use;
(d) aircraft equipment used for navigation and aircraft control during the approach to landing and the missed approach;
(e) obstacles in the approach and missed approach areas and the obstacle clearance altitude or height for the intended instrument approach procedures;
(f) the means used to determine and report meteorological conditions;
(g) the obstacles in the climb out areas and the necessary clearance margins;
(h) the adequacy and performance of the available visual and non-visual ground aids; and
(i) the declared distances, for helicopters.

(3) Notwithstanding subsection (2)—
(a) no person shall operate to or from an aerodrome using operating minima lower than those which may be established for such aerodrome, unless approved by the Authority; and
(b) no person shall conduct instrument approach and landing operations below 800 metres visibility, unless the runway visual range information is provided.

Category II and III operations— general operating rules

166. (1) No person shall operate an aircraft in Category II or Category III, unless —
(a) a pilot-in-command and co-pilot of the aircraft hold the appropriate authorisation and ratings;
(b) a flight crew member has 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) No person may operate a civil aircraft in a Category II or Category III operation unless—
(a) each ground component required for that operation and the related airborne equipment is installed and operating; and
(b) authorised by the Authority.

(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 if—
(a) the aircraft is in a position to descent and land on the intended runway at normal manoeuvres with descent rate which will allow touchdown to occur within the touchdown zone of the runway of the intended landing; or
(b) 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 in subsection (3) are not met.

**Category II and Category III manual**

167. (1) No person shall operate an aircraft in Category II and Category III, unless—

(a) there is available in the aircraft, a current and approved Category II or Category III manual, appropriate for such aircraft;

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

(c) the instrument and equipment listed in the manual are required for a particular Category II or Category III operation is inspected and maintained in accordance with the maintenance programme contained in the manual.

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

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

(4) Each Category II or III manual shall contain—

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

(b) a maintenance programme;

(c) the procedures and instructions related to recognition of Decision Height, use of Runway Visual Range (RVR) information, approach monitoring, the decision region (the region between the middle marker and the decision height), the maximum permissible deviations of the basic Instrument Lending System indicator within the decision region, a missed approach, use of airborne low approach equipment, minimum altitude for the use of the autopilot, instrument and equipment failure warning systems, instrument failure, and other procedures, instructions, and limitations that may be found necessary by the Authority.

(5) Category II approval shall be required prior to obtaining Category III approval.

**Exemption from certain Category II operations**

168. The Authority may grant an exemption for the operation of a Category II operation, if the operator may demonstrate to the Authority that the proposed operation will be safely conducted.

**Diversion decision-engine inoperative**

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

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

(a) the nature of malfunction and the possible mechanical difficulties that may occur if the flight is continued;

(b) the altitude, mass, and usable fuel at the time of engine stoppage;

(c) the weather conditions en route and possible landing points;

(d) the air traffic congestion;

(e) the kind of terrain; and

(f) familiarity with the aerodrome to be used.

**Operating near other aircraft— including formation flights**

170. (1) No person shall operate an aircraft close to another aircraft in a manner likely to cause a collision.

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

(a) by arrangement with the pilot-in-command of the aircraft in the formation; or
(b) the aircraft is in a controlled airspace, in accordance with conditions prescribed by the appropriate air traffic authority which includes—
   (i) the formation operates as a single aircraft with regard to navigation and position reporting;
   (ii) separation between aircraft in the flight shall be the responsibility of the flight leader and the pilots in command of the other aircraft in flight;
   (iii) separation between aircraft shall include periods of transition when aircraft are manoeuvring to attain their own separation within the formation and during join-up and break-away; and
   (iv) a distance not exceeding 1 km (0.5 nm) laterally and longitudinally and 30 m (100 ft) vertically from the flight leader shall be maintained by each aircraft.

(3) No person may operate an aircraft, carrying passengers for hire, in formation flight.

Use of aircraft lights

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

(2) No person shall operate an aircraft, unless—
   (a) the aircraft is clearly illuminated;
   (b) the anti-collision lights are on; or
   (c) the aircraft is in an area marked by obstruction lights.

Simulated instrument flight in aircraft

172. (1) The owner or operator of an aircraft shall ensure that no person operates the aircraft in simulated instrument flight in Visual Metrological Conditions unless—
   (a) the other aircraft control seat is occupied by a safety pilot who possesses at least a Private Pilot’s Licence with category and class ratings appropriate to the aircraft being flown;
   (b) the safety pilot referred to in paragraph (a) has adequate vision, forward and to each side of the aircraft, or there is a competent observer in the aircraft who adequately supplements the vision of the safety pilot; and
   (c) except in the case of lighter-than-air aircraft, the aircraft is fitted with fully functioning dual controls:

Provided that simulated instrument flight may be conducted in a single engine aircraft, equipped with a single, functioning throw-over control wheel in place of fixed dual controls of the elevator and ailerons, when—
   (i) the safety pilot has determined that the flight can be conducted safely; and
   (ii) the person manipulating the controls has at least a Private Pilot’s Licence with appropriate category, class and type ratings.

(2) When simulated instrument flight is being practised by a pilot, at least one of the two pilots shall hold the appropriate valid type rating in respect of the aircraft being flown and shall act as the pilot-in-command.

(3) When simulated instrument flight is being practised for the purpose of obtaining an instrument rating, the safety pilot shall be an appropriately rated flight instructor.

Dropping, spraying, towing

173. No person, unless authorised by the Authority, shall—
   (a) tow an aircraft or other objects;
   (b) allow parachute descents; or
   (c) drop, dust or spray from an aircraft.

Aerobatic flight

174. (1) No person shall operate an aircraft in an aerobatic flight—
   (a) over a city, town, or settlement;
   (b) over an open air assembly of people;
(c) within the lateral boundaries of the surface areas of Class B, C, D or E airspace designated for an aerodrome;
(d) below an altitude of (1 500) feet above the surface;
(e) when the visibility is less than three statute miles; and
(f) unless in compliance with conditions prescribed by the Authority.

(2) A person shall not operate an aircraft in manoeuvres exceeding 60 degrees or pitch of 30 degrees from the level flight altitude—
(a) except in an emergency;
(b) unless the occupants of the aircraft are wearing parachutes.

Flight test area

175. A person shall not fly-test an aircraft over open water or densely populated areas.

Operations in reduced vertical separation minima airspace

176. (1) No person shall operate an aircraft in Zimbabwe airspace designated as reduced vertical separation minima without approval of the Authority.
(2) A reduced vertical separation minima aircraft shall operate in compliance with the conditions of the procedure and restrictions required for the airspace.

Operations in the vicinity of controlled aerodrome

177. (1) No person shall operate an aircraft on an aerodrome with an operational control tower, unless a two-way communication is maintained between the aircraft and the control tower.
(2) A pilot-in-command of an aircraft shall upon arrival at a controlled aerodrome, establish communication as required under subsection (1) at least four nautical miles from the aerodrome control zone when operating up to 2 500 (feet).
(3) A pilot-in-command of an aircraft shall on departure establish communication with the control tower before taxing.
(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.

Operations in the vicinity of uncontrolled aerodrome

178. (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 aircraft; 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 aircraft in operation.

Aerodrome traffic pattern altitudes

179. (1) A pilot-in-command of a turbojet, turbofan or large aircraft shall when—
(a) arriving at an aerodrome enter the traffic pattern at least 1 500 feet, until further descent is required.
(b) departing, climb to 1 500 feet as rapidly as practicable.
(2) Unless otherwise specified in an air traffic control instruction, the PIC of an aircraft shall climb or descend to an assigned altitude or flight level at a rate less than 1 500 ft/min throughout the last 1 000 ft of climb or descent to the assigned altitude or flight level.
Compliance with visual and electronic glide slopes

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

(2) A pilot-in-command of a turbojet, turbofan, or a large aircraft shall, when approaching to land on a runway served by an instrument landing system, maintain an altitude at or above the glide slope until a lower altitude is necessary for safe landing.

Restriction or suspension of operations

181. A pilot-in-command or an Air Operator Certificate holder who has knowledge of any conditions that are a hazard to safe operations shall restrict or suspend all commercial air transport operations to such aerodromes and runways as necessary until those conditions are corrected.

Interception

182. (1) No pilot-in-command of an aircraft shall conduct an international flight, unless the procedures and signals relating to the interception of the aircraft are available on the flight deck.

(2) When intercepted by a military or government aircraft, each pilot-in-command shall comply with the international standards when interpreting and responding to visual signals and communication.

(3) The interception of Civil Aircraft procedure is set out in the Ninth Schedule.

Noise abatement procedures

183. (1) A pilot-in-command of an aircraft shall operate the aircraft in accordance with the noise abatement procedures approved by the Authority.

(2) The operator’s noise abatement procedures specified for an aircraft shall be the same for all aerodromes, unless authorised by the Authority.

Single engine aircraft operations

184. (1) No person shall operate a single engine aircraft, unless the aircraft is continually operated in daylight or Visual Flight Rule over such routes and diversions that permit a safe forced landing to be executed in the event of an engine failure.

(2) No person shall operate a single turbine powered aircraft at night or in instrument meteorological conditions; unless the airworthiness certification of the aircraft is appropriate and acceptable to the Authority and that the operation of the aircraft is consistent with air transport services as provided by—

(a) the reliability of the turbine engine;
(b) the operators maintenance procedures;
(c) the operating procedures;
(d) the flight dispatch procedures;
(e) crew training programmes; and
(f) equipment and additional requirements provided by the Authority.

(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.

(4) Any aircraft with a certificate of airworthiness issued after 1st January, 2005, shall have an automatic trend monitoring system.

(5) The aircraft 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 of intended landing and at any alternate aerodrome at which the aeroplane shall, 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.
(6) Subject to subsection (4), 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 can be met, without flying below the minimum flight altitude at any point.

(7) 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 these regulations, unless the aircraft is continually operated—
(a) in daylight;
(b) in Visual Flight Rules; and
(c) at a mass that will allow the aircraft to climb with critical engine inoperative at, at least 50 feet per minute when operating at the minimum en route altitudes of the intended route or any planned diversion or at 5 000 feet mean sea level whichever is greater.

(8) A multi-engine aircraft that is unable to comply with subsection (7)(c) is, for purposes of these regulations, considered to be a single engine aircraft and shall comply with the requirements in subsection (1).

Air traffic control clearance

185. (1) A pilot-in-command of an aircraft shall—
(a) obtain an air traffic control clearance, before operating in a controlled or a portion of a controlled aircraft;
(b) submit to an air traffic control facility a flight plan for an air traffic control clearance;
(c) submit to the appropriate air traffic control facility a report with details for a priority clearance.

(2) 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

186. (1) No person shall deviate from the air traffic control clearance unless—
(a) he or she has obtained an amended clearance; or
(b) in an emergency situation.

(2) 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

187. (1) A pilot-in-command operating an aircraft in a controlled airspace shall—
(a) maintain a continuous listen on the appropriate radio frequency and establish a two-way communication with the appropriate air traffic control facility;
(b) except when landing at a controlled aerodrome, advice the appropriate air traffic control clearance facility as soon as it ceases to be subject to the air traffic control clearance service.

Two-way radio communication failure in Visual Flight Rules

188. (1) A pilot-in-command, in the event of radio communication failure occurring in visual flight rules while under Air Traffic Control, or if Visual Flight Rules conditions are encountered after the failure shall—
(a) continue the flight under Visual Flight Rules;
(b) land at the nearest suitable aerodrome if the weather conditions are at or above basic Visual Flight Rules minimums; and
(c) report arrival to Air Traffic Control by the most expeditious means possible.

(2) The pilot-in-command shall receive and acknowledge clearance to land from the Air Traffic Control tower through universal flight signals set out in the Tenth Schedule.

Route to be flown

189. (1) A pilot-in-command of a controlled flight shall unless otherwise authorised or directed by the appropriate Aircraft Traffic Control—
(a) when on established Air Traffic Control route, operate along the defined centre line of an established Air Traffic Control route; or
(b) when on any other route, operate directly between the navigation facilities or point defining such route.

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

**Inadvertent changes**

190. A pilot-in-command of an aircraft, in the event of a controlled flight inadvertently deviating from its current flight plan, shall—

(a) adjust the heading of the aircraft to regain track as soon as practicable;
(b) 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) notify the appropriate air traffic control facility and give a revised time estimate as soon as possible if the time estimate for a reporting point, flight information region boundary, or destination aerodrome, whichever comes first, is found to be in excess for three minutes from that notified to the air traffic control, or such other period of time as is prescribed by the appropriate Air Traffic Control authority.

**Air Traffic Control clearance—intended changes**

191. A request for a flight plan change shall include—

(a) a change of cruising speed;
(b) a change of route;
(c) a description of new route of flight including related flight plan; or
(d) a description of revised route of flight to revised destination.

**Position reports**

192. A pilot-in-command of a controlled flight shall—

(a) 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;
(b) when requested by the appropriate air traffic control facility, make a report in relation to additional points or intervals;
(c) when operating data link communications providing position information, provide voice position reports to the appropriate Air Traffic Control facility.

**Unlawful interference**

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

(a) notify the appropriate air traffic control facility when an aircraft is subjected to unlawful interference; or
(b) when the aircraft is subjected to unlawful interference, land the aircraft, as soon as practicable.

**Time checks**

194. (1) A pilot-in-command of an aircraft shall use a coordinated universal time in flight operations, expressed in hours and minutes of 24-hour day, beginning at midnight.

(2) A pilot-in-command of an aircraft shall obtain a time check before operating a controlled flight.

(3) Whenever time is used in the application of data link communications, it shall be accurate to within one second of Universal Coordinated Time.
Universal signals

195. (1) A person operating an aircraft shall observe and comply with any designated universal aviation signal as may be required by the interpretation of the signal.

(2) No person shall use a signal likely to—
(a) conflict with a universal aviation signal; or
(b) cause confusion with universal aviation signals.

(3) The universal aviation signals referred to in subsections (1) and (2) are as specified in the Tenth Schedule.

Visual meteorological conditions

196. A person shall not operate an aircraft under visual flight rules when the flight visibility is less than that set out in the Third Schedule.

Visual Flight Rules weather minimums

197. No person shall land or takeoff an aircraft under visual flight rules from an aerodrome located within a controlled zone or enter the aerodrome traffic zone or traffic pattern, unless—
(a) the report ceiling is at 450 metres (1 500 feet);
(b) the reported ground visibility is at 5 kilometres; and
(c) a clearance is obtained from the air traffic control.

Special Visual Flight Rules operations

198. No person shall conduct a special Visual Flight Rules flight operation enter a traffic pattern, land or take-off an aircraft from an aerodrome located in Class B, C, D or E airspace, unless that person is—
(a) authorised by an Air Traffic Control clearance;
(b) the aircraft remain clear of clouds;
(c) the flight visibility is at 1 500 m (1 statute mile);
(d) the pilot-in-command qualified in Instrument Flight Rules operations.

Visual Flight Rules cruising altitudes

199. A person operating an aircraft in level cruising flight under visual Flight Rules at an altitude of 900 metres (3 000 feet) from the ground or water shall maintain a flight level appropriate to the track.

Air Traffic Control clearance for Visual Flight Rules flights

200. A pilot-in-command of a Visual Flight Rules flight shall, during the aircraft operation—
(a) comply with an Air Traffic Control clearance; and
(b) maintain a listening watch.

Visual Flight Rules flights requiring Air Traffic Control authorisation

201. (1) No pilot-in-command of an aircraft shall operate a Visual Flight Rules flight without approval from the appropriate air traffic control—
(a) above flight level 200;
(b) at transonic and supersonic speeds;
(c) between sunset and sunrise.

(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 metres (1 000 feet) is applied above flight level 290.

Weather deterioration below Visual Meteorological Condition

202. A pilot-in-command of a Visual Flight Rules flight operating as a controlled flight shall, when he or she finds it not practicable or possible to maintain a flight in Visual Meteorological Condition—
(a) request an amended clearance enabling the aircraft to continue in Visual Meteorological Condition to its destination or to an alternative aerodrome;
(b) continue to operate in Visual Meteorological Condition and notify the appropriate Air Traffic Control facility of the action taken;
(c) request authorisation to operate as a special Visual Flight Rules flight within a controlled zone; or
(d) request a clearance to operate under Instrument Flight Rules.

Change from Visual Flight Rules to Instrument Flight Rules

(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.

Instrument approach operations

204. (1) The Authority shall approve and publish one or more instrument approach procedures designed to support instrument approach operations for an aerodrome located in Zimbabwe to serve each instrument runway or aerodrome utilised for instrument flight operations.
(2) A person operating an aircraft in accordance with instrument flight procedures shall—
(a) comply with the Instrument Flight Rules; and
(b) use the aerodrome instrument approach procedures approved by the State where the operation will take place.

Instrument Flight Rules in controlled airspace

205. A pilot-in-command shall not operate an aircraft in a controlled airspace under Instrument Flight Rules, unless he or she has—
(a) filed an Instrument Flight Rules flight plan; and
(b) received an appropriate Air Traffic Control clearance.

Instrument Flight Rules outside controlled airspace

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

Minimum altitude for instrument flight rules operations

207. No person shall, unless when necessary for take-off or landing, operate an aircraft under instrument flight rules—
(a) below the prescribed minimum altitudes;
(b) over high terrain or in mountainous areas at a level which is less than 600 metres (2 000 feet) above the highest obstacle located within 8 kilometres of the estimated position of the aircraft; or
(c) at a level which is less than 300 metres (1 000 feet) above the highest obstacle located within 8 kilometres of the estimated position of the aircraft; or
(d) a minimum en route altitude and minimum obstruction clearance altitude prescribed for a particular route or route segment within 7 kilometres (22 nautical miles) of the very high frequency Omni-directional range.
Minimum altitude for autopilot

208. No person shall use an autopilot during—
   (a) en route operations at an altitude above the terrain that is less than 500 feet;
   (b) instrument approach operations at an altitude above the terrain that is less than 50 feet below the minimum descent altitude or decision height; or
   (c) Category III approach;
without Authority approval.

Instrument Flight Rules cruising altitude

209. (1) A person operating an aircraft under Instrument Flight Rules in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned to the aircraft by the Air Traffic Controller.

   (2) A person operating an aircraft in level cruising flight under instrument flight rules shall maintain the altitude or flight level appropriate to the track of the cruising level.

Cruising altitude in uncontrolled airspace

210. (1) A person operating an aircraft in level cruising flight under Instrument Flight Rules outside a controlled airspace shall maintain a flight level appropriate to the track of cruising levels for flights above flight level 410.

   (2) A person may deviate from the cruising altitude provided under subsection (1), if authorised by the Air Traffic Controller for a flight at or below 900 metres (3,000 feet) above mean sea level.

   (3) The table of cruising levels is as shown in the Eleventh Schedule.

Instrument Flight Rules radio communication

211. A pilot-in-command of an aircraft operated in a controlled airspace under Instrument Flight Rules shall have a continuous watch on the appropriate frequency and shall report—
   (a) the time and altitude of passing a designated reporting point, or the reporting points specified by an Air Traffic Controller except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by Air Traffic Control need be reported;
   (b) any weather forecast conditions encountered; and
   (c) any information relating to the safety of the aircraft.

Operation under Instrument Flight Rules in Controlled Airspace—Malfunction Reports

212. 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, and the report shall including—
   (a) the aircraft identification;
   (b) the equipment affected;
   (c) the degree to which the capability of the pilot is impaired; and
   (d) the nature and extent of assistance required from the air traffic controller.

Continuation of Instrument Flight Rules flights

213. No pilot-in-command of an aircraft shall continue to fly the aircraft towards an aerodrome or heliport of intended landing, unless the available meteorological information indicates that the conditions at the aerodrome or heliport or at least one destination alternate aerodrome will, at the expected time of arrival, be at or above the specified instrument approach minima.

Instrument approach procedures and Instrument Flight Rules landing minima

214. (1) No person shall make an instrument approach at an aerodrome except in accordance with Instrument Flight Rules minimum and instrument approach procedures established for the aerodrome.

   (2) No Air Operator Certificate holder may make an instrument approach at an aerodrome except as set forth in the Air Operator Certificate holder’s operations specifications.
Commencing an instrument approach

215. (1) No pilot-in-command of an aircraft in commercial air transport services shall continue an approach past the final approach fix or begin the final approach at an aerodrome, unless—

(a) a source approved by the Authority issues a weather report for the aerodrome; and

(b) the latest weather report for such aerodrome issued in terms of paragraph (a) reports the visibility to be equal to or more than the minimums prescribed for the procedure.

(2) An instrument approach shall not be continued below 300 m (1 000 ft) above the aerodrome elevation or into the final approach segment unless—

(a) the reported visibility or controlling Runway Visual Range is at or above the aerodrome operating minima.

(b) the pilot in command is satisfied that, with the runway surface conditions available, the aeroplane performance information indicates that a safe landing can be made.

(3) If after entering the final approach segment or after descending below 300 m (1 000 ft) above the aerodrome elevation, the reported visibility or controlling Runway Visual Range falls below the specified minimum, the approach may be continued to decision altitude or height or minimum decision altitude or height.

Instrument approaches to civil aerodromes

216. (1) Each person operating a civil aircraft shall use a standard instrument approach procedure prescribed by the authorities having jurisdiction over the aerodrome.

(2) A pilot in command when executing an approach procedure which provides for and requires the use of a decision height or minimum descent altitude, shall use the highest of the following—

(a) the decision height or minimum descent altitude prescribed by the approach procedure;

(b) the decision height or minimum descent altitude prescribed for the pilot-in-command;

(c) the decision height or minimum descent altitude for which the aircraft is equipped.

Operation below decision height or minimum descent altitude

217. A pilot-in-command of an aircraft shall not operate an aircraft at an aerodrome or heliport below the authorised minimum descent altitude or continue an approach below the authorised decision height, unless —

(a) the aircraft is continuously in a position from which a descent to a landing on the intended runway is made at a normal rate of descent using normal 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) at least one of the following visual reference for the intended runway is distinctly visible and identifiable to the pilot—

(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.

Execution of a missed approach procedure

218. Each pilot operating a civil aircraft shall immediately execute an appropriate missed approach procedure when either of the following conditions exists—
(a) whenever the required visual reference criteria is not met at the approach minimums;
(b) when the aircraft is being operated below minimum descent altitude; or
(c) upon arrival at the missed approach point, including a decision height where a decision height is specified and its use is required, and at any time after that until touchdown.
(d) whenever an identifiable part of the aerodrome is not distinctly visible to the pilot during a circling manoeuvre at or above minimum descent altitude, unless the inability to see an identifiable part of the aerodrome results only from a normal bank of the aircraft during the circling approach.
(e) A minimum descent height for a circling approach shall referenced to the aerodrome elevation.

Change from Instrument Flight Rules flight to Visual Flight Rules flight

219 (1) A pilot-in-command of an aircraft who wishes to change from Instrument Flight Rules flight to Visual Flight Rules flight, shall notify the appropriate air traffic control facility that the Instrument Flight Rules flight is cancelled and communicate the change to be made to his or her flight plan.

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

Two-way radio communications failure in Instrument Flight Rules

220. (1) If in instrument meteorological conditions or when the pilot of an Instrument Flight Rules flight considers it inadvisable to complete the flight in accordance with Visual Flight Rules the aircraft shall—

(a) unless otherwise prescribed on the basis of regional air navigation agreement, in airspace where radar is not used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft’s failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;
(b) in airspace where radar is used in the provision of Air Traffic Control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of seven minutes following—
   (i) the time the last assigned level or minimum flight altitude is reached; or
   (ii) the time the transponder is set to Code 7600; or
   (iii) the aircraft’s failure to report its position over a compulsory reporting point;

   whichever is later, and thereafter adjust level and speed in accordance with the filed flight plan;
(c) when being radar vectored or having been directed by Air Traffic Control to proceed offset using area navigation (RNAV) without a specified limit, rejoin the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude;
(d) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with paragraph (e) below, hold over this aid or fix until commencement of descent;
(e) commence descent from the navigation aid or fix specified in paragraph (d) at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;
(f) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and
(g) land, if possible, within 30 minutes after the estimated time of arrival specified in paragraph (e) or the last acknowledged expected approach time, whichever is later.

Threshold crossing height for precision approaches

221. An operator of an aircraft shall establish an operational procedure designed to ensure that the aircraft used to conduct 3D instrument approaches, crosses the threshold by a safe margin with the aircraft in the landing configuration.
PART X
EXEMPTIONS

Requirement for application

222. (1) A person may apply to the Authority for an exemption from any of these regulations.

(2) An application for an exemption shall be submitted at least sixty days in advance of the proposed effective date, in order for the Authority to obtain timely review.

(3) A request for an exemption must contain the applicant’s—
   (a) name;
   (b) physical address and mailing address;
   (c) telephone number;
   (d) fax number if available; and
   (e) email address if available.

(4) The application shall be accompanied by the appropriate fee as specified in the Twenty-third Schedule.

Substance of the request for exemption

223. (1) An application for an exemption must contain the following—
   (a) a citation of the specific requirement from which the applicant seeks exemption;
   (b) an explanation of why the exemption is needed;
   (c) a description of the type of operations to be conducted under the proposed exemption;
   (d) the proposed duration of the exemption;
   (e) an explanation of how the exemption would be in the public interest, that is, benefit the public as a whole;
   (f) a detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the regulation in question; and
   (g) a review and discussion of any known safety concerns with the requirement, including information about any relevant accidents or incidents of which the applicant is aware.

(2) Where the applicant seeks emergency processing, the application must contain supporting facts and reasons why the application was not timely filed, and the reasons it is an emergency.

(3) The Authority may deny an application if the Authority finds that the applicant has not justified the failure to apply for an exemption in a timely fashion.

Review, publication and issue or denial of the exemption

224. (1) The Authority shall review the application for accuracy and compliance with the requirements of subsections (4) and (5).

(2) If the application appears on its face to satisfy the provisions of this regulation and the Authority determines that a review of its merits is justified, the Authority will publish a detailed summary of the application in aeronautical information circular or one local daily newspaper for comment and specify the date by which comments must be received by the Authority for consideration.

(3) Where the filing requirements of subsections (4) and (5) have not been met, the Authority will notify the applicant and take no further action until and unless the applicant corrects the application and re-files it in accordance with these regulations.

(4) If the request is for emergency relief, the Authority shall publish the application or the Authority’s decision as soon as possible after processing the application.
Evaluation of the request

225. (1) After initial review, if the filing requirements have been satisfied, the Authority shall conduct an evaluation of the request to determine—

(a) whether an exemption would be in the public interest;

(b) whether the applicant’s proposal would provide a level of safety equivalent to that established by the regulation, although where the Authority decides that a technical evaluation of the request would impose a significant burden on the Authority’s technical resources, the Authority may deny the exemption on that basis;

(c) whether a grant of the exemption would contravene the applicable International Civil Aviation Organisation Standards and Recommended Practices; and

(d) whether the request should be granted or denied, and of any conditions or limitations that should be part of the exemption.

(2) The Authority shall notify the applicant by letter and publish a detailed summary of its evaluation and decision to grant or deny the request.

(3) The summary referred to in subsection (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.

(4) If the exemption affects a significant population of the aviation community Zimbabwe the Authority shall publish the summary in Aeronautical Information Circular.

PART XI

General

Appeals

226. Subject to this Part, any person who is aggrieved by a decision, proposal or action of the Authority under these regulations may appeal against the decision, proposal or action in terms of section 78 of the Act.

Offences and penalties

227. (1) The Authority may impose an appropriate administrative penalty on a person who—

(a) hinders or obstructs an authorised officer, inspector or authorised person in the exercising of his or her or powers or the performance of his or her duties;

(b) refuses or fails to give his or her name and address, or gives a false name or address when called upon to do so by an authorised officer, or inspector;

(c) obstructs or impedes another person from exercising any 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—

(i) a misleading or false statement for the purpose of obtaining any licence, rating, certificate, approval, authorisation, exemption or other document under these regulations;

(ii) a misleading or false entry in any logbook, record, record or report which is required to be kept or maintained under these regulations;

(e) falsifies, counterfeits, alters, defaces or adds anything to, any licence, rating, certificate, approval, authorisation, exemption or other document issued under these regulations;

(f) does, causes or permits to be done, an act contrary to, or who fails to comply with any provision of these regulations;

(g) exercises a privilege granted by, or uses any licence, rating, certificate, approval, authorisation, exemption or other document issued under these regulations, of which he or she is not the holder;

(h) unless otherwise authorised in these regulations, permits a licence, rating, certificate, approval, authorisation, exemption or other document issued under these regulations, of which he or she is the holder, to be or privileges thereof to be exercised by another person;

(i) commits an act by—
(i) interference with any flight crew member, Air Traffic Controller or aircraft maintenance engineer; or
(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; or
(iv) entering 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; or
(v) giving false information pertaining to the investigation of an aviation accident or incident; and

(j) operates or attempts to operate an aircraft in respect of which no valid certificate of registration or valid certificate of airworthiness is issued.

(2) Where criminal proceedings are instituted, the administrative penalties for offences under subsection (2) may be used as guide in determining the appropriate penalty.

(3) Any person who contravenes any provision of these regulations commits an offence and is liable to a fine not exceeding level 14 or to imprisonment for a period not exceeding five years, or to both such fine and such imprisonment.

Civil penalty, service and enforcement

228. (1) Where default is made in complying with any provision of these regulations for which a civil penalty is specified to be leviable, the General Manager may, in addition to, and without derogating from, any criminal or non-criminal penalty that may be imposed by these regulations, or any other law for the conduct constituting the default, serve upon the defaulter a civil penalty order.

(2) A civil penalty order referred to in subsection (1) provides for a combination of a fixed penalty and a cumulative penalty for a specified continuing default where the time of compliance is of the essence—

(a) both of which penalties must be suspended conditionally upon the defaulter taking the remedial action specified in the civil penalty order within the time specified in the order;
(b) which, upon the civil penalty becoming operative because of non-compliance with the requested remedial action, shall provide—
   (i) a fixed penalty of the maximum amount for level 10 for not meeting the specified deadline; and
   (ii) a cumulative penalty of the maximum amount of level 3 for each day, not exceeding ninety days, for which the defaulter fails to pay the amount specified in subparagraph (i).

(3) References to the General Manager serving upon a defaulter any civil penalty order in terms of these regulations, is to be interpreted as requiring the General Manager to deliver such order (or such notice) in writing to the defaulter (or alleged defaulter) concerned in any of the following ways—

(a) by registered post addressed to the defaulter’s (or alleged defaulter’s) principal office in Zimbabwe or other place of business of the defaulter (or alleged defaulter); or
(b) by hand delivery to the director, manager or any other senior officer of the defaulter (or alleged defaulter) in person (or through an inspector or other person employed in the office, or a police officer), or to a responsible individual at the place of business of the defaulter; or
(c) by delivery through a commercial courier service to the defaulter’s (or alleged defaulter’s) principal office in Zimbabwe or other place of business of the defaulter (or alleged defaulter); or
(d) by electronic mail or telefacsimile at the electronic mail or telefacsimile address furnished by the defaulter (or alleged defaulter) to the General Manager:
   Provided that in this case a copy of the order or notice shall also be sent to the electronic mail or telefacsimile address of the defaulter’s (or alleged defaulter’s) legal practitioner in Zimbabwe.

(4) The General Manager shall not extend the period specified in a civil penalty order for compliance therewith except upon good cause shown to him or her by the defaulter, and any extension of time so granted shall be recorded by the General Manager.

(5) The General Manager may cite two or more defaults relating to different provisions of these regulations if the defaults in question—

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(a) occurred concurrently or within a period not exceeding six months from the first default or defaults to the last default or defaults; or

(b) arose in connection with the same set of facts.

(6) Where in these regulations the same acts or omissions are liable to both criminal and civil penalty proceedings, the General Manager may serve a civil penalty order at any time before the commencement of the criminal proceedings in relation to that default, that is to say at any time before—

(a) summons is issued to the accused person for the prosecution of the offence; or

(b) a statement of the charge is lodged with the clerk of the magistrates court before which the accused is to be tried, where the offence is to be tried summarily; or

(c) an indictment has been served upon the accused person, where the person is to be tried before the High Court;

as the case may be, but may not serve any civil penalty order after the commencement of the criminal proceedings until after those proceedings are concluded (the criminal proceedings are deemed for this purpose to be concluded even if they are appealed or taken on review). (For the avoidance of doubt it is declared that the acquittal of an alleged defaulter in criminal proceedings does not excuse the defaulter from liability for civil penalty proceedings).

(7) Upon the expiry of the ninety-day period within which any civil penalty order must be paid, the defaulter shall be guilty of an offence and liable to a fine not exceeding level 6 or to imprisonment for a period not exceeding one year or to both such fine and such imprisonment.

(8) The amount of any civil penalty shall—

(a) be payable to the Authority and shall form part of the funds of the Authority; and

(b) be a debt due to the Authority and shall be sued for in any proceedings in the name of the Authority in any court of competent civil jurisdiction.

(9) If the General Manager in terms of subsection (7)(b) desires to institute proceedings to recover the amounts of two or more civil penalties in any court of competent civil jurisdiction, he or she may, after notice to all interested parties, bring a single action in relation to the recovery of those penalties if the orders relating to those penalties—

(a) were all served within the period of twelve months preceding the institution of the proceedings; and

(b) were served on two or more companies or private business corporations whose registered offices are in the same area of jurisdiction of the court before which the proceedings are instituted.

(10) Unless the General Manager has earlier recovered in civil court the amount outstanding under a civil penalty order, a court convicting a person of an offence against subsection (7), may on its own motion or on the application of the prosecutor and in addition to any penalty which it may impose give summary judgment in favour of the General Manager for the amount of any outstanding civil penalty due from the convicted defaulter.

Additional due process requirements before service of certain civil penalty orders

229. Where it appears to the General Manager from written representations submitted to him or her that there may be a material dispute of fact concerning the existence or any salient aspect of the alleged default, the General Manager must afford the alleged defaulter an opportunity to be heard by making oral representations before the General Manager, for which purpose the General Manager shall have the same powers, rights and privileges as are conferred upon a commissioner by the Commissions of Inquiry Act [Chapter 10:07], other than the power to order a person to be detained in custody, and sections 9 to 13 and 15 to 19 of that Act shall apply with necessary changes in relation to the hearing and determination before the General Manager of the alleged default in question, and to any person summoned to give evidence or giving evidence before the General Manager.

Powers of inspectors

230. (1) In addition to any specific power granted to or duty imposed on an authorised officer or inspector under any part of the regulations, such authorised officer or inspector may—

(a) enter any premises for the purposes of inspecting any aircraft, aircraft factory, aerodrome, civil aviation related facility, aircraft component, aircraft equipment, licence, certificate, permit, approval, authorisation, register, book or document which he or she believes to be on such premises;
(b) confiscate anything, article, book, register, document, aircraft, aircraft component, aircraft equipment, licence, certificate, permit, approval or authorisation, which he or she reasonably believes relates to a contravention of the Act or the regulations;
(c) ground any aircraft which he or she reasonably believes to be unsafe, not duly registered or not airworthy;
(d) close any aviation related facility which he or she reasonably believes does not comply with the Act or the regulations;
(e) require the pilot of an aircraft to furnish his or her name and address and any other particulars concerning his or her identity;
(f) require any person on an aerodrome or in an aircraft, aircraft factory or civil aviation related facility to furnish his or her name and address and any other particulars concerning his or her identity and to furnish such information as is at his or her disposal concerning the identity of the pilot or owner of any aircraft, or the owner of any aerodrome, aircraft factory or civil aviation related facility;
(g) require the owner or operator of an aircraft to furnish such information as may be necessary concerning the identity of the pilot of the aircraft at any time or during any particular period;
(h) inspect an aircraft, or any part, component or equipment of such aircraft, for the purpose of ascertaining whether the provisions of the regulations or a technical standard are being complied with;
(i) ascertain the mass of any aircraft with or without load and, for the latter purpose, require any passengers or goods to be removed from such aircraft;
(j) require any person by the regulations to be the holder of a licence, certificate, permit, approval or authorisation or, in the case of a flight crew member or an aircraft maintenance engineer, his or her log-book, for inspection within a reasonable time to be stipulated by such authorised officer or inspector; and
(k) call upon the owner, operator or pilot-in-command of any aircraft to produce or cause to be produced for inspection any licence, certificate, manual, log-book or other document relating to the aircraft provided that before such authorised officer or inspector exercises any power granted in paragraph (a), (b), (c) or (d), he or she shall obtain the prior approval of the Authority.

(2) If it appears to any authorised officer or inspector that any aircraft is intended or likely to be flown in such circumstances that the flight would involve a contravention of the regulations, or be a cause of danger to persons in the aircraft or to persons or property on the ground, he or she may take such action to detain the aircraft or such other action as he or she may deem necessary for the purpose of causing the circumstances relating to the flight to be investigated or the aircraft to be inspected.

(3) If an aircraft has been detained pursuant to the provisions of subsection (2), the aircraft shall not be operated until the Authority, being satisfied that the regulations are being complied with, approves, or until such alterations or repairs have been effected which the Authority deems necessary to render such aircraft fit for flight.

Transitions and savings

231. Notwithstanding any other provision of these regulations, a person who at the commencement of these regulations, is carrying out any acts, duties or operations affected by these regulations shall, within six months from the date of commencement, or within such longer time that the Minister may, by notice in the Gazette prescribe, comply with the requirements of these regulations or cease to carry out such acts, duties or operations.

Repeal

PART A
PORTABLE ELECTRONIC DEVICES ABOARD AIRCRAFT

1.0 PURPOSE

This schedule provides guidance on how an operator may permit use of specified portable electronic devices and other devices that the operator of the aircraft has determined will not interfere with the safe operation of the aircraft in which it is operated. The recommendations contained herein are one means, but not the only one, of complying with the Civil Aviation Regulation requirements, pertaining to the operation of portable electronic devices.

2.0 DETERMINATION OF USE OF ELECTRONIC PORTABLE DEVICES ABOARD AN AIRCRAFT

2.1 Determination of the effect of a particular electronic device on the navigation and communication system of the aircraft on which it is to be used or operated shall be made by the operator of the aircraft.

2.2 During a safe cruising altitude, a pilot may allow the devices to be operated and if interference is experienced, the types of devices causing interference shall be identified and isolated, along with the applicable conditions recorded. The device responsible for the interference shall then be turned off. If many operators collect this type of data with specific information, a large enough database could be generated to identify specific devices causing interference.

2.3 The operator may elect to obtain the services of any other person or facility having the capability of making the determination for the particular electronic device and aircraft concerned.

3.0 RECOMMENDED PROCEDURES FOR THE OPERATION OF PORTABLE ELECTRONIC DEVICES ABOARD AIRCRAFT

3.1 If an operator allows the use of portable electronic devices aboard his aircraft, procedures should be established and spelled out clearly to control their use on board an aircraft. These procedures should provide the following:

3.1.1 Methods to inform passengers of permissible times, conditions, and limitations when various portable electronic devices may be used. This may be accomplished through the departure briefing, passenger information cards, pilot in command’s announcement, and other methods deemed appropriate by the operator. The limitations, as a minimum, should state that use of all such devices (except certain inaccessible medical electronic devices, such as pacemakers) are prohibited during any phase of operation when their use could interfere with the communication or navigation equipment on board the aircraft or the ability of the flight crew to give necessary instructions in the event of an emergency.

3.1.2 Procedures to terminate the operation of portable electronic devices suspected of causing interference with aircraft systems.

3.1.3 Procedures for reporting instances of suspected and confirmed interferences by a portable electronic device to the Authority.

3.1.4 Flight crew to cabin crew coordination and flight crew monitoring procedures.

3.1.5 The operation of a portable electronic device is prohibited, unless the device is specifically listed in the Operations Manual of the operator. The use of all other portable electronic devices is prohibited, unless the operator determines that the operation of that device will not interfere with the communication or navigation system of the aircraft on which it is to be operated.

3.1.6 Prohibiting the operation of any portable electronic devices during the take-off and landing phases of flight. It must be recognised that the potential for personal injury to passengers is a paramount consideration as well as the possibility of missing important safety announcements during these important phases of flight. This is in addition to lessening the possible interference that may arise during sterile cockpit operations (below 10,000 feet).

3.1.7 Prohibiting the operation of any portable electronic devices aboard aircraft, unless otherwise authorised, which are classified as intentional radiators or transmitters. These devices include, but are not limited to—

(a) radio broadcasting receivers/transmitters;
(b) cellular/satellite telephones;
(c) remote control devices.

3.2 Telephones, which have been permanently installed in the aircraft, are licensed as air-ground radio-telephone service in the appropriate frequencies band. In addition, they are installed and tested in accordance with the appropriate certification and airworthiness standards. These devices are not considered portable electronic devices provided that they have been installed and tested by an appropriately approved repair station or an air operator’s maintenance organisation and are licensed by the appropriate Communication regulator as air-ground units.
3.3 Use of manufacturers’ information, when provided, with each device that informs the consumer of the conditions and limitations associated with its use aboard aircraft.

PART B

ELECTRONIC FLIGHT BAG

1.0 HARDWARE CLASSES OF EFB SYSTEMS

These regulations defines three hardware classes of EFB system: Class 1, 2 and 3.

1.1 Class 1

1.1.1 From an operational use perspective, Class 1 EFB systems are generally commercial off-the-shelf (COTS)-based computer systems used for aircraft operations. It is portable and not attached to an aircraft mounting device. Class 1 EFB systems do not require to go through an administrative control process for use in the aircraft (if using only type A application) and is considered a PEDs.

1.1.2 Class 1 EFB that have Type B applications for aeronautical charts, approach charts, or an electronic checklist must be appropriately secured and viewable during critical phases of flight and must not interfere with flight control movement.

1.1.3 Portable Class 1 EFB components are not considered to be part of aircraft type design; i.e., not in the aircraft Type Certificate (TC) or Supplemental Type Certificate (STC).

1.2 Class 2

1.2.1 From operational use perspective, Class 2 EFB systems are generally COTS-based computer systems used for aircraft operations. It is portable and connected to an aircraft mounting device during normal operations. Class 2 EFB systems require an administrative control process to add, remove, or use in the aircraft. It is also considered a PED.

1.2.2 Class 2 EFB system power, data connectivity and mounting devices require the Authority’s Airworthiness approval based on the State of Design approval.

1.3 Class 3

From an operational use perspective, Class 3 EFB systems are installed equipment that requires the Authority’s approval based on the State of Manufacturer or Design approval, except for the user modifiable software that may be used to host Type A and B application.

2.0 SOFTWARE APPLICATION FOR EFB SYSTEMS

2.1 These regulations define three types of software applications: Type A, B and C. For applications or functions not listed in appendix A or B, the applicant should coordinate evaluation and approval with the Authority.

2.2 Type A software application.

Type A software application may be hosted on any of the hardware classes. It requires an evaluation made by the Flight Operations and Airworthiness Inspectors before granting the Authority approval. The software application however does not require design approval.

2.3 Type B Software Applications

Type B software application may be hosted on any of the hardware classes. It requires an evaluation by both the Flight Operations and Airworthiness Inspectors before granting the necessary Authority’s approval. The Airworthiness Inspector must ensure that the operators or manufacturer of the software submits an aircraft evaluation report made by the State of Manufacturer or Design. This report is to be reviewed to determine its suitability. This software application does not require a design approval

2.4 EFB CLASSIFICATIONS

All applications and information contained in the EFB intended for operational use must be current and up-to-date. The following are the procedures and guidance to determine EFB system classification, roles and responsibilities.

2.4.1 Class 1 EFB Hardware

Class 1 EFB hardware may be used on the ground and in flight. It must be connected to the aircraft’s power through a certified power source. There must be recharge batteries on board the aircraft and the system must possess a quick-disconnect capability from power and data sources for egress purposes.

2.4.1.1 Class 1 EFB hardware should;

(a) have read-only data connectivity to other aircraft systems;
(b) have receive/transmit data connectivity for AAC only.
2.4.1.2 The operator should provide evidence, demonstrating that the Class 1 EFB is properly stowed or mounted for takeoff and landing.

2.4.2 Class 2 EFB Hardware

2.4.2.1 Class 2 EFB hardware is attached to the aircraft by a mounting device. In addition to being attached to aircraft mounting devices, Class 2 EFB systems may connect to aircraft power and data ports during normal operation and use.

2.4.2.2 For Class 2 EFB systems with aircraft specific software application, operators will need to establish procedures to remove and reinstall this equipment. The following are the specific examples of certification, operational and operator requirements that Class 2 EFB systems need to meet before receiving approval to use this equipment:

(a) Class 2 EFB systems represent a class of COTS electronics equipment (e.g., pen tablet computers) that has been adapted for use in the aircraft. The Authority needs to document EFB class 2 suitability for its use on board an aircraft.

(b) The EFB non-interference compliance must be documented by the Authority. The applicable mounting device, crashworthiness, data connectivity and EFB power connection must be approved. Class 2 EFB hardware does not require type design approval.

(c) Class 2 EFB mounting devices, power and data connectivity provisions that are installed by Supplemental Type Certificate (STC) may require an Aircraft Flight Manual Supplement (AFMS) update.

(d) Class 2 EFB hardware is removable from the aircraft; the operator must possess an administrative control process (e.g., logbook entry).

(e) Operators must determine non-interference with existing aircraft system for all flight phases and ensure that the system performs the intended function.

(f) Operators are expected to conduct a human factors evaluation of the EFB mounting device and flight deck location.

(g) Operators must determine the usage of hardware architectural features, persons, procedures, and/or equipment to eliminate, reduce or control risks associated with an identified failure in the EFB.

2.4.2.3 Portable Class 2 EFB components are not considered to be part of aircraft type design; i.e., not in the aircraft TC or STC.). They must be capable of being easily removed from or attached to their mounts by flight crew personnel. They may connect to aircraft power, data ports (wired or wireless), or installed antennas, provided those connections are installed in accordance with the Authority requirements.

2.4.3 Class 3 EFB Hardware

Class 3 EFB hardware is installed equipment and requires type design approval.

2.5 Type A EFB Software Application

2.5.1 Appendix A lists examples of EFB hosted software application that requires the Authority’s approval.

2.5.2 Type A applications include pre-composed, fixed presentation of data currently presented in paper format. The operator should provide evidence, demonstrating that the operational and certification requirements are met when requesting approval to use the applications defined in Appendix A.

(a) Type A application software does not require compliance in airborne systems and equipment certification.

(b) The granting of the initial operational approval by Flight Operations will include flight crew training, checking and currency requirements.

(c) The initial operational approval is for a period of six months and during the stated period an operational evaluation will be conducted by the operator. This evaluation period requires the operator to carry both the EFB system and paper copies before the final approval to allow reduction or elimination of paper copies on the flight deck.

(d) Operators must submit a final report to the Authority after the six month evaluation period of the EFB system. Final approval by the Authority will be granted per Operations Specifications or Letter of Approval.

(e) Operators must determine the usage of hardware and/or software architectural features, people, procedures and/or equipment to eliminate, reduce or control risks associated with an identified failure in the system.

(f) The operator should provide evidence, demonstrating that the EFB operating system and hosted application software meet the criteria for the appropriate intended function and do not provide false or hazardously misleading information. This evidence includes a demonstration that the software revisions will not corrupt the data integrity of the original software version when it was first installed and ‘base lined’ and meets its intended function.

2.6 Type B EFB Software Application

2.6.1 Appendix B lists examples of EFB hosted software applications that require the Authority’s approval.
2.6.2 Type B applications include dynamic, interactive applications that can manipulate data presentation. The operator should provide evidence, demonstrating that the operational and certification requirements are met when requesting approval, specifically;

(a) Type B application software does not require airborne systems and equipment certification

(b) The granting of the initial operational approval by Flight Operations will include flight crew training, checking and currency requirements.

(c) The Authority will grant authority for a six month operational evaluation. This evaluation period requires the operator to carry both the EFB system and paper copies to be carried before the final approval, allowing the EFB to reduce or eliminate paper copies on the flight deck.

(d) Operators must submit a final report to the Authority after the six month evaluation period of the EFB system. Final approval by the Authority will be granted per Operations Specifications or Letter of Approval.

(e) Type B applications may be used to display pre-composed information such as navigation or approach charts. Required information should be presented for each applicable phase of flight.

(f) Operators must determine the usage of hardware and software architectural features, people, and procedures and/or equipment to eliminate, reduce or control risks associated with an identified failure in the system.

(g) Additional Type B applications may require a separate approval.

(h) The operator should provide evidence, demonstrating that the EFB operating system and hosted application software meet the criteria for the appropriate intended function and do not provide false or hazardously misleading information. This evidence includes a demonstration that the software revisions will not corrupt the data integrity of the original software version when it was first installed and ‘base lined’ and meets its intended function.

2.6.3 Panning, scrolling, zooming, rotating or other active manipulation can be considered for Type B application even if there is a pending human factor evaluation.

2.6.4 Electronic navigation charts should provide a level of information integrity equivalent to paper charts.

2.6.5 Interactive performance Applications.

Operational approval can be granted, as appropriate, for hosted interactive performance applications which include flight crew training, checking, and currency requirements.

2.6.6 Additionally, hosted interactive performance/weight and balance applications should meet the following criteria:

(a) Operational procedures should be developed. These procedures should define the roles that the flight crew and dispatch/flight following personnel have in creating, reviewing and using performance calculations supported by the EFB.

(b) An EFB that provides interactive performance calculations must have baseline software programmes and functions approved by the State of Design.

(c) If the EFB is used for weight and balance calculations, an approved method for weight and balance calculations including its control procedure should be presented.

2.7 Type C EFB Applications

2.7.1 Type C applications require the verification and confirmation of the State of Manufacturer and design approvals.

2.7.2 The modifiable software which may be utilised to host Type A and B applications may be given exception. (User modifiable software may not have any effect on Type C applications.)

2.7.3 Examples of Type C applications include primary flight display.

3.0 HUMAN FACTORS AND RISK MITIGATION CONSIDERATIONS

The risk mitigation and human factors/pilot interface characteristics of the ESB system should be evaluated by the applicant and submitted to the Authority. Applicants should also take note of the following when making the evaluation.

(a) human factors;

(b) EFB system design and usability;

(c) flight crew workload;

(d) messages and the use of colours;

(e) errors and failures modes;

(f) procedures.
4.0 OPERATIONAL APPROVAL PROCESS

4.1 Approval Process

The introduction and the use of EFBs in the cockpit and cabin requires approvals in all operating procedures, pertinent training modules, checklists, operations manual, training manuals, maintenance programmes, MELs, other pertinent document and reporting procedures.

4.1.2 The approval process consists of the following steps—

(a) Phase 1 of the process begins when an operator requests authorisation from the Authority. The Authority and the operator should reach a common understanding of what the operator must do, what role the Authority will have, and what reports and documents will be included as part of the authorisation process.

(b) Phase 2 begins when the operator submits a plan to the Authority for formal evaluation. During this phase, the Authority must ensure that the plan is complete and in an acceptable format before it can conduct a thorough review and analysis. The operator coordinates the plan with the Chief Flight Operations Inspector or other inspectors, as assigned.

(c) Phase 3 begins when the Authority starts its in-depth review and analysis of the operator’s plan for regulatory compliance, safe operating procedures, logical sequence, and other areas (e.g., flight crew and dispatcher qualifications, acceptable procedures, and schedules for accomplishment).

(c) Phase 4 is the major phase of the process and involves validation testing. In this phase, the operator conducts specific operations for the purpose of data collection or for the Authority’s observation purposes. Phase 4 concludes when the operator provides sufficient proof to satisfy the Authority’s requirement for meeting all the plan objectives or when the operator is unable to complete them satisfactorily.

(d) Phase 5 begins after the successful completion (or termination) of the validation phase. In this phase, the Authority grants authorisation for those elements in the plan that were successfully completed and documented in the FSB report, or sends the operator a letter of disapproval for those elements that were not completed or that were terminated. The Chief Flight Operations Inspector grants authorisation for the operational use of the EFB through the issuance of Operations Specifications or approval letter.

4.1.3 In addition to the close co-ordination with the regulatory authority, the following job aid is provided for use by the applicant when seeking EFB approval—

(a) make application in a form and manner acceptable by the authority;

(b) demonstrate a process of ensuring initial and continuing reliability of each specific unit;

(c) demonstrate that the radio magnetic interference/electromagnetic interference tests have been performed satisfactorily;

(d) demonstrate that the units can be properly stored or mounted in the aircraft;

(e) demonstrate that any electronic receptacles used for connection of the EFB to an aircraft system have been installed using the Authority’s approved procedures;

(f) develop a policy and procedures manual;

(g) the final approval of the EFB is granted via a letter of approval or issuance of Operations Specification.

4.2 Operational Procedure Development

4.2.1 The intended functions of EFB may vary, depending on the device used and the software applications hosted by the computer. It is extremely important that the applicant and/or the operator specifically define the intended EFB functions in a clear and concise manner.

4.2.2 Operators are expected to have procedures that define how the flight crew is expected to use each EFB function during ground operations and under all flight conditions. Operators must provide procedures to the flight crew which includes normal, abnormal and emergency use. Operators must also review and determine whether to modify those existing policies and procedures affected by the introduction of EFBs into line operations.

4.3 EFB Configuration Control

4.3.1 The make and model of the approved EFB equipment must be approved through the above process and the following information may be listed in the operations specifications or specific authorisation—

(a) operating system to include version control;

(b) application programme version control;

(c) approved source for the data updates; and

(d) make and model of the EFB hardware, including a tracking process for major internal Sub-components whose replacement or upgrade may necessitate additional non-interference testing.
4.4 Database Update Process

4.4.1 The operator needs to establish specific procedures to verify that revisions to the database contained in the EFBs are current, complete and approved. Unauthorised modification or installation of any new database intended for operational use is not permitted unless the new data base has been demonstrated to comply with the original approval basis.

4.4.2 Operators also need to establish revision control procedures so that flight crew and others can ensure that the contents of the system are current and complete. These revision control procedures may be similar to the revision control procedures used for paper or other storage media. For data that is subject to a revision cycle control process, it should be readily evident to the user which revision cycle has been incorporated in the information obtained from the system.

4.5 Software Revision Process

4.5.1 Unauthorised modification of any database or the loading of any new or additional software intended for operational use is not permitted unless that software has been demonstrated to comply with the original approval basis.

4.5.2 The Authority may approve updates for Type B applications.

4.5.3 The operator shall identify a means to demonstrate that adequate security measures are in place to prevent malicious introduction of unauthorised modification to all the systems. EFB systems need to be protected from possible contamination from external viruses.

4.6 Special Data Storage and Retrieval Considerations

4.6.1 The EFB system needs to permit any authorised personnel to retrieve, view or print the information contained in any EFB system. Operators should establish procedures to archive or retain old data.

4.6.2 The length of time that the data is kept is dependent on the kind of information being archived. Some information such as maintenance historical data should be kept for the life of the aircraft. It may also be necessary to keep old versions of the software and operating systems to properly retrieve archive data. Maintenance discrepancy logs need to be downloaded into a permanent record at least weekly.

4.7 Training

4.7.1 Training should address flight crew and maintenance personnel requirements, as appropriate.

4.7.2 The following element should be included in each EFB training module;

(a) a description of what an EFB is its capabilities and the applications for which the operator will use the EFB system and its components and peripherals. This should include theory of operation and the training should ensure that the flight crews understand the dependencies associated with the sources and the limitations of the information;

(b) a description of EFB controls, display, symbology and failure modes;

(c) an AFMS or other documentation that provides conditions, limitations and procedures for the use of the EFB system and its associated equipment;

(d) description of any special flight manoeuvres, operations and procedures that the operator is authorized to conduct when using the EFB;

(e) any special pilot/controller procedures when using EFB-based information;

(f) geographical areas authorised for the specific EFB operations, if applicable;

(g) authorised methods to defer inoperative EFB equipment.

4.7.3 Operator’s training should also provide an opportunity for instruction, demonstration and practice using actual or simulated EFB equipment and display. Operators are required to conduct initial fleet training.

4.7.4 A letter of initial approval authorising an operator to instruct personnel under the EFB curriculum segment, pending an evaluation of training effectiveness will be issued. This arrangement also allows the regulatory personnel who are responsible for approval to become familiar with the operator’s EFB system and equipment.

4.7.5 After satisfactory evaluation of the operator’s EFB curriculum segment, an authorization will be issued to the operator. This authorises the operator to continue training in accordance with the operator’s approved training programme.

4.7.6 All flight crew must complete an approved training programme before being authorised to use EFB equipment. Initial qualification with the EFB may require that the flight crew members demonstrate satisfactory proficiency with the EFB. This may be completed during a line check.

4.7.7 Simulators and other approved training devices may be used as a tool to enhance the overall quality of the training given and/or evaluate EFB system performance before granting operational approval.
4.8 Flight Evaluations

The number of flight evaluations required to validate a particular EFB system before operational approval, including its hosted applications, should be based on the type of aircraft, aircraft system architecture, flight crew workload considerations, credit given to previous certified installations and past simulator and ground testing.

5.0 SURVEILLANCE

5.1 Surveillance requirements should include specific aspects on performance data including—

(a) validity, currency and control of data;
(b) amendment process;
(c) operator’s guidance material;
(d) SOPs;
(e) correct and appropriate use of data;
(f) compliance with approval limitations (if applicable);
(g) operator’s records.

5.2 Operator responsibilities.

5.2.1 During approval process the operator shall—

(a) make written application in a form and manner acceptable by the Authority;
(b) demonstrate a fault and anomaly reporting process to ensure initial and continuing reliability for each EFB;
(c) demonstrate that the radio magnetic interference/EMI tests have been performed satisfactorily;
(d) demonstrate that the EFBs can be properly stowed, secured, and/or mounted in the aircraft;
(e) demonstrate that any electronic receptacles used for connection of the EFB to an aircraft system have been installed using approved procedures;
(f) demonstrate that successful rapid decompression testing has been accomplished, if applicable;
(g) develop policies and procedures that may include, but are not limited to, the following:
   (i) appropriate procedures for EFB use during all phases of flight;
   (ii) procedures to follow when one unit fails (where multiple units are carried on-board the aircraft);
   (iii) procedures to follow when all units fail (the procedures should specifically identify alternate means for obtaining data);
   (iv) a revision process procedure/method that ensures appropriate database accuracy and currency;
   (v) courseware to be used while conducting training;
   (vi) procedures that document the knowledge of the user (e.g., training received, evaluation forms, test results);
   (vii) a list of the software and data loaded and maintained in each unit; and
   (viii) instructions for continued airworthiness (ICA) in accordance with the manufacturer’s recommendations (also include these instructions in the inspection/maintenance program).

5.2.2 Operators transitioning to a paperless or reduced-paper cockpit should carry paper backups of all the information on the EFB during a validation period. The backup information should be readily available to the crew. During this period the operator should validate that the EFB is as available and reliable as the paper-based system being replaced.

5.2.3 For certificate holders, this validation period should include a 6-month operational test evaluation where the EFB system(s) will be available to the crew with all appropriate backup products. The backup products and the EFB are not used simultaneously during the evaluation period, but the backup products are available if needed. A reduction to the 6-month validation period may be considered if the certificate holder has previous experience with EFBs. A request to reduce the 6-month operational test evaluation requires approval from the Authority. The certificate holder must submit a plan with justification to reduce the 6-month operational test evaluation to the Authority.

5.2.4 The operator will issue a final report detailing the training effectiveness, operational effectiveness, and reliability of the EFB.

5.3 Operational Procedures Development.
5.3.1 The intended function(s) of EFBs may vary depending on the device used and the software applications hosted by the computer. It is extremely important that the operator specifically define the intended EFB functions in a clear and concise manner. Operational procedures developed to achieve a specific intended function or use should consider the applications listed in the attached appendices.

5.3.2 Operators will be expected to:
(a) have procedures that define expectations of how the flight crew should use each EFB function during ground operations and under all flight conditions;
(b) provide the procedures to flight crews;
(c) provide procedures for normal, abnormal, and emergency use; and
(d) review and determine whether to modify those existing policies and procedures affected by the introduction of EFBs into line operations.

5.4 Procedures for Using EFBs with Other Flight Deck Systems.

Flight crew procedures will ensure that the flight crew knows what aircraft system to use for a given purpose, especially when both the aircraft and EFB are providing information. Procedures should also be designed to define the actions to be taken when information provided by an EFB does not agree with that from other flight deck sources, or when one EFB disagrees with another. If an EFB simultaneously displays information that existing cockpit automation displays, procedures to identify which information source will be primary and which source will be secondary need to be developed (and procedures to identify under what conditions to use the backup source). Whenever possible and without compromising innovation in design/use, EFB/user interfaces should be consistent (but not necessarily identical) with the flight deck design philosophy.

5.5 Flight crew Awareness of EFB Software/Database Revisions.

The operator should have a procedure in place to allow flight crews to confirm the revision numbers and/or dates of EFB flight databases and software installed on their units for each flight. (Databases that do not adversely affect flight operations such as maintenance log forms, a list of airport codes, or a captain’s atlas, for example, do not require the confirmation of revision dates by flight crews.) An example of a date-sensitive revision is an aeronautical chart database on a 28-day revision cycle. Procedures should specify what action to take if the applications or databases loaded on the EFB are out-of-date.

5.6 Procedures to Mitigate and/or Control Workload.

Procedures that mitigate and/or control additional workloads created by using an EFB will need to be addressed.

5.7 Defining Responsibilities for Performance Calculations.

The operator should develop procedures that define any new roles that the flight crew and dispatch may have in creating, reviewing, and using performance calculations supported by EFBs.

5.8 Shutdown Procedures. Shutdown procedures for EFBs should:
(a) be incorporated into normal flight crew shutdown checklist procedures;
(b) allow the EFB operating system and hosted applications to remain “stable” after multiple startups and shutdowns.

5.9 EFB Configuration Control.

The operator’s EFB specification documents must list the make and model of the authorized EFB equipment and include at least the following configuration information:
(a) operating system to include version control;
(b) application program version control;
(c) approved source for the database updates; and
(d) make and model of the EFB hardware, including a tracking process for internal subcomponents whose replacement/upgrade may necessitate additional non-interference testing.

5.10 Mitigation Strategy.

During the transition period to a paperless cockpit, an operator will need to establish a reliable backup means of providing the information required by the regulations to the flight crew. During this period, an EFB system must demonstrate that it produces records that are as available and reliable as those provided by the current paper information system. Operators should establish system architecture and procedural mitigations to provide a reliable means of displaying information required by the operating rules to the flight crew. This will ensure an equivalent level of safety and integrity as the current paper-based products. Mitigation may be accomplished by a combination of the following:
(a) system design;
(b) separate and backup power sources;
(c) redundant EFB applications hosted on different EFB platforms;
(d) paper products accessible for use by crewmembers; and/or
(e) procedural means.

5.11 Procedural Mitigations.

If one or more onboard EFBs fail, resulting in loss of function or the presentation of false or hazardously misleading information, a contingency plan or process will need to be in place to provide the required information. For example, as a backup to eliminating printed approach charts, an acceptable transition to a paperless cockpit could include the following:

(a) carrying paper products for a given time period to validate EFB reliability by quantitative means;
(b) using a printing device to print all applicable data required for the flight; or
(c) using an aircraft fax machine to uplink equivalent paper documents to the cockpit.

5.12 Removal of Paper-Based Information.

The risk mitigation process must be completed prior to removal of the paper-based information associated with a particular EFB application. These requirements also apply to an operator who intends to begin operation of any aircraft type without paper-based information.

5.13 Database Update Process.

5.13.1 The operator needs to establish a method for revising EFB databases. The method of data revision should ensure integrity of the data the operator loads and not negatively impact the integrity of the EFB operation. Especially when using internet and/or wireless means, procedures must exist to protect the EFB data from corruption. Database revisions do not include application software or operating system changes. Application software and/or operating system program changes must be controlled and tested prior to use in flight. Operators should not perform database and/or application software changes during operations (taxi, takeoff, in-flight, landing).

5.13.2 Operators also need to establish revision control procedures so that flight crews and others can ensure that the contents of database are current and complete. These revision control procedures may be similar to the revision control procedures used for paper or other storage media. For data that is subject to a revision cycle control process, it should be readily evident to the user which revision cycle is currently loaded into the system.

5.14 Software Revision Process.

5.14.1 It is the responsibility of the operator and/or the application software vendor to ensure that its operating system and Type A and Type B application programs meet the intended function. Unauthorised modification of any database or the loading of any new or additional software intended for operational use is not permitted unless that software can be demonstrated to comply with the original intended use. In addition to the operator’s responsibilities described above, it is also the responsibility of the pilot in command (PIC) to verify that any EFB depiction of an en route, terminal area, approach, airport map, or sectional is current and up-to-date. One means for doing this is to ensure that each PIC becomes familiar with all available information concerning that flight, to include receipt of appropriate Notices to Airmen (NOTAM) prior to departure and prior to arrival.

5.14.2 The operator should identify a means to demonstrate that adequate security measures are in place to prevent malicious introduction of unauthorised modifications to the EFB’s operating system, its specific hosted applications, and any of the databases or data links used to enable its hosted applications (i.e., security risk assessment). The operator also needs to protect the EFB from possible contamination from external viruses.

5.15 Special Data Storage and Retrieval Considerations.

5.15.1 The EFB system needs to permit any authorised representative of the Authority to retrieve, view, or print the information contained in any EFB system upon reasonable request.

5.15.2 Operators should establish procedures to archive or retain old data. For archived data, the length of time that the data is kept depends on the kind of information being archived. Some information, such as maintenance historical data, should be kept for the life of the aircraft. It may also be necessary to keep old versions of software and operating systems to properly retrieve archived data. Operators should download maintenance discrepancy logs into a permanent record at least weekly.
5.16 Training.

5.16.1 Training should reflect the level of the functionality and complexity as agreed upon by the operator and the PI. Training should address flight crew and maintenance personnel requirements, as appropriate.

5.16.2 Certificated operators requesting to conduct operations using EFB cockpit applications should use the training which may consist of a ground training simulation and, if needed, a flight training segment. The EFB curriculum segment should include an outline of the training, appropriate courseware, and the instructional delivery method. Each EFB training module should include the following elements:

(a) a description of an EFB, its capabilities, and the applications for which the operator will use the EFB system and its components and peripherals. This should include theory of operation and the training should ensure that flight crews understand the dependencies associated with the sources and limitations of the information;

(b) a description of EFB controls, displays, symbology, and failure modes. EFB failure modes and flight crew procedures should include a description of the EFB system (e.g., EFB signal processor, switches, and installed databases, such as an airport surface or en route moving map). If colour is a significant EFB application feature, then training materials should include colour illustrations;

(c) an AFMS or another documentation that provides conditions, limitations, and procedures for the use of the EFB system and its associated equipment. For instance, operators should train flight crews on how to ensure that the airport charts and manuals are current, and what to do if they find that the software and/or databases are out-of-date. Only EFB provisions (mounts, wiring, etc.) for Class 2 EFBs, or installation for Class 3 EFBs, require an AFMS, unless approved by the Authority. Class 1 and Class 2 EFBs and Type A and Type B EFB applications may require an alternative means of documentation that provides conditions, limitations, and procedures for use;

(d) descriptions of authorised special flight maneuvers, operations, and procedures the operator conducts when using an EFB;

(e) any special pilot/controller procedures when using EFB-based information;

(f) geographical areas authorised for specific EFB operations, if applicable;

(g) authorised methods to defer inoperative EFB equipment.

5.16.3 Operator training should also provide an opportunity for instruction, demonstration, and practice using the actual or simulated EFB equipment and displays. Base the EFB qualification curriculum segment on functionality and complexity as agreed upon by the operator. In addition, EFB components installed in accordance with applicable airworthiness regulations may contain EFB training guidance in the airplane’s FSB report.

5.16.4 Operators are required to conduct initial fleet training. The Authority will issue a letter authorizing an operator to instruct personnel under the EFB curriculum segment, pending an evaluation of training effectiveness. This also allows inspectors who are responsible for certificate management to become familiar with the operator’s EFB system and equipment. After the Authority evaluates the operator’s EFB curriculum segment and determines that it is satisfactory, the Authority issues an interim authorisation to the operator. This authorises the operator to continue training in accordance with the operator’s approved training program.

5.17 Pilot Training Program.

5.17.1 Except when under the supervision of an appropriately trained check airman, the flight crew may need to complete an approved training program before being authorised to use the EFB equipment. However, flight crew members should have satisfactorily completed the ground school portion of the EFB training program, if required. Training as outlined in this schedule only applicable to those flight crew members that actually operate the equipment. Training is not required of crewmembers that are not authorised to use the equipment, even though it may be installed in the aircraft, unless it is operated under the supervision of a check airman. For air carrier operations, initial qualification with the EFB may require that the flight crew members demonstrate satisfactory proficiency with the EFB to the Authority or check airman; this may be completed during a line check.

5.17.2 Private Operators. Although no training program requirements exist for private operators, the flight crew members should have satisfactorily completed the ground school portion of the EFB training program before performing under the supervision of a check airman or evaluation by an authorised instructor. The Authority may authorize an individual (e.g., the company chief pilot, company check airman, or training course provider) to complete this evaluation. The flight crew must have a satisfactory evaluation of their performance in the use of the EFB in flight before using the equipment in normal operations.

5.18 Simulator and Flight Evaluations.

5.18.1 Simulator Evaluations. Simulators and other approved training devices (such as procedures trainers) may be used as a tool to evaluate the overall quality of the training given and/or evaluate EFB system performance before granting authorisation for use. The level of simulation fidelity required depends upon the type of use/credit being sought. Some of the EFB characteristics and flight deck integration issues that should be evaluated via simulation include:

(a) the flight crew’s use of displays;
(b) EFB control use;
(c) alert reactions;
(d) auto-ranging configuration;
(e) self-tests;
(f) flight crew procedures; and
(g) failure mode analysis.

5.18.2 Flight Evaluations.
(a) base the number of flight evaluations required to validate a particular EFB system before authorising its use (including its hosted applications) on—
(i) the type of aircraft;
(ii) aircraft system architecture;
(iii) flight crew workload considerations;
(iv) credit given for previously certified installations; and
(v) past simulator and ground testing.
(b) the Authority needs to evaluate the actual requirement for a flight test for each request. The Authority will determine if an approved training device or an actual flight evaluation is required. For example, first-time model installations and first-time hosted applications will generally require a flight test. If adequate evaluation on the ground or in simulators of changes in the EFB system, including software upgrades, is not possible, it may require flight testing.

5.19 Need for Approved Manuals.

The aircraft must carry on-board a CAAZ-approved AFMS at all times when the EFB equipment is installed in accordance with applicable airworthiness regulations.

5.20 Regulatory requirements.

5.20.1 Although a source independent of the operator may provide on-going maintenance and support for EFB equipment, the operator is responsible for compliance with all regulatory requirements.

5.20.2 The maintenance or inspection program should identify inspection items, establish time-in-service intervals for maintenance and inspections, and provide the details of the proposed methods and procedures.

5.20.3 It is important for operators to coordinate early in the process with their Authority on airworthiness-related considerations to determine the appropriate authorizations necessary for each EFB application.

5.21 MELs.

Operators may update their MELs to reflect the installation of this equipment. Changes made to the operator’s MEL should be made in accordance with the approved Master Minimum Equipment List (MMEL).

5.22 EFB Substitution/Use in More Than One Aircraft.

The operator may substitute compatible EFBs for use in other aircraft. Specific procedures to ensure that an EFB is fully compatible with other aircraft and their systems are necessary prior to placement into service. It is also necessary to develop procedures to ensure that any aircraft specific data captured in EFB memory is archived for that aircraft when the EFB system moves to another aircraft. For Class 3 replacement EFBs, it will be necessary to ensure that the replacement EFBs is authorised for use by the Authority.

5.23 User Feedback.

Operators should implement a formal process for gathering feedback. Use this process during design, installation, modifications, or improvements to procedures and/or training.

5.24 Paperless Authorization.

5.24.1 Any Type A or Type B EFB application, as defined in this schedule, may be substituted for the paper equivalent. When the EFB replaces aeronautical information, then a secondary or backup source of aeronautical information necessary for the flight must be available to the pilot in the aircraft. The secondary or backup information may be either traditional paper-based material or displayed electronically by other means.

5.24.2 The aircraft operator and/or PIC is responsible to show compliance with all the requirements of these regulations. This should be in written form onboard the aircraft. The EFB system on board must be functionally equivalent to the
paper reference material which the information is replacing. The pilot verifies that all information used for navigation, aircraft operation, or performance planning is current, up-to-date, and valid.

5.24.3 The aircraft operator and/or PIC is responsible to make an assessment of the human/machine interface and aspects governing Crew Resource Management (CRM) in accordance with the human factors considerations of this schedule. This requires training in EFB procedures and use, pre-flight checks of the system, the use of each operational function on the EFB, and procedures for cross-checking data entry and computed information. Also included in this training are the conditions (including phases of flight) when EFB use should be terminated.

5.25 Electronic Authorisation.
Final authorisation for use of electronic documents, in lieu of required paper documents, requires:
(a) operational evaluation, including the validation report, completion;
(b) reliable EFB system information available for each flight crew member;
(c) compliance with FSB reports and/or OSRs, if available;
(d) EFB maintenance and fault reporting procedures are in place;
(e) non-interference testing; and
(f) when Type B applications, and certain eligible Type C applications (e.g., AMMD) software is used, results from rapid decompression testing and related mitigating procedures.

APPENDIX A

1.0 EXAMPLES OF “TYPE A” ELECTRONIC FLIGHT BAG (EFB)

1.1 APPLICATIONS REQUIRING APPROVAL

(a) Flight Operations Manuals (FOM)
(b) Company Standard Operating Procedures (SOP)
(c) Airport diversion policy guidance, including a list of Special Designated Airports and/or approved airports with emergency medical services (EMS) support facilities
(d) Operations Specifications (Ops Specs)
(e) Cockpit observer briefing cards
(f) Airplane Flight Manuals (AFM) and Airplane Flight Manual Supplements (AFMS)
(g) For smaller aircraft, Pilot Operating Handbook (POH), including POH section IX supplements
(h) Aircraft performance data (fixed, non-interactive material for planning purposes)
(i) Airport performance restrictions manual (such as a reference for takeoff and landing performance calculations)
(j) Other aircraft performance data, including specialised performance data for use in conjunction with advanced wake vortex modelling techniques, land and hold short operations (LAHSO) predictions, etc. (fixed, non-interactive material for planning purposes)
(k) Maintenance manuals
(l) Aircraft maintenance reporting manuals
(m) Aircraft flight log and servicing records
(n) Autopilot approach and autoland records
(o) Flight Management System / Flight Management and Guidance System problem report forms
(p) Aircraft parts manual
(q) Services Bulletins/published Airworthiness Directives, etc.
(r) Required VHF Omni directional Range (VOR) check records
Civil Aviation (Aircraft Operations) Regulations, 2018

(s) Minimum equipment list (MEL)
(t) Configuration Deviation List (CDL)
(u) airport specific rules and regulations
(v) Airport / Facility Directory (A/FD) data (e.g. fuel availability, LAHSO distances for specific runway combinations, etc.)
(w) Noise abatement procedures for arriving and departing aircraft
(x) Published (graphical) pilot Notices to Airman (NOTAM)
(y) International Operations Manuals, including regional supplementary information and International Civil Organization (ICAO) differences
(z) Aeronautical Information Publications (AIP)
(aa) Aeronautical Information Manual (AIM)
(bb) Oceanic navigation progress logs
(cc) Pilot flight and duty-time logs
(dd) Flight crew required rest logs
(ee) Flight crew qualification logs (such as aircraft qualification, Class II flight crew qualifications, Category (CAT) III qualifications, high minimums logs, night currency logs, pilot in command (PIC) qualifications for special areas, routes and airports and special airports qualifications
(ff) Captain’s report (i.e, captain’s incident reporting form)
(gg) Flight crew survey forms (various)
(hh) Cabin Crew Manuals
(ii) EMS reference library (for use during medical emergencies)
(jj) Trip scheduling and bid lists
(kk) Aircraft’s captain’s logs
(ll) Aircraft’s CAT II/CAT III landing records
(mm) Antiterrorism profile data
(nn) Hazardous Materials (HAZMAT) oxidizer look up tables
(oo) Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (ICAO Doc 9481-AN/928)
(pp) Customs declaration and agriculture inspection / clearance form
(qq) Special reporting forms, such as near mid-air collisions reports, Aviation Safety Reporting System, bird wildlife encounters, etc.
(rr) Incidents of interference to aircraft electronic equipment from devices carried aboard aircraft
(ss) Current fuel prices at various airports
(tt) Realistic training modules, including “PC at home” training applications, “off-duty” training materials review, and pre-flight “mission” rehearsals
(uu) Check airman and flight instructor records
(vv) Aircraft operating and information manuals (performance information, weight and balance, systems, limitations, etc.)
(ww) Flight operations manuals including emergency procedures
(xx) Airline policies and procedures manuals
(yy) Aircraft Maintenance Manuals
(zz) Look-up and completion of various reporting forms

aaa Maintenance personnel sign-off of discrepancy form (maintenance discrepancy logs need to be downloaded into a permanent record at least weekly).

bbb Flight crew qualifications recordkeeping, including aircraft qualifications, CAT II/III, high minimums, landing currency, flight and duty time, etc.

ccc PIC currency requirements

ddd The Cabin Crew Manual

eee Passenger information requests—some are directed to the gate or to the agent meeting the flight (e.g. special meal requests, wheel chair requirements, unaccompanied minors, gate information for connecting flights, flights being held for connecting passengers, etc.)

fff Cabin maintenance write-ups. (Maintenance discrepancy logs need to be downloaded into a permanent record at least weekly.)

ggg Approved electronic signature using public/private key technology (PKI)

1.2 Other proposed applications should be submitted to the Authority for review.

2.0 APPENDIX B

2.1 EXAMPLES OF “TYPE B” ELECTRONIC FLIGHT BAG (EFB) APPLICATIONS

(a) Takeoff, en route, approach and landing, missed approach, go-around, etc. performance calculations. Data derived from algorithmic data or performance calculations based on software algorithms.

(b) Power settings for reduced thrust settings.

(c) Runway limiting performance calculations.

(d) Cost index modelling.

(e) Master flight plan/updating.

(f) Interactive Plotting for Class II navigation.

(g) Mission rehearsals.

(h) Weight and balance calculations.

(i) Maintenance discrepancy sign-off logs. (maintenance discrepancy logs need to be downloaded into a permanent record at least weekly).

(j) Cabin maintenance discrepancy reporting forms/ location codes. (Maintenance discrepancy logs need to be downloaded into a permanent record at least weekly).

(k) Non-interactive electronic approach charts in a pre-composed format from accepted sources

(l) Panning, zooming, scrolling and rotations for approach charts

(m) Pre-composed or dynamic interactive electronic aeronautical charts (e.g. en route, area, approach, and airport surface maps) including, but not limited to, centring and page turning but without display or aircraft/own-ship position.

(n) Electronic checklists, including normal, abnormal, and emergency. EFB checklists cannot be interactive with other aircraft systems.

(o) Application that make use of the Internet and/or other aircraft operational communications or company maintenance–specific data links to collect, process, and then disseminate data for uses such as spare parts and budget management, spares/inventory control, unscheduled maintenance scheduling, etc. (maintenance discrepancy logs need to be downloaded into a permanent record at least weekly).

(p) Weather and aeronautical data.

(q) Cabin-mounted and aircraft exterior surveillance camera displays.

2.2 Other proposed applications should be submitted to the Authority for review.
### Second Schedule (Section 69(7))

**CLOUD BASE HEIGHT AND VISIBILITY INCREMENTAL VALUES**

<table>
<thead>
<tr>
<th>Type of Approach</th>
<th>Planning Minima</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(RVR/visibility required &amp; ceiling, if applicable)</strong></td>
<td></td>
</tr>
<tr>
<td>Aerodrome with at least 2 separate approach procedures based on 2 separate aids serving 2 separate runways (See note 1)</td>
<td>at least 2 separate approach procedures based on 2 separate aids serving 1 runway or, at least 1 approach procedure based on 1 aid serving 1 runway</td>
</tr>
<tr>
<td>Precision Approach CAT I, III (ILS, MLS)</td>
<td>Precision Approach CAT I Minima</td>
</tr>
<tr>
<td>Non-Precision Approach CAT 1(ILS, MLS)</td>
<td>Non-Precision Approach Minima</td>
</tr>
<tr>
<td>Non-Precision Approach</td>
<td>The lower of non-precision approach minima plus 60 m (200 ft)/1 000 m or circling minima</td>
</tr>
<tr>
<td>Circling Approach</td>
<td>Circling Minima</td>
</tr>
</tbody>
</table>

3. Instrument approach procedures are classified as follows—

   (a) non-precision approach (NPA) procedure which is an instrument approach procedure designed for 2D instrument approach operations Type A;

   (b) approach procedure with vertical guidance (APV) which is performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A;

   (c) precision approach (PA) procedure which is 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.

### Third Schedule (Section 75(11))

**FLIGHT PLANNING WEATHER CONDITIONS MINIMA**

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

1. Each Air Operator Certificate holder shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following subjects:

   (a) general dispatch subjects—
       (i) appropriate regulations;
       (ii) operations manual of the Air Operator Certificate holder;
       (iii) operations specifications of the Air Operator Certificate holder;
       (iv) weather reports: interpretation, available sources, actual and prognostic, seasonal variations;
       (v) communications, to include normal and emergency;
       (vi) meteorology, to include effects on radio reception;
       (vii) adverse weather;
       (viii) notices to airmen;
       (ix) navigational charts and publications;
       (x) joint dispatcher/pilot responsibilities;
       (xi) ATC coordination procedures;
       (xii) familiarisation with operations area, including classes of airspace and special areas of navigation;
       (xiii) characteristics of special aerodromes;

   (b) aircraft characteristics—
       (i) aircraft specific flight preparation;
       (ii) aircraft operating and performance characteristics;
       (iii) navigation equipment, including peculiarities and limitations;
       (iv) instrument approach and communication equipment;
       (v) emergency equipment;
       (vi) AFM or RFM provisions applicable to the aircraft duties;
       (vii) MEL/CDL;
       (viii) applicable equipment training;

   (c) Operations procedures—
       (i) adverse weather phenomena (wind-shear, clear air turbulence and thunderstorms);
       (ii) mass and balance computations and load control procedures;
       (iii) aircraft performance computations, to include takeoff weight limitations based on departure runway, arrival runway, and en route limitations, and also engine-out limitations;
       (iv) flight planning procedures, to include route selection, flight time, and fuel requirements analysis;
       (v) dispatch release preparation;
       (vi) crew briefings;
       (vii) flight monitoring procedures;
       (viii) MEL and CDL procedures;
       (ix) manual performance of all required procedures in case of the loss of automated capabilities;
       (x) training in appropriate geographic areas;
       (xi) ATC and instrument procedures, ground hold and central flow control procedures;
       (xii) radio/telephone procedures;

   (d) abnormal and emergency procedures—
       (i) assisting flight crew in an emergency;
       (ii) alerting of appropriate governmental, company and private agencies;

   (e) crew resource management;

   (f) dangerous goods;

   (g) security;

   (h) differences training.

2. Each Air Operator Certificate holder shall ensure that initial ground training for flight operations officers includes a competency
check given by an appropriately qualified dispatch supervisor or ground instructor that demonstrates the required knowledge and abilities.

3. Each Air Operator Certificate holder shall ensure that initial ground training for flight operations officers consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the General Manager:

(a) piston-engined aircraft – 30 hours;
(b) turbopropeller-powered aircraft – 40 hours;
(c) turbo-jet aircraft – 40 hours;
(d) other aircraft – 30 hours.

Fifth Schedule (Section 128(8))
INITIAL AIRCRAFT GROUND AND FLIGHT TRAINING-FLIGHT CREW
PART A
GROUND TRAINING

1. Each Air Operator Certificate holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown. Instructions shall include at least the following general subjects:

(a) Air Operator Certificate holder’s dispatch, flight release, or flight locating procedures;
(b) principles and methods for determining mass and balance, and runway limitations for takeoff;
(c) Air Operator Certificate holder’s operations specifications, authorisations and limitations;
(d) adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions:
   (i) icing.
   (ii) fog.
   (iii) turbulence.
   (iv) heavy precipitation.
   (v) thunderstorms.
   (vi) low-level windshear and microburst.
   (vii) low visibility.
   (viii) contaminated runways;

(e) normal and emergency communications procedures and navigation equipment including the Air Operator Certificate holder’s communications procedures and ATC clearance requirements;

(f) navigation procedures used in area departure, en route, area arrival, approach and landing phases, to include visual cues prior to and during descent below DH or MDA;

(g) approved crew resource management training;

(h) air traffic control systems, procedures, and phraseology:
   (i) aircraft performance characteristics during all flight regimes, including;
   (ii) the use of charts, tables, tabulated data and other related manual information;
   (iii) normal, abnormal, and emergency performance problems;
   (iv) meteorological and mass limiting performance factors (such as temperature, pressure, contaminated runways, precipitation, climb/runway limits);
   (v) inoperative equipment performance limiting factors (such as MEL or CDL, inoperative antiskid);
   (vi) special operational conditions (such as unpaved runways, high altitude aerodromes and drift down requirements);
   (vii) normal, abnormal and emergency procedures on the aircraft type to be used.

2. Each Air Operator Certificate holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown, including at least the following aircraft systems (if applicable):

(a) aircraft—
(i) aircraft dimensions, turning radius, panel layouts, cockpit and cabin configurations;
(ii) other major systems and components or appliances of the aircraft;
(iii) operating limitations;
(iv) approved aircraft flight manual;

(b) powerplants—
   (i) basic engine description;
   (ii) engine thrust ratings;
   (iii) engine components such as accessory drives, ignition, oil, fuel control, hydraulic, and bleed air features;

(c) electrical—
   (i) sources of aircraft electrical power (such as engine driven generators, APU generator, external power, etc.);
   (ii) electrical buses;
   (iii) circuit breakers;
   (iv) aircraft battery;
   (v) standby power systems;

(d) hydraulic—
   (i) hydraulic reservoirs, pumps, accumulators; filters, check valves, interconnects and actuators;
   (ii) other hydraulically operated components;

(e) fuel—
   (i) fuel tanks (location and quantities);
   (ii) engine driven pumps;
   (iii) boost pumps;
   (iv) system valves and crossfeeds;
   (v) quantity indicators;
   (vi) provisions for fuel jettisoning;

(f) pneumatic—
   (i) bleed air sources (APU, engine or external ground air);
   (ii) means of routing, venting and controlling bleed air via valves, ducts, chambers, and temperature and pressure limiting devices;

(g) air conditioning and pressurisation—
   (i) heaters, air conditioning packs, fans, and other environmental control devices;
   (ii) pressurisation system components such as outflow and negative pressure relief valves;
   (iii) automatic, standby, and manual pressurisation controls and annunciators;

(h) flight controls—
   (i) primary controls (yaw, pitch, and roll devices);
   (ii) secondary controls (leading/trailing edge devices, flaps, trim, and damping mechanisms);
   (iii) means of actuation (direct/indirect or fly by wire);
   (iv) redundancy devices;

(i) landing gear and brakes—
   (i) landing gear extension and retraction mechanism including the operating sequence of struts, doors, and locking devices, and brake and antiskid systems, if applicable;
   (ii) steering (nose or body steering gear);
   (iii) bogie arrangements;
   (iv) air/ground sensor relays;
   (v) visual downlock indicators;

(j) ice and rain protection—
   (i) rain removal systems;
   (ii) anti-icing and/or deicing system(s) affecting flight controls, engines, pitot static and other probes, fluid outlets,
cockpit windows, and aircraft structures;

(k) equipment and furnishings—
   (i) exits;
   (ii) galleys;
   (iii) water and waste systems;
   (iv) lavatories;
   (v) cargo areas;
   (vi) crew member and passenger seats;
   (vii) bulkheads;
   (viii) seating and/or cargo configurations;
   (ix) non-emergency equipment and furnishings;

(l) navigation equipment—
   (i) flight directors;
   (ii) horizontal situation indicator;
   (iii) radio magnetic indicator;
   (iv) navigation receivers (GPS, ADF, VOR, LORAN-C, RNAV, Marker Beacon, DME);
   (v) inertial systems (INS, IRS);
   (vi) functional displays;
   (vii) fault indications and comparator systems;
   (viii) aircraft transponders;
   (ix) radio altimeters;
   (x) weather radar;
   (xi) cathode ray tube or computer generated displays of aircraft position and navigation information;

(m) auto flight system—
   (i) autopilot;
   (ii) autothrottles;
   (iii) flight director and navigation systems;
   (iv) automatic approach tracking;
   (v) autoland;
   (vi) automatic fuel and performance management systems;

(n) flight instruments—
   (i) panel arrangement;
   (ii) flight instruments (attitude indicator, directional gyro, magnetic compass, airspeed indicator, vertical speed indicator, altimeters, standby instruments);
   (iii) instrument power sources, and instrument sensory sources (e.g., Pitot static pressure);

(o) display systems—
   (i) weather radar;
   (ii) other CRT displays (e.g., checklist, vertical navigation or longitudinal navigation displays);

(p) communication equipment—
   (i) VHF/HF/SAT COM radios;
   (ii) audio panels;
   (iii) inflight interphone and passenger address systems;
   (iv) voice recorder;
   (v) air/ground passive communications systems (ACARS);

(q) warning systems—
   (i) aural, visual, and tactile warning systems (including the character and degree of urgency related to each signal);
   (ii) warning and caution annunciator systems (including airborne collision avoidance, ground proximity and takeoff configuration warning systems).
(r) fire protection—
   (i) fire and overheat sensors, loops, modules, or other means of providing visual and/or aural indications of fire or overheat detection;
   (ii) procedures for the use of fire handles, automatic extinguishing systems and extinguishing agents;
   (iii) power sources necessary to provide protection for fire and overheat conditions in engines, APU, cargo bay/wheel well, cockpit, cabin and lavatories;

(s) oxygen—
   (i) passenger, crew, and portable oxygen supply systems;
   (ii) sources of oxygen (gaseous or solid);
   (iii) flow and distribution networks;
   (iv) automatic deployment systems;
   (v) regulators, pressure levels and gauges;
   (vi) servicing requirements;

(t) lighting—
   (i) cockpit, cabin, and external lighting systems;
   (ii) power sources;
   (iii) switch positions;
   (iv) spare light bulb locations;

(u) emergency equipment—
   (i) fire and oxygen bottles;
   (ii) first aid and medical kits;
   (iii) liferafts and life preservers;
   (iv) crash axes;
   (v) emergency exits and lights;
   (vi) slides and sliderafts;
   (vii) escape straps or handles;
   (viii) hatches, ladders and movable stairs;

(v) auxiliary power unit (APU)—
   (i) electric and bleed air capabilities;
   (ii) interfaces with electrical and pneumatic systems;
   (iii) inlet doors and exhaust ducts;
   (iv) fuel supply;

(w) performance;

(x) use of checklist—
   (i) safety checks;
   (ii) cockpit preparation (switch position and checklist flows);
   (iii) checklist callouts and responses;
   (iv) checklist sequence;

(y) flight planning—
   (i) preflight and in-flight planning;
   (ii) performance limitations (meteorological, mass, and MEL/CDL items);
   (iii) required fuel loads;
   (iv) weather planning (lower than standard takeoff minimums or alternate requirements).

3. Each Air Operator Certificate holder shall have an initial aircraft ground training curriculum for the flight crew applicable to their duties, the type of operations conducted and aircraft flown, including at least the following aircraft systems integration items:

   (a) display systems—
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(i) weather radar;
(ii) CRT displays (checklists, vertical navigation or longitudinal navigation displays);

(b) navigation and communications systems—
   (i) preflight and operation of applicable receivers;
   (ii) onboard navigation systems;
   (iii) flight plan information input and retrieval;

(c) autoflight/flight directors—
   (i) autopilot;
   (ii) autothrust;
   (iii) flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators;

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

4. Each Air Operator Certificate holder shall ensure that initial ground training for flight crew consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the General Manager:

(a) for pilots and flight engineers—
   (i) piston-engined aeroplane—64 hours;
   (ii) turbo-propeller-powered aeroplane—80 hours;
   (iii) turbo-jet aeroplane—120 hours;
   (iv) helicopter—64 hours;
   (v) powered-lift—80 hours;
   (vi) other aircraft—64 hours;

(b) for flight navigators—
   (i) piston-engined aircraft—16 hours;
   (ii) turbopropeller-powered aircraft—32 hours;
   (iii) turbojet-aircraft—32 hours;

(c) curriculum topics to be contained in an initial crew resource management training course shall include—
   (i) communications processes and decision behaviour;
   (ii) internal and external influences on interpersonal communications;
   (iii) barriers to communication;
   (iv) listening skills;
   (v) decision making skills;
   (vi) effective briefings;
   (vii) developing open communications;
   (viii) inquiry, advocacy, and assertion training;
   (ix) crew self-critique;
   (x) conflict resolution;
   (xi) team building and maintenance;
   (xii) leadership and fellowship training;
   (xiii) interpersonal relationships;
   (xiv) workload management;
   (xv) situational awareness;
   (xvi) how to prepare, plan and monitor task completions;
   (xvii) workload distribution;
   (xviii) distraction avoidance;
   (xix) individual factors; and
   (xx) stress reduction.
1. Each Air Operator Certificate holder shall ensure that pilot initial flight training includes at least the following:

(a) preparation —
   (i) visual inspection (for aircraft with a flight engineer, use of pictorial display authorised) A and H;
   (ii) pre-taxi procedures, A and H;
   (iii) performance limitations;

(b) surface operation —
   (i) pushback;
   (ii) powerback taxi, if applicable to the type of operation to be conducted;
   (iii) starting;
   (iv) taxi;
   (v) pre-takeoff checks;

(c) takeoff —
   (i) normal;
   (ii) crosswind;
   (iii) rejected;
   (iv) power failure after $V_1$;
   (v) lower than standard minimum, if applicable to the type of operation to be conducted;

(d) climb —
   (i) normal;
   (ii) one-engine inoperative during climb to en route altitude;

(e) en route —
   (i) steep turns;
   (ii) approaches to stalls (takeoff, en route, and landing configurations);
   (iii) inflight powerplant shutdown;
   (iv) inflight powerplant restart;
   (v) high speed handling characteristics;

(f) descent —
   (i) normal;
   (ii) maximum rate;

(g) approaches —
   (i) VFR procedures;
   (ii) visual approach with 50% loss of power of available powerplants;
   (iii) visual approach with slat/flap malfunction;
   (iv) IFR precision approaches (ILS normal and ILS with one-engine inoperative);
   (v) IFR non-precision approaches (NDB normal and VOR normal);
   (vi) non-precision approach with one engine inoperative (LOC backcourse procedures, SDF/LDA, GPS, TACAN and circling approach procedures);

   Note: Simulator shall be qualified for training/checking on the circling manoeuvre

   (vii) missed approach from precision approach;
   (viii) missed approach from non-precision approach;
   (ix) missed approach with powerplant failure;

(h) landings —
   (i) normal with a pitch mistrim (small aircraft only);
   (ii) normal from precision instrument approach;
   (iii) normal from precision instrument approach with most critical engine inoperative;
   (iv) normal with 50% loss of power of available powerplants;
(v) normal with flap/slat malfunction;
(vi) rejected landings
(vii) crosswind;
(viii) manual reversion/degraded control augmentation;
(ix) short/soft field (small aircraft only);
(x) glassy/rough water (seaplanes only);

(i) after landing—
   (i) parking;
   (ii) emergency evacuation;
   (iii) docking, mooring, and ramping (seaplanes only);

(j) other flight procedures during any airborne phase—
   (i) airborne collision avoidance system: use and avoidance manoeuvres;
   (ii) holding;
   (iii) ice accumulation on airframe;
   (iv) air hazard avoidance;
   (v) windshear/microburst;

(k) normal, abnormal and alternate systems procedures during any phase—
   (i) pneumatic/pressurisation;
   (ii) air conditioning;
   (iii) fuel and oil;
   (iv) electrical;
   (v) hydraulic;
   (vi) flight controls;
   (vii) anti-icing and deicing systems;
   (viii) autopilot;
   (ix) flight management guidance systems and/or automatic or other approach and landing aids;
   (x) stall warning devices, stall avoidance devices, and stability augmentation systems;
   (xi) airborne weather radar;
   (xii) flight instrument system malfunction;
   (xiii) communications equipment;
   (xiv) navigation systems;

(l) emergency systems procedures during any phase—
   (i) aircraft fires;
   (ii) smoke control;
   (iii) powerplant malfunctions;
   (iv) fuel jettison;
   (v) electrical, hydraulic, pneumatic systems;
   (vi) flight control system malfunction;
   (vii) landing gear and flap system malfunction.

2: Each Air Operator Certificate holder shall ensure that flight engineer flight training includes at least the following training and practice in procedures related to the carrying out of flight engineer duties and functions; this training and practice may be accomplished either in flight or in a flight simulation training device—

(a) preparation—
   (i) airplane preflight;
      A. logbook procedures;
      B. safety checks;
      C. cabin/interiors;
      D. exterior walkaround;
E. servicing/deicing;
F. use of oxygen;
   (ii) ground operations;
(b) performance data—
   (i) To/LND data;
   (ii) airport analysis
   (iii) mass and balance
   (iv) use of checklist;
   (v) panel setup;
(c) starting—
   (i) external power;
   (ii) external air’
   (iii) APU;
(d) communications—
   (i) station procedures;
   (ii) ACARS;
(e) taxi;
(f) takeoff;
(g) powerplant control;
(h) flaps/landing gear;
(i) fuel management;
(j) other systems operation;
(k) aircraft performance;
(l) checklist completion—
   (i) climb—
      A. powerplant control;
      B. fuel management;
      C. pressurisation;
      D. electrical system;
      E. air conditioning;
      F. flight controls;
      G. other systems;
(m) en route—
   (i) powerplant operation;
   (ii) fuel management;
   (iii) performance management;
   (iv) high altitude performance;
   (v) other systems operation;
(n) descent—
   (i) powerplant operation;
   (ii) other systems operation;
   (iii) performance management;
(o) approach—
   (i) landing data;
   (ii) landing gear operation;
(iii) flat/slat/spoiler operation;
(iv) approach monitoring;

(p) landings—
   (i) powerplant operation;
   (ii) aircraft configuration;
   (iii) system operation;
   (iv) emergency evacuation;

(q) procedures during any ground or airborne phase—
   (i) cockpit equipment;
   (ii) flap slats/gear;
   (iii) powerplant;
   (iv) pressurisation;
   (v) pneumatic;
   (vi) air conditioning;
   (vii) fuel and oil;
   (viii) electrical;
   (ix) hydraulic;
   (x) flight controls;
   (xi) anti-icing and deicing;
   (xii) other checklist procedures.

3. Each Air Operator Certificate holder shall ensure that flight navigator training includes at least the following—

   (a) initial flight training for flight navigators must include flight training and a flight check that is adequate to ensure the crew member’s proficiency in the performance of his or her assigned duties;

   (b) the flight training and check specified in paragraph (1) must be performed—
      (i) in-flight or in an appropriate flight simulation training device; or
      (ii) in commercial air transport operations, if performed under the supervision of a qualified flight navigator.

4. Each Air Operator Certificate holder shall ensure that initial flight training for pilots and flight engineers consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the General Manager—

   (a) for one trainee in either an aircraft or flight simulation training devices—
      (i) piston-engined aircraft — PIC: 14 hours; CP: 14 hours; and FE: 12 hours;
      (ii) turbopropeller-powered aircraft—— PIC: 15 hours; CP: 15 hours; and FE: 12 hours;
      (iii) turbo-jet aircraft — PIC: 20 hours; CP: 16 hours; and FE: 12 hours;
      (iv) other aircraft — PIC and CP: 14 hours;

   (b) For two pilots in a flight simulation training device—
      (i) piston-engined aircraft — PIC: 24 hours; CP: 24 hours; and FE: 20 hours;
      (ii) turbopropeller-powered aircraft—— PIC: 24 hours; CP: 24 hours; and FE: 20 hours;
      (iii) turbo-jet aircraft — PIC: 28 hours; CP: 28 hours; and FE: 20 hours;
      (iv) other aircraft — PIC and CP: 24 hours.

SIXTH SCHEDULE (Section 128(9))

INITIAL AIRCRAFT GROUND TRAINING—— CABIN CREW MEMBERS

1. Each Air Operator Certificate holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following general subjects, if applicable:

   (a) aircraft familiarisation—
      (i) aircraft characteristics and description;
      (ii) flight deck configuration;
(iii) cabin configuration;
(iv) galleys;
(v) lavatories;
(vi) stowage areas;

(b) aircraft equipment and furnishings—
(i) cabin crew member stations;
(ii) cabin crew member panels;
(iii) passenger seats;
(iv) passenger service units and convenience panels;
(v) passenger information signs;
(vi) aircraft markings;
(vii) aircraft placards;
(viii) bassinets and bayonet tables;

(c) aircraft systems—
(i) air conditioning and pressurisation system;
(ii) aircraft communication systems (call, interphone and passenger address);
(iii) lighting and electrical systems;
(iv) oxygen systems (flight crew, observer and passenger);
(v) water system;
(vi) entertainment and convenience systems;

(d) aircraft exits—
(i) general information;
(ii) exits with slides or sliderafts (preflight and normal operation);
(iii) exits without slides (preflight and normal operations);
(iv) window exits (preflight);

(e) crew member communication and co-ordination;
(i) authority of PIC;
(ii) routine communication signals and procedures;
(iii) crew member briefing;

(f) routine crew member duties and procedures—
(i) crew member general responsibilities;
(ii) reporting duties and procedures for specific aircraft;
(iii) pre-departure duties and procedures prior to passenger boarding;
(iv) passenger boarding duties and procedures;
(v) prior to movement on the surface duties and procedures;
(vi) prior to takeoff duties and procedures applicable to specific aircraft;
(vii) inflight duties and procedures;
(viii) prior to landing duties and procedures;
(ix) movement on the surface and arrival duties and procedures;
(x) after arrival duties and procedures;
(xi) intermediate stops;

(g) passenger handling responsibilities—
(i) crew member general responsibilities;
(ii) infants, children, and unaccompanied minors;
(iii) passengers needing special assistance;
(iv) passengers needing special accommodation;
(v) carry-on stowage requirements;
(vi) passenger seating requirements;
(vii) smoking and no smoking requirements;

(h) approved crew resource management (CRM) training for cabin crew members.
2. Each Air Operator Certificate holder shall have an initial ground training curriculum for cabin crew members applicable to the type of operations conducted and aircraft flown, including at least the following aircraft specific emergency subjects, if applicable:

(a) emergency equipment—
   (i) emergency communication and notification systems;
   (ii) aircraft exits;
   (iii) exits with slides or sliderafts (emergency operation);
   (iv) slides and sliderafts in a ditching;
   (v) exits without slides (emergency operation);
   (vi) window exits (emergency operation);
   (vii) exits with tailcones (emergency operation);
   (viii) cockpit exits (emergency operation);
   (ix) ground evacuation and ditching equipment;
   (x) first aid equipment;
   (xi) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
   (xii) firefighting equipment;
   (xiii) emergency lighting systems;
   (xiv) additional emergency equipment;

(b) emergency assignments and procedures—
   (i) general types of emergencies specific to aircraft, including crew coordination and communication;
   (ii) emergency communication signals and procedures;
   (iii) rapid decompression;
   (iv) insidious decompression and cracked window and pressure seal leaks;
   (v) fires;
   (vi) ditching;
   (vii) ground evacuation;
   (viii) unwarranted evacuation (i.e., passenger initiated);
   (ix) illness or injury;
   (x) abnormal situations involving passengers or crew members;
   (xi) hijacking and acts of unlawful interference;
   (xii) bomb threat;
   (xiii) turbulence;
   (xiv) other unusual situations including an awareness of other crew members’ assignments and functions as they pertain to the cabin crew member’s own duties;
   (xv) previous aircraft accidents and incidents;

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

3. Each Air Operator Certificate holder shall ensure that initial ground training for a cabin crew member includes a competency check given by the appropriate supervisor or ground instructor to determine his or her ability to perform assigned duties and responsibilities;

4. Each Air Operator Certificate holder shall ensure that initial ground training for cabin crew members consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the general manager:
(a) piston-engined—8 hours;
(b) turbopropeller-powered—8 hours;
(c) turbo-jet—16 hours;
(d) other aircraft—8 hours;

Competence Checks—cabin crew members

5. Evaluators shall include during each cabin crew member competency check a demonstrated knowledge of:

(a) emergency equipment, if applicable—
   (i) emergency communication and notification systems;
   (ii) aircraft exits;
   (iii) exits with slides or sliderafts (emergency operation);
   (iv) slides and sliderafts in a ditching;
   (v) exits without slides (emergency operation);
   (vi) window exits (emergency operation);
   (vii) exits with tailcones (emergency operation);
   (viii) cockpit exits (emergency operation);
   (ix) ground evacuation and ditching equipment;
   (x) first aid equipment;
   (xi) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
   (xii) firefighting equipment;
   (xiii) emergency lighting systems;
   (xiv) additional emergency equipment;

(b) emergency procedures—
   (i) general types of emergencies specific to aircraft;
   (ii) emergency communication signals and procedures;
   (iii) rapid decompression;
   (iv) insidious decompression and cracked window and pressure seal leaks;
   (v) fires;
   (vi) ditching;
   (vii) ground evacuation;
   (viii) unwarranted evacuation (i.e., passenger initiated);
   (ix) illness or injury;
   (x) abnormal situations involving passengers or crew members;
   (xi) turbulence;
   (xii) other unusual situations;

(c) emergency drills—
   (i) location and use of all emergency and safety equipment carried on the aeroplane;
   (ii) the location and use of all types of exits;
   (iii) actual donning of a lifejacket where fitted;
   (iv) actual donning of protective breathing equipment;
   (v) actual handling of fire extinguishers;

(d) crew resource management—
   (i) decision-making skills;
   (ii) briefings and developing open communication;
   (iii) inquiry, advocacy, and assertion training;
   (iv) workload management;

(e) dangerous goods—
   (i) recognition of and transportation of dangerous goods;
(ii) proper packaging, marking, and documentation;
(iii) instructions regarding compatibility, loading, storage and handling characteristics;

(f) security—
(i) hijacking;
(ii) disruptive passengers.

SEVENTH SCHEDULE (Section 142(4))

RECURRENT TRAINING—FLIGHT CREW

1. Each Air Operator Certificate holder shall have all recurrent training conducted by suitably qualified personnel.

2. Each Air Operator Certificate holder shall ensure that flight crew member recurrent ground training includes at least the following:

(a) general subjects—
(i) flight locating procedures;
(ii) principles and method for determining mass/balance and runway limitations;
(iii) meteorology to ensure practical knowledge of weather phenomena including the principles of frontal system, icing, fog, thunderstorms, windshear, and high altitude weather situations;
(iv) ATC systems and phraseology;
(v) navigation and use of navigational aids;
(vi) normal and emergency communication procedures;
(vii) visual cues before descent to MDA;
(viii) accident/incident and occurrence review;
(ix) other instructions necessary to ensure the pilot’s competence;

(d) aircraft systems and limitations—
(i) normal, abnormal, and emergency procedures;
(ii) aircraft performance characteristics;
(iii) engines and, if applicable, propellers;
(iv) major aircraft components;
(v) major aircraft systems (i.e. flight controls, electric, hydraulic and other systems as appropriate);
(vi) ground icing and de-icing procedures and requirements;

(e) emergency equipment and drills every 12 months—
(i) location and use of all emergency and safety equipment carried on the aeroplane;
(ii) the location and use of all types of exits;
(iii) actual donning of a lifejacket where fitted;
(iv) actual donning of protective breathing equipment;
(v) actual handling of fire extinguishers;

(f) emergency equipment and drills every three years—
(i) operation of all types of exits;
(ii) demonstration of the method used to operate a slide, where fitted;
(iii) fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire;  
*Note: With halon extinguishers, an alternative method acceptable to the General Manager may be used.*
(iv) effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;
(v) actual handling of pyrotechnics, real or simulated, where fitted;
(vi) demonstration in the use of the life-raft(s), where fitted;
(vii) an emergency evacuation drill;
(viii) a ditching drill, if applicable;
(ix) a rapid decompression drill, if applicable;
(g) crew resource management—
   (i) decision-making skills;
   (ii) briefings and developing open communication;
   (iii) inquiry, advocacy, and assertion training;
   (iv) workload management;
   (v) situational awareness;

(h) dangerous goods—
   (i) recognition of and transportation of dangerous goods;
   (ii) proper packaging, marking, and documentation;
   (iii) instructions regarding compatibility, loading, storage and handling characteristics;

(i) security—
   (i) hijacking;
   (ii) disruptive passengers.

3. Each Air Operator Certificate holder shall verify knowledge of the recurrent ground training by an oral or written examination.

4. Each Air Operator Certificate holder shall ensure that pilot recurrent flight training include at least the following:

*Note: Flight training may be conducted in an appropriate aircraft or adequate flight simulation training device.*

(a) preparation—
   (i) visual inspection (use of pictorial display authorised);
   (ii) pre-taxi procedures;

(b) ground operation—
   (i) performance limitations;
   (ii) cockpit management;
   (iii) securing cargo;
   (iv) pushback;
   (v) powerback taxi, if applicable;
   (vi) starting;
   (vii) taxi;
   (viii) pre-takeoff checks;

(c) takeoff—
   (i) normal;
   (ii) crosswind;
   (iii) rejected;
   (iv) power failure after v1;
   (v) powerplant failure during second segment;
   (vi) low visibility takeoff operations;

(d) climb—
   (i) normal;
   (ii) one-engine inoperative climb to en route altitude;

(e) en route—
   (i) steep turns;
   (ii) approaches to stalls (takeoff, en route, and landing configurations);
   (iii) inflight powerplant shutdown;
   (iv) inflight powerplant restart;
   (v) high speed handling characteristics;

(e) descent—
   (i) normal;
   (ii) maximum rate;
(f) approaches—
   (i) VFR procedures;
   (ii) visual approach with 50% loss of power of available powerplants;
   (iii) visual approach with slat/flap malfunction;
   (iv) IFR precision approaches (ILS normal and ILS with one-engine inoperative);
   (v) IFR non-precision approaches (NDB normal and VOR normal);
   (vi) non-precision approach with one engine inoperative (LOC backcourse, SDF/LDA, GPS, TACAN and circling approach procedures);
      Note: Simulator shall be qualified for training/checking on the circling manoeuvre;
   (vii) missed approach from precision approach;
   (viii) missed approach from non-precision approach;
   (ix) missed approach with powerplant failure;

(g) landings—
   (i) abnormal with a pitch mistrim (small aircraft only);
   (ii) abnormal from precision instrument approach;
   (iii) abnormal from precision instrument approach with most critical engine inoperative;
   (iv) abnormal with 50% loss of power of available powerplants;
   (v) abnormal with flap/slat malfunction;
   (vi) rejected landings;
   (vii) crosswind;
   (viii) short/soft field (small aircraft only);
   (ix) glassy/rough water (seaplanes only);

(h) after landing—
   (i) parking;
   (ii) emergency evacuation;
   (iii) docking, mooring, and ramping (seaplanes only);

(i) other flight procedures during any airborne phase—
   (i) airborne collision avoidance system: use and avoidance manoeuvres;
   (ii) holding;
   (iii) ice accumulation on airframe;
   (iv) air hazard avoidance;
   (v) windshear/microburst;

(j) normal, abnormal and alternate systems procedures during any phase—
   (i) pneumatic/pressurisation;
   (ii) air conditioning;
   (iii) fuel and oil;
   (iv) electrical;
   (v) hydraulic;
   (vi) flight controls;
   (vii) anti-icing and deicing systems;
   (viii) flight management guidance systems and/or automatic or other approach and landing aids;
   (ix) stall warning devices, stall avoidance devices, and stability augmentation systems;
   (x) airborne weather radar;
   (xi) flight instrument system malfunction;
   (xii) communications equipment;
   (xiii) navigation systems;
   (xiv) autopilot;
   (xv) approach and landing aids;
   (xvi) flight instrument system malfunction;
(k) emergency systems procedures during any phase—
   (i) aircraft fire;
   (ii) smoke control;
   (iii) powerplant malfunctions;
   (iv) fuel jettison;
   (v) electrical, hydraulic, pneumatic systems;
   (vi) flight control system malfunction;
   (vii) landing gear and flap system malfunction.

5. Each Air Operator Certificate holder shall ensure that flight engineer recurrent flight training.

6. Each Air Operator Certificate holder shall ensure that flight navigator recurrent training includes enough training and an in-flight check to ensure competency with respect to operating procedures and navigation equipment to be used and familiarity with essential navigation information pertaining to the Air Operator Certificate holder’s routes that require a flight navigator.

7. The Air Operator Certificate holder may combine recurrent training with the Air Operator Certificate holder’s proficiency check.

8. Recurrent ground and flight training curricula may be accomplished concurrently or intermixed, but completion of each of these curricula shall be recorded separately.

Eighth Schedule (Section 145(9))

RECURRENT NORMAL AND EMERGENCY TRAINING-CABIN CREW MEMBERS

Each Air Operator Certificate holder shall ensure that, every 12 months, each cabin crew member receive recurrent training in at least the following:

(a) emergency equipment, if applicable—
   (i) emergency communication and notification systems;
   (ii) aircraft exits;
   (iii) exits with slides or sliderafts (emergency operation);
   (iv) slides and sliderafts in a ditching;
   (v) exits without slides (emergency operation);
   (vi) window exits (emergency operation);
   (vii) exits with tailcone;
   (viii) emergency equipment operation;
   (ix) cockpit exits (emergency operation);
   (x) ground evacuation and ditching equipment;
   (xi) first aid equipment;
   (xii) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
   (xiii) firefighting equipment;
   (xiv) emergency lighting systems;
   (xv) additional emergency equipment;

(b) emergency procedures—
   (i) general types of emergencies specific to aircraft;
   (ii) emergency communication signals and procedures;
   (iii) rapid decompression;
   (iv) insidious decompression and cracked window and pressure seal leaks;
   (v) fires;
   (vi) ditching;
   (vii) ground evacuation;
   (viii) unwarranted evacuation (i.e., passenger initiated);
   (ix) illness or injury;
   (x) abnormal situations involving passengers or crew members;
   (xi) turbulence;
   (xii) other unusual situations;
(c) emergency drills;
   (i) every 12 months—
   A. location and use of all emergency and safety equipment carried on the aeroplane;
   B. the location and use of all types of exits;
   C. actual donning of a lifejacket where fitted;
   D. actual donning of protective breathing equipment;
   E. actual handling of fire extinguishers;
   (ii) every three years—
   A. operation of all types of exits;
   B. demonstration of the method used to operate a slide, where fitted;
   C. fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire;
      *Note: With halon extinguishers, an alternative method acceptable to the General Manager may be used;*
   D. effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;
   E. actual handling of pyrotechnics, real or simulated, where fitted;
   F. demonstration in the use of the life-raft(s), where fitted;
   G. an emergency evacuation drill;
   H. a ditching drill, if applicable;
   I. a rapid decompression drill, if applicable;
(d) crew resource management—
   (i) decision-making skills;
   (ii) briefings and developing open communication;
   (iii) inquiry, advocacy, and assertion training;
   (iv) workload management;
(e) dangerous goods—
   (i) recognition of and transportation of dangerous goods;
   (ii) proper packaging, marking, and documentation;
   (iii) instructions regarding compatibility, loading, storage and handling characteristics;
(f) security—
   (i) hijacking;
   (ii) disruptive passengers;
(g) an Air Operator Certificate holder may administer each of the recurrent training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

NINTH SCHEDULE (Section 182(3))

INTERCEPTION OF CIVIL AIRCRAFT

1. The Authority shall observe the following principles regarding the interception of civil aircraft—
   (a) interception of civil aircraft will be undertaken only as a last resort;
   (b) if undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;
   (c) practice interception of civil aircraft will not be undertaken;
   (d) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established;
   (e) in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.
2. General Manager shall ensure that—
   
   (a) a standard method has been established and made available to the public for the manoeuvring of aircraft intercepting a civil aircraft that is designed to avoid any hazard for the intercepted aircraft;
   
   (b) provision is made for the use of secondary surveillance radar, where available, to identify civil aircraft in areas where they may be subject to interception.

3. The PIC of an aircraft that is intercepted by another aircraft shall immediately—
   
   (a) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in item (e) below;
   
   (b) notify, if possible, the appropriate air traffic services unit;
   
   (c) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit. By making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;
   
   (d) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

4. If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

5. If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

<table>
<thead>
<tr>
<th>Phrases for use by INTERCEPTING aircraft</th>
<th>Phrases for use by INTERCEPTED aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrase</td>
<td>Pronunciation 1</td>
</tr>
<tr>
<td>CALL SIGN</td>
<td>KOL, SA-IN</td>
</tr>
<tr>
<td>FOLLOW</td>
<td>FOL-LO</td>
</tr>
<tr>
<td>DESCEND</td>
<td>DEE-SEND</td>
</tr>
<tr>
<td>YOU LAND</td>
<td>YOULAAND</td>
</tr>
<tr>
<td>PROCEED</td>
<td>PRO-SEED</td>
</tr>
<tr>
<td>MAYDAY</td>
<td>MAYDAY</td>
</tr>
<tr>
<td>LAND</td>
<td>LAAND</td>
</tr>
</tbody>
</table>

1. In the second column, syllables to be emphasised are underlined.
2. The call sign required to be given is that used in radiotelephone, communications with air traffic services units and corresponding to the aircraft identification in the flight plan.
3. Circumstances may not always permit, nor make desirable, the use of the phrase “HIJACK”.

6. Radio communication during interception. If radio contact is established during interception but communication in a common language is not possible, the PIC of each involved aircraft shall attempt to convey instructions, acknowledgement of instructions and essential at information by using the phrases and pronunciations in the table above and transmitting each phrase twice.

7. The following signals shall be used by the pilots of each involved aircraft in the event of interception. Signals initiated by intercepting aircraft and responses by intercepted aircraft:
<table>
<thead>
<tr>
<th>Series</th>
<th>INTERCEPTING Aircraft Signals</th>
<th>Meaning</th>
<th>INTERCEPTED Aircraft Responds</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DAY or NIGHT ¾ Rocking aircraft and flashing navigational lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left, (or to the right in the case of a helicopter) on the desired heading. <strong>Note:</strong> Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1. <strong>Note:</strong> If the intercepting aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock the aircraft each time it passes the intercepted aircraft.</td>
<td>You have been intercepted. Follow me.</td>
<td>DAY or NIGHT-Rocking aircraft. flashing navigational lights at irregular intervals and following.</td>
<td>Understood, will comply.</td>
</tr>
<tr>
<td>2</td>
<td>DAY or NIGHT ¾ An abrupt break-away manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.</td>
<td>You may proceed.</td>
<td>DAY or NIGHT - Rocking the aircraft.</td>
<td>Understood, will comply.</td>
</tr>
<tr>
<td>3</td>
<td>DAY or NIGHT ¾ Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to hover hear to the landing area.</td>
<td>Land at this aerodrome.</td>
<td>DAY or NIGHT-Lowering landing gear (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.</td>
<td>Understood, will comply.</td>
</tr>
</tbody>
</table>
(j) signals initiated by intercepted aircraft and responses by intercepting aircraft.

<table>
<thead>
<tr>
<th>Series</th>
<th>INTERCEPTED Aircraft Signals</th>
<th>Meaning</th>
<th>INTERCEPTING Aircraft Responds</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>DAY or NIGHT ¾ Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1,000 ft) but not exceeding 600 m (2,000 ft) (in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft) above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.</td>
<td>Aerodrome you have designated is inadequate.</td>
<td>DAY or NIGHT ¾ If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses he Series 1 signals prescribed for intercepting aircraft. If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.</td>
<td>Understood, follow me. Understood, you may proceed.</td>
</tr>
<tr>
<td>5</td>
<td>DAY or NIGHT ¾ Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.</td>
<td>Cannot comply.</td>
<td>DAY or NIGHT—Use Series 2 signals prescribed for intercepting aircraft.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>DAY or NIGHT ¾ Irregular flashing of all available lights.</td>
<td>In distress.</td>
<td>DAY or NIGHT—Use Series 2 signals prescribed for intercepting aircraft.</td>
<td>Understood</td>
</tr>
</tbody>
</table>

**Tenth Schedule (Section 188(2), 195(3))**

**UNIVERSAL AVIATION SIGNALS**

1. Distress signals. The following signals, used either together or separately, mean that grave and imminent danger threatens, and immediate assistance is requested:

   Note: None of the provisions in this section shall prevent the use, by an aircraft in distress, of any means at its disposal to attract attention, make known its position and obtain help.

   (a) a signal made by radiotelegraphy or by any other signalling method consisting of the group SOS (••• — — •••• in the Morse Code);

   (b) a signal sent by radiotelephony consisting of the spoken word MAYDAY;

   (c) rockets or shells throwing red lights, fired one at a time at short intervals;

   (d) a parachute flare showing a red light.

2. The following signals, used either together or separately, mean that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance:

   (a) the repeated switching on and off of the landing lights; or

   (b) the repeated switching on and off of the navigation lights in such manner as to be distinct from flashing navigation lights.

3. The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or of some person on board or within sight:

   (a) a signal made by radiotelegraphy or by any other signalling method consisting of the group XXX;

   (b) a signal sent by radiotelephony consisting of the spoken words PAN, PAN.

4. Visual signals used to warn an unauthorised aircraft. By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, on bursting, red and green lights or stars will indicate to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited, or danger area, and that the aircraft is to take such remedial action as may be necessary.
5. Signals for aerodrome traffic. Aerodrome controllers shall use and pilots shall obey the following light and pyrotechnic signals:

<table>
<thead>
<tr>
<th>Light</th>
<th>From Aerodrome Control to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directed towards aircraft concerned</td>
<td>Aircraft in flight</td>
</tr>
<tr>
<td>(See Figure 1.1)</td>
<td>Cleared to land.</td>
</tr>
<tr>
<td>Steady green.</td>
<td>Give way to other aircraft and continue circling.</td>
</tr>
<tr>
<td>Steady red.</td>
<td>Return for landing*.</td>
</tr>
<tr>
<td>Series of green flashes.</td>
<td>Aerodrome unsafe, do not land.</td>
</tr>
<tr>
<td>Series of red flashes.</td>
<td>Land at this aerodrome and proceed to apron*.</td>
</tr>
<tr>
<td>Series of white flashes</td>
<td>Notwithstanding any previous instructions, do not land for the time being</td>
</tr>
<tr>
<td>Red pyrotechnic</td>
<td></td>
</tr>
</tbody>
</table>

* Clearances to land and to taxi will be given in due course.

Figure 8.1

6. Pilots shall acknowledge aerodrome controller signals as follows:

(a) When in flight—

(i) during the hours of daylight by rocking the aircraft’s wings;

   Note: This signal should not be expected on the base and final legs of the approach.

(ii) during the hours of darkness by flashing on and off twice the aircraft’s landing lights or, if not so equipped, by switching on and off twice its navigation lights;

(b) when on the ground—

(i) during the hours of daylight by moving the aircraft’s ailerons or rudder;

(ii) during the hours of darkness by flashing on and off twice the aircraft’s landing lights or, if not so equipped, by switching on and off twice its navigation lights;

(c) aerodrome authorities shall use the following visual ground signals during the following situations:
(i) prohibition of landing. A horizontal red square panel with yellow diagonals (Figure 8.2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged;

Figure 8.2

(ii) Need for special precautions while approaching or landing. A horizontal red square panel with one yellow diagonal (Figure 8.3) when displayed in a signal area indicates that owing to the bad state of the manoeuvring area, or for any other reason, special precautions must be observed in approaching to land or in landing;

Figure 8.3

(iii) use of runways and taxiways;
(iv) a horizontal white dumb-bell (Figure 8.4) when displayed in a signal area indicates that aircraft are required to land, take off and taxi on runways and taxiways only;

Figure 8.4

(v) the same horizontal white dumb-bell as in Figure 8.4, but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure 8.5) when displayed in a signal area indicates that aircraft are required to land and take off on runways only, but other manoeuvres need not be confined to runways and taxiways;

Figure 8.5

(vi) Closed runways or taxiways. Crosses of a single contrasting colour, yellow or white (Figure 8.6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft,

Figure 8.6

Directions for landing or takeoff.

(vii) a horizontal white or orange landing T (Figure 8.7) indicates the direction to be used by aircraft for landing and rake-off, which shall be in a direction parallel to the shaft of the T towards the cross arm;

Note: When used at night, the landing T is either illuminated or outlined in white coloured lights.

Figure 8.7

(viii) a set of two digits (Figure 8.8) displayed vertically at or near the aerodrome control tower indicates to aircraft on the manoeuvring area the direction for takeoff, expressed in units of 10 degrees to the nearest 10 degrees of the magnetic compass;

Figure 8.8

(ix) right-hand traffic. When displayed in a signal area, or horizontally at the end of the runway or strip in use, a right-
hand arrow of conspicuous colour (Figure 8.9) indicates that turns are to be made to the right before landing and after takeoff;

Figure 8.9

(x) Air traffic services reporting office. The letter C displayed vertically in black against a yellow background (Figure 8.10) indicates the location of the air traffic services reporting office;

Figure 8.10

(xi) Glider flights in operation. A double white cross displayed horizontally (Figure 8.11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed;

Figure 8.11

(d) the following marshalling signals shall be used from a signalman to an aircraft—

Note: These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position:

(i) for fixed-wing aircraft, the signalman shall be positioned forward of the left-wing tip within view of the pilot and, for helicopters, where the signalman can best be seen by the pilot;

Note: The meaning of the relevant signals remains the same if bats, illuminated wands or torchlights are held.

Note: The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e. No. 1 engine being the port outer engine).

Note: Signals marked with an asterisk are designed for use to hovering helicopters.

(ii) prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike;

Note: The design of many aircraft is such that the path of the wing tips, engines and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground.

<table>
<thead>
<tr>
<th>1. Wingwalker/guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body. Note.— This signal provides an indication by a person positioned at the aircraft wing tip to the pilot/ marshaller/ push-back operator that the aircraft movement on/off a parking position would be unobstructed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Identify gate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise fully extended arms straight above head with wands pointing up.</td>
</tr>
</tbody>
</table>
3. Proceed to next signalman or as directed by tower/ground control

Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.

4. Straight ahead

Bend extended arms at elbows and move wands up and down from chest height to head.

5 (a). Turn left (from pilot’s point of view)

With right arm and wand extended at a 90-degree angle to body, make “come ahead” signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

5 (b). Turn right (from pilot’s point of view)

With left arm and wand extended at a 90-degree angle to body, make “come ahead” signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

6 (a). Normal stop

Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.

6 (b). Emergency stop

Abruptly extend arms and wands to top of head, crossing wands.
7 (a). Set brakes
Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. Do not move until receipt of “thumbs up” acknowledgement from flight crew.

7 (b). Release brakes
Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. Do not move until receipt of “thumbs up” acknowledgement from flight crew.

8 (a). Chocks inserted
With arms and wands fully extended above head, move wands inward in a “jabbing” motion until wands touch. Ensure acknowledgement is received from flight crew.

8 (b). Chocks removed
With arms and wands fully extended above head, move wands outward in a “jabbing” motion. Do not remove chocks until authorized by flight crew.

9. Start engine(s)
Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.

10. Cut engines
Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11. <strong>Slow down</strong></td>
<td>Move extended arms downwards in a “patting” gesture, moving wands up and down from waist to knees.</td>
<td></td>
</tr>
<tr>
<td>12. <strong>Slow down engine(s) on indicated side</strong></td>
<td>With arms down and wands toward ground, wave either right or left wand up and down indicating engine(s) on left or right side respectively should be slowed down.</td>
<td></td>
</tr>
<tr>
<td>13. <strong>Move back</strong></td>
<td>With arms in front of body at waist height, rotate arms in a forward motion. To stop rearward movement, use signal 6 a) or 6 b).</td>
<td></td>
</tr>
<tr>
<td>14 (a). <strong>Turns while backing (for tail to starboard)</strong></td>
<td>Point left arm with wand down and bring right arm from overhead vertical position to horizontal forward position, repeating right-arm movement.</td>
<td></td>
</tr>
<tr>
<td>14 (b). <strong>Turns while backing (for tail to port)</strong></td>
<td>Point right arm with wand down and bring left arm from overhead vertical position to horizontal forward position, repeating left-arm movement.</td>
<td></td>
</tr>
<tr>
<td>15. <strong>Affirmative/all clear</strong></td>
<td>Raise right arm to head level with wand pointing up or display hand with “thumbs up”; left arm remains at side by knee.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>16. Hover</strong></td>
<td>Fully extend arms and wands at a 90-degree angle to sides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image1.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>17. Move upwards</strong></td>
<td>Fully extend arms and wands at a 90-degree angle to sides and, with palms turned up, move hands upwards. Speed of movement indicates rate of ascent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image2.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>18. Move downwards</strong></td>
<td>Fully extend arms and wands at a 90-degree angle to sides and, with palms turned down, move hands downwards. Speed of movement indicates rate of descent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image3.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>19 (a). Move horizontally left (from pilot’s point of view)</strong></td>
<td>Extend arm horizontally at a 90-degree angle to right side of body. Move other arm in same direction in a sweeping motion.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image4.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>19 (b). Move horizontally right (from pilot’s point of view)</strong></td>
<td>Extend arm horizontally at a 90-degree angle to left side of body. Move other arm in same direction in a sweeping motion.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image5.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>20. Land</strong></td>
<td>Cross arms with wands downwards and in front of body.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image6.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><strong>21. Fire</strong></td>
<td>Move right-hand wand in a “fanning” motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.</td>
<td></td>
</tr>
<tr>
<td><strong>22. Hold position/stand by</strong></td>
<td>Fully extend arms and wands downwards at a 45-degree angle to sides. Hold position until aircraft is clear for next manoeuvre.</td>
<td></td>
</tr>
<tr>
<td><strong>23. Dispatch aircraft</strong></td>
<td>Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.</td>
<td></td>
</tr>
<tr>
<td><strong>24. Do not touch controls (technical/servicing communication signal)</strong></td>
<td>Extend right arm fully above head and close fist or hold wand in horizontal position; left arm remains at side by knee.</td>
<td></td>
</tr>
<tr>
<td><strong>25. Connect ground power (technical/servicing communication signal)</strong></td>
<td>Hold arms fully extended above head; open left hand horizontally and move finger tips of right hand into and touch open palm of left hand (forming a “T”). At night, illuminated wands can also be used to form the “T” above head.</td>
<td></td>
</tr>
<tr>
<td><strong>26. Disconnect power (technical/servicing communication signal)</strong></td>
<td>Hold arms fully extended above head with finger tips of right hand touching open horizontal palm of left hand (forming a “T”); then move right hand away from the left. Do not disconnect power until authorized by flight crew. At night, illuminated wands can also be used to form the “T” above head.</td>
<td></td>
</tr>
</tbody>
</table>
27. Negative (technical/servicing communication signal)

Hold right arm straight out at 90 degrees from shoulder and point wand down to ground or display hand with “thumbs down”; left hand remains at side by knee.

28. Establish communication via interphone (technical/servicing communication signal)

Extend both arms at 90 degrees from body and move hands to cup both ears.

29. Open/close stairs (technical/servicing communication signal)

With right arm at side and left arm raised above head at a 45-degree angle, move right arm in a sweeping motion towards top of left shoulder.

Note.— This signal is intended mainly for aircraft with the set of integral stairs at the front.

(e) signals from the pilot of an aircraft to a signalman—

(i) the PIC or CP shall use the following signals when communicating with a signalman:

Note: These signals are designed for use by a pilot in the cockpit with hands plainly visible to the signalman, and illuminated as necessary to facilitate observation by the signalman.

Note: The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (i.e. No. I engine being the port outer engine);

(ii) Brakes engaged: Raise arm and hand, with fingers extended, horizontally in front of face, then clenched fist;

(iii) Brakes released. Raise arm, with fist clenched, horizontally in front of face, then extend fingers;

Note: The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.

(iv) Insert chocks: Arms extended, palms outwards, move hands inwards to cross in front of face;

(v) Remove chocks: Hands crossed in front of face, palms outwards, move arms outwards;

(vi) Ready to start engine(s): Raise the appropriate number of fingers on one hand indicating the number of the engine to be started.

Eleventh Schedule (Section 210(3))

TABLE OF CRUISING LEVELS

1. The cruising levels at which a flight or a portion of a flight is to be conducted shall be in terms of—

(a) flight levels, for flights at or above the lowest usable flight level or, where applicable, above the transition altitude;

(b) altitudes, for flights below the lowest usable flight level or, where applicable, at or below the transition altitude.

2. The PIC shall observe the following cruising levels in areas where, on the basis of regional air navigation agreement and in accordance with conditions specified therein, a vertical separation minimum (VSM) of 300 m (1,000 ft) is applied between FL 290 and FL 410 inclusive:*
### TRACK**

<table>
<thead>
<tr>
<th>IFR Flights</th>
<th>VFR Flights</th>
<th>IFR Flights</th>
<th>VFR Flights</th>
</tr>
</thead>
<tbody>
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<tr>
<td>490</td>
<td>14950</td>
<td>49000</td>
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<tr>
<td>etc.</td>
<td>etc.</td>
<td>etc.</td>
<td>—</td>
</tr>
</tbody>
</table>

*Except when, on the basis of regional air navigation agreements, a modified table of cruising levels based on a nominal vertical separation minimum of 300 m (1 000 ft) is prescribed for use, under specified conditions, by aircraft operating above FL 410 within designated portions of the airspace.

**Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

***Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.
The PIC shall observe the following cruising levels in other areas not specified in item (a) above.

<table>
<thead>
<tr>
<th>TRACK**</th>
<th>From 000 Degrees to 179 Degrees***</th>
<th>From 180 Degrees to 359 Degrees***</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FL</strong></td>
<td><strong>Altitude</strong></td>
<td><strong>FL</strong></td>
</tr>
<tr>
<td>Meters</td>
<td>Feet</td>
<td>Meters</td>
</tr>
<tr>
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<tr>
<td>10</td>
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<td>49000</td>
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<tr>
<td>etc.</td>
<td>etc.</td>
<td>etc.</td>
</tr>
</tbody>
</table>

**Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

***Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

Note: Guidance material relating to vertical separation is contained in ICAO Doc 9574, Manual on the Implementation of a 300 m (1,000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive. The system of flight levels is prescribed in ICAO Doc 8168, Procedures for Air Navigation Services.

**Twelfth Schedule (Section 124(3))

INITIAL DANGEROUS GOODS TRAINING

1. Each AOC holder shall establish, maintain, and have approved by the General Manager, staff training programmes, as required by the Technical Instructions.

2. Each AOC holder not holding a permanent approval to carry dangerous goods shall ensure that—

   (a) staff who are engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in Column I of Table I to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how to identify such goods;

   (b) crew members, passenger handling staff, and security staff employed by the AOC holder who deal with the screening of a passengers and their baggage, have received training which covers as a minimum, the areas identified in Column 2 of Table I to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.
Table 1

<table>
<thead>
<tr>
<th>Areas Of Dangerous Goods Training</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Philosophy</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Limitations On Dangerous Goods In Air Transport</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Package Marking And Labelling</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Dangerous Goods In Passengers Baggage</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Emergency Procedures</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Note: x indicates an area to be covered.

3. Each AOC holder holding a permanent approval to carry dangerous goods shall ensure that:

(a) staff who are engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties which covers as a minimum, the areas identified in Column 1 of Table 2 to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;

(b) staff who are engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in Column 2 of Table 2 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;

(c) staff who are engaged in general cargo handling have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in Column 3 of Table 2 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;

(d) flight crew members have received training which covers as a minimum, the areas identified in Column 4 of Table 2 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on an aircraft;

(e) passenger handling staff; security staff employed by the operator who deal with the screening of passengers and their baggage; and crew members other than flight crew members, have received training which covers as a minimum, the areas identified in Column 5 of Table 2 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and what requirements apply to the carriage of such goods by passengers or, more generally, their carriage on an aircraft.

4. Each AOC holder shall ensure that all staff who require dangerous goods training receive recurrent training at intervals of not longer than two years.

5. Each AOC holder shall ensure that records of dangerous goods training are maintained for all staff trained in accordance with paragraph (4).

6. Each AOC holder shall ensure that its handling agent’s staff are trained in accordance with the applicable column of Table 1 or Table 2.

Table 2

<table>
<thead>
<tr>
<th>Areas Of Training</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
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<td>General Philosophy</td>
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<td>x</td>
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<td>x</td>
<td>x</td>
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<td>Limitations On Dangerous Goods In The Air Transport</td>
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<td>Classification And List Of Dangerous Goods</td>
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<tr>
<td>General Packing Requirements And Packing Instructions</td>
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</tr>
<tr>
<td>Packaging Specifications Marking</td>
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<td>x</td>
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</tr>
<tr>
<td>Package Marking And Labelling</td>
<td>x</td>
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</tr>
<tr>
<td>Documentation From The Shipper</td>
<td>x</td>
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</tr>
<tr>
<td>Acceptance Of Dangerous Good, Including The Use Of A Checklist</td>
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<tr>
<td>Loading, Restrictions On Loading And Segregation</td>
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<tr>
<td>Inspections For Damage Or Leakage And Decontamination Procedures</td>
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<tr>
<td>Provision Of Information To Commander</td>
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<tr>
<td>Dangerous Goods In Passengers’ Baggage</td>
<td>x</td>
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<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Emergency Procedures</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Note: x indicates an area to be covered.
7. An AOC holder shall provide dangerous goods training manuals which contain adequate procedures and information to assist personnel in identifying packages marked or labelled as containing hazardous materials including—
   (a) instructions on the acceptance, handling, and carriage of hazardous materials;
   (b) instructions governing the determination of proper shipping names and hazard classes;
   (c) packaging, labelling, and marking requirements;
   (d) requirements for shipping papers, compatibility requirements, loading, storage, and handling requirements;
   (e) restrictions.

**THIRTEENTH SCHEDULE (Section 127(7))**

**INITIAL EMERGENCY EQUIPMENT DRILLS**

1. Each aircraft crew member shall accomplish emergency training during the specified training periods, using those items of installed emergency equipment for each type of aircraft in which he or she is to serve.

2. During initial training, each aircraft crew member shall perform the following one-time emergency drills—
   (i) protective breathing equipment (PBE)/firefighting drill;
   (ii) locate source of fire or smoke (actual or simulated fire);
   (iii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about fire situation;
   (iv) don and activate installed PBE or approved PBE simulation device;
   (v) manoeuvre in limited space with reduced visibility;
   (vi) effectively use the aircraft’s communication system;
   (vii) identify class of fire;
   (viii) select the appropriate extinguisher;
   (ix) properly remove extinguisher from securing device;
   (x) prepare, operate and discharge extinguisher properly;
   (xi) utilise correct firefighting techniques for type of fire;
   (xii) recognise and evaluate an emergency;
   (xiii) assume appropriate protective position;
   (xiv) command passengers to assume protective position;
   (xv) implement crew co-ordination procedures;
   (xvi) ensure activation of emergency lights;
   (xvii) assess aircraft conditions;
   (xviii) initiate evacuation (dependent on signal or decision);
   (xix) command passengers to release seatbelts and evacuate;
   (xx) assess exit and redirect, if necessary; to open exit, including deploying slides and commanding helpers to assist;
   (xxi) command passengers to evacuate at exit and run away from aircraft;
   (xxii) assist special need passengers, such as handicapped, elderly, and persons in a state of panic;
   (xxiii) actually exit aircraft or training device using at least one of the installed emergency evacuation slides;

3. Each aircraft crew member shall accomplish additional emergency drills during initial and recurrent training, including actual performance of the following emergency drills—
   (a) emergency exit drill—
      (i) correctly preflight each type of emergency exit and evacuation slide or slider (if part of cabin crew member’s assigned duties);
      (ii) disarm and open each type of door exit in normal mode;
      (iii) close each type of door exit in normal mode;
      (iv) arm each type of door exit in emergency mode;
      (v) open each type of door exit in emergency mode;
      (vi) use manual slide inflation system to accomplish or ensure slide or slider inflation;
(vii) open each type of window exit;
(vii) remove escape rope and position for use;

(b) hand fire extinguisher drill—
(i) preflight each type of hand fire extinguisher;
(ii) locate source of fire or smoke and identify class of fire;
(iii) select appropriate extinguisher and remove from securing device;
(iv) prepare extinguisher for use;
(v) actually operate and discharge each type of installed hand fire extinguisher.

Note: Fighting an actual or a simulated fire is not necessary during this drill.

Note: The discharge of Halon extinguishing agents during firefighting drills is not appropriate, unless a training facility is used that is specifically designed to prevent harm to the environment from the discharged Halon. When such facilities are not used, other fire extinguishing agents that are not damaging to the environment should be used during the drill;

(vi) utilise correct firefighting techniques for type of fire;
(vii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about the type of fire situation;

(c) emergency oxygen system drill—
(i) preflight and operation of portable oxygen devices;
(ii) actually operate portable oxygen bottles, including masks and tubing;
(iii) verbally demonstrate operation of chemical oxygen generators or installed oxygen supply system;
(iv) prepare for use and operate oxygen device properly, including donning and activation;
(v) administer oxygen to self, passengers, and to those persons with special oxygen needs;
(vi) utilise proper procedures for effective crew co-ordination and communication;
(vii) manually open each type of oxygen mask compartment and deploy oxygen masks;
(viii) identify compartments with extra oxygen masks;
(ix) implement immediate action decompression procedures;
(x) reset oxygen system, if applicable;
(xi) preflight and operation of PBE;
(xii) activate PBE.

Note: Several operators equip their aircraft with approved PBE units that have approved storage pouches fastened with two metal staples at one end. However, considerations of practicality and cost compel operators to use a less durable storage pouch that lacks the staple fasteners for training purposes. As a result, pilots and cabin crew members have been surprised that opening the pouch furnished on board requires more force than opening the training pouch. The Authority should require crew member training that includes the appropriate procedures for operating PBE. In those cases where pouches with staples are used for storage of the PBE unit, special emphasis in training should highlight the difference between the training pouch and the onboard pouch. The training pouch may be easy to open, but the approved, onboard pouch may require as much as 28 pounds of force to overcome the 2 staple fasteners;

(d) flotation device drill—
(i) preflight flotation device, if appropriate;
(ii) don and inflate life vests;
(iii) remove and use flotation seat cushions, as installed;
(iv) demonstrate swimming techniques using a seat cushion, as installed;
(v) ditching drill, if applicable.

Note: During a ditching drill students shall perform the “prior to impact” and “after impact” procedures for a ditching, as appropriate to the specific operator’s type of operation;

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

(e) each aircraft crew member shall accomplish additional emergency drill requirements during initial and recurrent training including observing the following emergency drills—
(i) liferaft removal and inflation drill, if applicable—
   A. removal of a liferaft from the aircraft or training device;
   B. inflation of a liferaft.
(ii) slideraft transfer drill—
   A. transfer of each type of slideraft pack from an unusable door to a usable door;
   B. disconnect slideraft at unusable door;
   C. redirect passengers to usable slideraft;
   D. installation and deployment of slideraft at usable door;

(f) slide and slideraft deployment, inflation, and detachment drill—
   (i) engage slide girt bar in floor brackets, if applicable;
   (ii) arm slide for automatic inflation;
   (iii) inflate slides with and without quick-release handle (manually and automatically);
   (iv) disconnecting slide from the aircraft for use as a flotation device;
   (v) arm sliderafts for automatic inflation;
   (vi) disconnecting slideraft from the aircraft;

(g) emergency evacuation slide drill—
   (i) open armed exit with slide or slideraft deployment and inflation;
   (ii) egress from aircraft via the evacuation slide and run away to a safe distance.

Fourteenth Schedule (Section 129(4))

INITIAL SPECIALISED OPERATIONS TRAINING

Each AOC holder shall provide initial specialised operations training to ensure that each pilot and flight operations officer is qualified in the type of operation in which he or she serves and in any specialised or new equipment, procedures, and techniques, such as—

(a) navigation—
   (i) knowledge of specialised navigation procedures, such as MNPS, NPAC, GNSS, PBN, RVSM;
   (ii) knowledge of specialised equipment, such as INS, LORAN, GPS;
(b) CAT II and CAT III approaches—
   (i) special equipment, procedures and practice;
   (ii) a demonstration of competency;
(c) low visibility takeoff operations—
   (i) runway and lighting requirements;
   (ii) rejected takeoffs at, or near, \( v_1 \) with a failure of the most critical engine;
   (iii) taxi operations;
   iv) procedures to prevent runway incursions under low visibility conditions;
(d) extended range operations with two engine aeroplanes;
(e) approaches using an on-board radar;
(f) autopilot instead of co-pilot.

**Fifteenth Schedule (Section 130(2))**

**AIRCRAFT DIFFERENCES**

Each Air Operator Certificate holder shall provide aircraft differences training for flight operations officers when the operator has aircraft variances within the same type of aircraft, which includes at least the following—

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

**Sixteenth Schedule (Section 132(2))**

**AIRCRAFT AND INSTRUMENT PROFICIENCY CHECK—PILOT**

Aircraft and instrument proficiency checks for Pilot In Command and Check Pilot must include the following operations and procedures listed in the appropriate skill test, on each type or variant of type of aircraft—

(a) the oral and flight test phases of a proficiency check should not be conducted simultaneously;
(b) when the examiner determines that an applicant’s performance is unsatisfactory, the examiner may terminate the flight test immediately or, with the consent of the applicant, continue with the flight test until the remaining events are completed;
(c) if the check must be terminated (for mechanical or other reasons) and there are events which still need to be repeated, the examiner shall issue a letter of discontinuance, valid for 60 days, listing the specific areas of operation that have been successfully completed;
(d) satisfactory completion of a proficiency check following completion of an approved air carrier training programme for the particular type aircraft, satisfies the requirement for an aircraft type rating skill test if that proficiency check includes all manoeuvres and procedures required for a type rating skill test.