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LEGAL NOTICE NO. 106 OF 2011

CIVIL AVIATION AUTHORITY ACT, 2009
(Act No. 10 of 2009)

CIVIL AVIATION AUTHORITY (OPERATION OF AIRCRAFT)
REGULATIONS, 2011
(Under Section 104)

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PART I
PRELIMINARY

In exercise of the powers conferred by section 104 of the Civil Aviation Authority Act, 2009, the Minister of Public Works and Transport makes the following regulations-

Citation and commencement

1. These regulations may be cited as the Civil Aviation Authority (Operation of Aircraft) Regulations, 2011, and shall come into force on the date of publication in the Gazette.

Interpretation

2. In these regulations, unless the context otherwise requires, words or expressions used in the Act have the same meaning as in these Regulations, and -

“advisory airspace” means airspace of defined dimensions or designated route, within which air traffic advisory service is available;

“aerial work” means an aircraft operation in which an aircraft is used for specialized services including, but not limited to agriculture, construction, photography, surveying, observation and patrol, search and rescue and aerial advertisement;

“aerodrome” means a defined area on land or water, including any buildings, installations and equipment, used or intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;

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

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

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

“aeronautical product” means an aircraft, aircraft engine, propeller, or subassembly, appliance, material, part or component to be installed on the aircraft;

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

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

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

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

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

“aircraft” means a machine that derives support in the atmosphere from the reactions of the air, other than the reactions of the air against the surface of the earth;

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

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

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

“alternate aerodrome” means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to precede to or to land at the aerodrome of intended landing;

“alternate aerodromes” include the following -

- (a) take-off alternate- an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;
- (b) en-route alternate- an alternate aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route;
- (c) ETOPS en-route alternate- a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an ETOPS operation;
- (d) destination alternate- an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing;

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

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

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

“appropriate authority” means-

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

“authorized instructor” means a person who -

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

- (b) holds a current flight instructor rating issued under the Civil Aviation (Personnel Licensing) Regulations when conducting ground training or flight training; or
- (c) is authorized by the Authority to provide ground training or flight training under the Civil Aviation Authority (Personnel Licensing) and the Civil Aviation (Approved Training Organizations) Regulations;

“authorized person” means any person authorized by the Authority either generally or in relation to a particular case or class of cases and references to an authorized person includes references to a holder for the time being of any office designated by the Authority;

“Authority” means the Civil Aviation Authority, established under the Civil Aviation Authority Act;

“Category II (CAT II) operations” means, a precision instrument approach and landing with a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft), and a runway visual range not less than 350 m;

“category IIIA (CAT IIIA) operations” means, a precision instrument approach and landing with -

- (a) a decision height lower than 30 m (100 ft) or no decision; and
- (b) a runway visual range not less than 200 m;

“category IIIB (CAT IIIB) operations” means a precision instrument approach and landing with -

- (a) a decision height lower than 15 m (50ft) or no decision height; and
- (b) a runway visual range less than 200 m but not less than 50 m;

“category IIIC (CAT IIIC) operations” means a precision instrument approach and landing with no decision height and no runway visual range limitations;

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

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

“Contracting State” means a State that is party to the Convention on International Civil Aviation (Chicago Convention);

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

“cruise relief pilot” means a flight crew member who is assigned to perform pilot tasks during cruise flight, to allow the PIC or a co-pilot to obtain a planned rest;

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

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

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

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

“defined point after take-off” means the point, within the take-off and initial climb phase, before which the performance ability of a class 2 helicopter to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;

“estimated time of arrival” means for instrument flight rules (IFR) flights, the time at which it is estimated that the aircraft will arrive over a designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced or if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome; for VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome;

“evaluator” means a person employed by an approved training organization who performs tests for licensing, added ratings, authorizations and proficiency checks that are authorized by the training specification of the certificate specification and who is authorized by the Authority to administer the checks and tests;

“examiner” means a person authorized by the Authority to conduct a proficiency test, a practical test for a licence or rating or a knowledge test under these Regulations.

“flight crew member” means a licensed crew member charged with duties essential to the operation of an aircraft during flight time;

“flight duty period” means the total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or a series of flights, to the moment the flight crew member is relieved of all duties having completed the flight or series of flights;

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

“flight time” means -

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

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

“handling agent” means an agency which performs on behalf of the operator some or all of the functions of the operator, including receiving, loading, unloading, transferring or other processing of passengers or cargo;

“heavier-than-air aircraft” means any aircraft deriving its lift in flight chiefly from aerodynamic forces;

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

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

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

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

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

“journey log” means a form signed by the pilot in command (PIC) of each flight that records the registration of the aircraft, crew member names and duty assignments, the type of flight and the date, place and time of arrival and departure;

“knowledge test” means a test on the aeronautical knowledge areas required for a pilot licence or rating that can be administered in written form or by a computer;

“landing decision point” means the point used in determining landing performance from which, an engine failure occurring at this point, the landing may be safely continued or a bailed landing initiated;

“large aeroplane” means an aeroplane having a maximum certified take-off mass of 5,700 kg (12,500 lbs) or more;

“lighter-than-air aircraft” means an aircraft supported chiefly by its buoyancy in the air;

“line operating flight time” means flight time recorded by the PIC or co-pilot while in service for an air operator certificate (AOC) holder;

“maintenance” means tasks required to ensure the continued airworthiness of an aircraft or aeronautical product including any one or combination of overhaul, repair, inspection, replacement, modification and defect rectification;

“major modification” means a type design change not listed in the aircraft, aircraft engine, or propeller specifications that might appreciably affect the mass and balance limits, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting airworthiness or environmental characteristics or that will be embodied in the product according to non-standard practices;

“master minimum equipment list (MMEL)” means a list established for a particular aircraft type by the organization responsible for the type design with the approval of the State of design containing items, one or more of which is permitted to be unserviceable on the commencement of a flight; the MMEL may be associated with special operating conditions, limitations or procedures;

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

“missed approach point” means that point in an instrument approach procedure at or before which the prescribed missed approach procedure shall be initiated in order to ensure that the minimum obstacle clearance is not infringed;

“missed approach procedure” means the procedure to be followed if an approach cannot be continued;

“modification” means a change to the type design of an aircraft or aeronautical product which is not a repair;

“night” means the time between fifteen minutes after sunset and fifteen minutes before sunrise, sunrise and sunset being determined at surface level and includes any time between sunset and sunrise when an unlighted aircraft or other unlighted prominent object cannot clearly be seen at a distance of 4,572 m;

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

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

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

“operations specifications” means a document that contains terms, authorizations, conditions and limitations that facilitate the administration by the Authority of the AOC by ensuring that the Authority and the certificate holder have a mutual and clear understanding of how the certificate holder will conduct its operations;

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

“package” means the complete product of the packing operation consisting of the packaging and its contents prepared for transport;

“packaging” means receptacles and any other components or materials necessary for the receptacle to perform its containment function;

“passenger exit seats” means those seats having direct access to an exit and those seats in a row of seats through which passengers would have to pass to gain access to an exit, from the first seat inboard of the exit to the first aisle inboard of the exit;

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

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

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

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

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

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

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

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

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

(a) constitutes a direct hazard to the user or endangers the lives, health or welfare of others; and

(b) causes or worsens an occupational, social, mental or physical problem or disorder;

“psychoactive substance” means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psycho stimulants, hallucinogens and volatile solvents, and excludes coffee and tobacco;

“rating” means an authorization entered on or associated with a licence or certificate and forming part of a licence or certificate, stating special conditions, privileges or limitations pertaining to that licence or certificate except as used in “engine thrust rating”;

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

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

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

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

“serious injury” means an injury which is sustained by a person in an accident and which-

- (a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received;
- (b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
- (d) involves injury to any internal organ; or
- (e) involves second or third degree burns or any burns affecting more than 5% of the body surface; or
- (f) involves verified exposure to infectious substances or injurious radiation;

“safety-sensitive personnel” means persons who might endanger aviation safety if they perform their duties and functions improperly including, but not limited to, crew members, aircraft maintenance personnel and air traffic controllers;

“small aeroplane” means an aeroplane having a maximum certified take-off mass of less than 5,700 kg (12,500 lbs);

“special VFR” means a controlled VFR traffic authorized by air traffic control to operate within the control zone under meteorological conditions below the visual meteorological conditions or at night;

“State of Design” means the Contracting State which approved the original type certificate and any subsequent supplemental type certificates for an aircraft or which approved the design of an aircraft, aircraft component or appliance;

“State of Registry” means the Contracting State on whose registry an aircraft is placed;

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

“synthetic flight trainer” means any one of the following three types of apparatus in which flight conditions are simulated on the ground-

- (a) a flight simulator, which provides an accurate representation of the cockpit of a particular aircraft type to the extent that the mechanical, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated;
- (b) a flight procedures trainer, which provides a realistic cockpit environment and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, etc. aircraft systems and the performance and flight characteristics of aircraft of a particular class;
- (c) a basic instrument flight trainer, which is equipped with appropriate instruments and which simulates the cockpit environment of an aircraft in flight in instrument flight conditions;

“take-off decision point” means the point used in determining take-off performance of a class 1 helicopter from which, an engine failure occurring at this point, either a rejected take-off may be made or a take-off safely continued;

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

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

“VI” means take-off decision speed;

“V_{mo}” means maximum operating speed;

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

PART II

GENERAL OPERATIONS REQUIREMENTS

Aircraft requirements

Registration markings.

3. No person shall operate an aircraft registered in Swaziland or a foreign-registered aircraft in Swaziland airspace unless that aircraft displays the proper markings prescribed in the Civil Aviation Authority (Aircraft Registration and Marking) Regulations.

Civil aircraft airworthiness.

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

(2) Subject to sub-regulation (1), a pilot-in-command shall-

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

Restricted certificate of air-worthiness.

5. No person shall operate an aircraft with a restricted certificate of airworthiness except as provided in the limitations issued with that certificate in accordance with the Civil Aviation Authority (Airworthiness) Regulations.

Aircraft instrument and equipment.

6. No person shall operate an aircraft unless the aircraft is equipped with instruments and equipment appropriate to the type of flight operation conducted and the route being flown and in any case in compliance with the requirements of the Civil Aviation (Instruments and Equipment) Regulations.

Inoperative instruments and equipment.

7. (1) No person shall commence an aircraft flight with inoperative instruments or equipment installed, except as authorized by the Authority;

(2) No person shall operate a multi-engine aircraft in commercial air transport with inoperative instruments and equipment installed unless the following conditions are met-

- (a) an approved minimum equipment list exists for that aircraft;
- (b) the Authority has issued operations specifications authorizing operations in accordance with an approved minimum equipment list;
- (c) the flight crew shall have direct access at all times prior to flight to all of the information contained in the approved minimum equipment list through printed or other means approved by the Authority in the operations specifications;
- (d) an approved minimum equipment list, as authorized by the operations specifications, constitutes an approved change to the type design without requiring recertification;
- (e) the approved minimum equipment list shall-
 - (i) be prepared in accordance with the limitations specified in sub-regulation (4);
 - (ii) provide for the operation of the aircraft with certain instruments and equipment in an inoperative condition;
- (f) records identifying the inoperative instruments and equipment and the information required by sub-regulation (2) (c) (ii) shall be available to the pilot;
- (g) the aircraft is operated under all applicable conditions and limitations contained in the minimum equipment list and the operations specifications authorizing use of the minimum equipment list.

(3) Flight operations with inoperative instruments and equipment installed may be allowed in situations where no master minimum equipment list is available and no minimum equipment list is required for the specific aircraft operation under these Regulations.

(4) The inoperative instruments and equipment referred to in sub-regulation (1) shall not be-

- (a) part of the visual flight rules-day instruments and equipment prescribed in the Civil Aviation Authority (Instruments and Equipment) Regulations;
 - (b) required on the equipment list of the aircraft or the operations equipment list for the kind of flight operation being conducted;
 - (c) required by the Civil Aviation Authority (Instruments and Equipment) Regulations for the specific kind of flight operation being conducted; or
 - (d) required to be operational by an airworthiness directive.
- (5) The Authority may authorize a person to operate an aircraft with inoperative instruments and equipment where the instruments and equipment are-
- (a) determined by the pilot-in-command not to be a hazard to safe operation;
 - (b) deactivated and placard "Inoperative"; and
 - (c) removed from the aircraft, the cockpit control placard and the maintenance recorded in accordance with the Civil Aviation Authority (Airworthiness) Regulations.
- (6) Where deactivation of the inoperative instrument or equipment involves maintenance, it shall be accomplished and recorded in accordance with the Civil Aviation Authority (Airworthiness) Regulations.
- (7) The following instruments and equipment shall not be included in the minimum equipment list-
- (a) instruments and equipment that are either specifically or otherwise required by the certification airworthiness requirements and which are essential for safe operations under all operating conditions;
 - (b) instruments and equipment required for operable condition by an airworthiness directive, unless the airworthiness directive provides otherwise; and
 - (c) instruments and equipment required for specific operations.
- (8) Notwithstanding sub-regulation (7), an aircraft with in operative instruments or equipment may be operated under a special flight permit issued under the Civil Aviation Authority (Airworthiness) Regulations.

Aircraft flight manual, marking and placard requirements.

8. (1) No person shall operate an aircraft registered in Swaziland unless there is available in the aircraft-
- (a) a current, approved aeroplane flight manual (AFM) or rotorcraft flight manual (RFM); or
 - (b) an operations manual approved by the Authority for the air operator's certificate holder;
 - (c) if no aeroplane flight manual or rotorcraft flight manual exists, approved manual material, markings and placards or any combination of manual material, markings or placards which provide the PIC with the necessary limitations for safe operation.

(2) No person shall operate an aircraft within or over Swaziland without complying with the operating limitations specified in the approved aeroplane flight manual or rotorcraft flight manual, markings and placards or as otherwise prescribed by the State of Registry of the aircraft.

(3) A person operating an aircraft under these Regulations shall display in the aircraft all placards, listings, instrument markings or a combination of placards, listings or instrument markings, containing the operating limitations prescribed by the State of Registry of the aircraft, for visual presentation.

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

Required aircraft and equipment inspections.

9. (1) Unless otherwise authorized by the Authority, no person shall operate an aircraft registered in Swaziland unless the aircraft has had the following inspections-

- (a) an annual inspection within the past 12 months;
- (b) a 100 hour inspection;
- (c) an altimeter and pitot-static system inspection in the past 12 months;
- (d) for transponder equipped aircraft, a transponder check within the past 12 months;
- (e) for emergency locator transmitter-equipped aircraft, an emergency locator transmitter check within the past 12 months.

(2) Aircraft for remuneration or hire operations maintained under maintenance and inspection programme approved by the Authority, is not required to have current annual or 100 hour inspections in their maintenance records.

Documents to be carried on aircraft

9. (1) No person shall fly an aircraft unless there is carried on the aircraft documents which are required to be carried on board under the law of the State of Registry.

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

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

- (a) on a flight for the purpose of commercial air transport-
 - (i) licence in force in respect of the aircraft radio station installed in the aircraft;
 - (ii) the certificate of airworthiness in force in respect of the aircraft;
 - (iii) the licences and certificates of members of the flight crew of the aircraft;
 - (iv) one copy of mass and balance documentation, if any, required with respect to the flight;

- (v) one copy of the certificate of release to service, if any, in force with respect to the aircraft;
 - (vi) the technical logbook required by these Regulations;
 - (vii) the operations manual, if any, required by these Regulations to be carried on the flight;
 - (viii) aircraft certificate of registration;
 - (ix) aircraft journey logbook;
 - (x) list of passenger names and points of embarkation and disembarkation, if applicable;
 - (xi) cargo manifest including special loads information if applicable;
 - (xii) copy of the air operators certificate (AOC);
 - (xiii) noise certificate if required;
 - (xiv) aeroplane flight manual or rotorcraft flight manual;
 - (xv) minimum equipment list;
 - (xvi) category II or III manual, as applicable;
 - (xvii) operational flight plan;
 - (xviii) filed Notice to Airmen (NOTAMS) briefing documentation;
 - (xix) meteorological information;
 - (xx) maps and charts required for the flight and possible diversions;
 - (xxi) forms for complying with the reporting requirements of the Authority and the AOC holder;
 - (xxii) list of special situation passengers;
 - (xxiii) filed air traffic control (ATC) flight plan;
 - (xxiv) search and rescue information;
 - (xxv) any other document which may be required by the Authority or States concerned with a flight;
- (b) on a flight which includes passage over a territory of any country other than Swaziland for the purpose of commercial air transport and aerial work-
- (i) the documents set forth in paragraph (a),
 - (ii) a copy of notified procedure to be followed by a pilot-in-command (PIC) of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft; and

- (iii) general declaration;
- (c) on a flight for the purpose of aerial work-
 - (i) licence in force in respect of the aircraft radio station installed in the aircraft;
 - (ii) the certificate of airworthiness in force in respect of the aircraft;
 - (iii) the licences and certificates of members of the flight crew of the aircraft;
 - (iv) the technical logbook required by these Regulations;
 - (v) one copy of the certificate of release to service, if any, in force with respect to the aircraft;
 - (vi) aircraft certificate of registration; and
 - (vii) any other document required by the Authority;
- (d) on a flight which includes passage over a territory of any country other than Swaziland for the purpose of aerial work-
 - (i) whose documents set out in paragraph (c),
 - (ii) a copy of notified procedure to be followed by a PIC of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft;
- (e) on a flight which includes passage over a territory of any country other than Swaziland for the purpose of general aviation-
 - (i) licence in force in respect of the aircraft radio station installed in the aircraft;
 - (ii) the certificate of airworthiness in force in respect of the aircraft;
 - (iii) the licences of members of the flight crew of the aircraft;
 - (iv) the certificate of registration;
 - (v) a copy of notified procedure to be followed by a PIC of an intercepted aircraft and the notified visual signals for use by intercepting and intercepted aircraft;
 - (vi) journey logbook;
 - (vii) if it carries passengers, a list of names, places of embarkation and destination of the passengers; and
 - (viii) if it carries cargo, a manifest and detailed declarations of the cargo;
- (f) for the purpose of a general aviation flight within Swaziland-

- (i) licence in force in respect of the aircraft radio station installed in the aircraft;
- (ii) the certificate of airworthiness in force in respect of the aircraft;
- (iii) the licences and certificates of members of the flight crew of the aircraft;
- (iv) one copy of the certificate of release to service, if any, in force with respect to the aircraft;
- (v) aircraft certificate of registration;
- (vi) noise certificate, if required;
- (vii) aeroplane flight manual or rotorcraft flight manual;
- (viii) category II or III manual, as applicable;
- (ix) filed NOTAMS briefing documentation;
- (x) forms for complying with reporting requirements of the Authority;
- (xi) filed ATC flight plan; and
- (xii) any other document required by the Authority.

Production of documents.

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

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

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

- (a) licence in force in respect of the aircraft radio station installed in the aircraft;
- (b) the certificate of airworthiness in force in respect of the aircraft;
- (c) the certificate of registration in force with respect to the aircraft;
- (d) the aircraft logbook, engine logbooks and variable pitch propeller logbooks required to be kept under these Regulations;
- (e) the mass and balance documentation, if any, required to be preserved under these Regulations;

- (f) any records of flight time, duty periods and rest periods which are required to be preserved by these Regulations, and such other documents and information in the possession or control of the operator, as the authorized person may require for the purpose of determining whether those records are complete and accurate;
- (g) any operations manuals or other data required to be made available under these Regulations; and
- (h) the record made by any flight recorder installed under the Civil Aviation Authority (Instrument and Equipment) Regulations.

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

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

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

Preservation of documents

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

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

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

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

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

Insurance.

13. (1) No person shall fly, or cause or commit any other person to fly an aircraft unless there is in force an insurance policy in respect of third party risks.

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

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

Stowaways.

14. No person shall secretly enter an aircraft for the purpose of being carried in the aircraft without the consent of either the operator or the pilot-in-command or of any other person entitled to give consent to that person being carried in the aircraft.

Co-ordination of activities potentially hazardous to civil aircraft

15. (1) No person shall carry out activities that are potentially hazardous to an aircraft, whether flying over Swaziland or over the territorial waters of Swaziland without approval from the Authority.

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

- (a) no person shall intentionally project or cause to be projected, a laser beam or other directed high intensity light at an aircraft in a manner that creates a hazard to aviation safety, damage to the aircraft or injury to the crew or passengers;
- (b) a person using or planning to use lasers or other directed high-intensity lights outdoors in a manner that the laser beam or other light beam may enter navigable airspace with sufficient power to cause an aviation hazard shall provide written notification to the Authority;
- (c) a pilot-in-command shall not deliberately operate an aircraft into a laser beam or other directed high-intensity light unless flight safety is ensured; this may require mutual agreement by the operator of the laser emitter or light source, the pilot in command and the Authority.

(3) No person shall release into the atmosphere any radioactive material or toxic chemicals which could affect the safety of aircraft operating within the Swaziland airspace.

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

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

- (a) flying over any area of Swaziland or along any route in Swaziland; or
- (b) landing or take-off at any place in Swaziland by reason of-
 - (i) the intended gathering or movement of a large number of persons;
 - (ii) the intended holding of an aircraft race contest or of an exhibition of flying; or
 - (iii) national security or any reason affecting public interest,

may make orders prohibiting, restricting or imposing conditions on flight by any aircraft, whether or not registered in Swaziland, in any airspace over Swaziland and by an aircraft registered in Swaziland, in any other airspace, being airspace in respect of which Swaziland has, in pursuance of international arrangements undertaken to provide navigation services for aircraft.

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

(3) It shall be an offence to contravene or permit the contravention of or fail to comply with any orders made under this regulation.

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

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

Balloons, kites and airships.

17. (1) No person shall, within Swaziland-

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

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

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

PART III

AIRCRAFT MAINTENANCE REQUIREMENTS

Aircraft maintenance requirements.

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

(2) No person shall perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in these Regulations and the Civil Aviation Authority (Airworthiness) Regulations.

(3) No person shall operate an aircraft for which instructions of the manufacturer for continued airworthiness have been issued and the instructions contain an airworthiness limitations section, unless the mandatory replacement times, inspection intervals and related procedures set out in operations specifications approved by the Authority under the Civil Aviation (Air Operator Certification and Administration) Regulations or in accordance with an inspection programme approved under regulation 21 has been complied with.

Maintenance required.

19. (1) This regulation and regulations 20, 25 and 26 do not apply to aircraft maintained in accordance with an approved maintenance programme as required under the Civil Aviation Authority (Airworthiness) Regulations and Civil Aviation Authority (Air Operator Certification and Administration) Regulations.

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

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

Inspections: commercial air transport

20. (1) Except as provided in sub-regulation (4), no person shall operate an aircraft unless, within the preceding 12 months, the aircraft has had-

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

(2) Except as provided in sub-regulation (4), no person shall operate an aircraft carrying any person, other than a crew member, for hire or reward or give flight instruction for hire unless within the preceding 100 hours of time in service the aircraft has received an-

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

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

(4) Sub-regulation (1) and (2) shall not apply to-

- (a) an aircraft that is operating under special certificate of airworthiness or special flight permit;
- (b) an aircraft subject to the requirements of regulation 21(1) and (6); and
- (c) a turbine-powered rotorcraft when the operator selects to inspect that rotorcraft in accordance with regulation 21(6).

Progressive inspection.

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

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

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

(3) The progressive inspection schedule shall conform to all applicable aircraft specifications, type data sheets, airworthiness directives and other approved data acceptable to the Authority.

(4) Where the progressive inspection is discontinued, the owner or operator shall immediately notify the Authority in writing, after which the first annual inspection under these Regulations will be due within 12 months after the last complete inspection of the aircraft under the progressive inspection, and the 100-hour inspection under regulation 20 (2) (a) shall be due within 100 hours after that complete inspection.

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

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

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

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

(8) No aircraft shall be approved for return to service unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the aircraft, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with an inspection programme selected.

(9) A person wishing to establish or change an approved inspection programme shall submit the programme to the Authority for approval and shall in writing, include-

- (a) instructions and procedures for the conduct of inspection for the particular make and model of the aircraft, including necessary tests and checks and these instructions shall set forth in detail the parts and areas of the aircraft or aircraft component including survival and emergency equipment required to be inspected; and
- (b) a schedule for the inspections that shall be performed, expressed in terms of time in service, calendar time, cycles of operations or any combination of these.

(10) Where an operator changes from one inspection programme to another, the operator shall apply the time in service, calendar times or cycles of operation accumulated under the previous programme, in determining time the inspection is due under the new programme.

Changes to aircraft maintenance programmes

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

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

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

Inspections: all other aircraft.

23. (1) No person shall operate an aircraft not used in commercial air transport unless within the preceding 12 months the aircraft has been-

- (a) inspected in accordance with the Civil Aviation Authority (Airworthiness) Regulations and approved for return to service by an authorized person; and
- (b) issued with a certificate of airworthiness by the Authority.

(2) No person shall operate an aircraft for flight instruction or for compensation, hire or reward unless within the preceding 100 hours of time in service the aircraft has been inspected in accordance with the performance rules of the Civil Aviation Authority (Airworthiness) Regulations and approved for return to service by an authorized person.

Maintenance records.

24. The owner or operator of an aircraft shall keep a maintenance record of-

- (a) the entire aircraft to include-
 - (i) total time in service indicated in hours, calendar time and cycles, as appropriate, of the aircraft and all life limited parts;
 - (ii) current inspection status of the aircraft, including the time since required or approved inspections were last performed;
 - (iii) current empty mass and the location of the centre of gravity when empty;
 - (iv) addition or removal of equipment;
 - (v) type and extent of maintenance and alteration, including the time in service and date;
 - (vi) when work was performed; and

- (vii) a chronological list of compliance with airworthiness directives issued in accordance with the Civil Aviation Authority (Airworthiness) Regulations, including methods of compliance;
- (b) life-limited products-
 - (i) total time in service;
 - (ii) date of the last overhaul;
 - (iii) time in service since the last overhaul; and
 - (iv) date of the last inspection;
- (c) instruments and equipment, the serviceability and operating life of which are determined by their time in service-
 - (i) records of the time in service that are necessary to determine their serviceability or to compute their operating life; and
 - (ii) date of last inspection.

Maintenance records retention

25. (1) Except for records maintained by an air operator certificate holder, a registered owner or operator of an aircraft shall retain the following records until the work is repeated or superseded by other work of equivalent scope and detail or for two years after the subject to which they refer has been permanently withdrawn from service-

- (a) records of the maintenance, preventive maintenance, minor modifications and records of the 100-hours, annual and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor and appliance of an aircraft to include-
 - (i) a description or reference to data acceptable to the Authority, of the work performed;
 - (ii) the date of completion of the work performed; and
 - (iii) the signature and licence number of the person approving the aircraft for return to service;
- (b) records containing the following information-
 - (i) the total time-in-service of the airframe, each engine, each propeller and each rotor;
 - (ii) the current status of all life-limited aircraft or aeronautical product;
 - (iii) the time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis;
 - (iv) the current inspection status of the aircraft, including the time since the last inspection required by the inspection programme under which the aircraft and its appliances are maintained;

- (v) the current status of applicable airworthiness directives including, for each, the method of compliance, the airworthiness directive number and revision date; and if the airworthiness directive involves recurring action, the time and date when the next action is required; and
- (vi) copies of the forms for each major modification to the airframe and currently installed engines, rotors, propellers and appliances.

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

- (a) retain a list of defects on the aircraft until the defects are repaired and the aircraft is approved for return to service; and
- (b) avail all maintenance records required by this regulation to the Authority for inspection.

Transfer of maintenance records.

26. An owner or operator who sells or leases an aircraft registered in Swaziland shall transfer to the purchaser or Lessor, at the time of sale or lease, the records identified in regulation 24 and 25 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.

27. (1) No person shall fly an aircraft unless there is on board the aircraft flight crew of the number and description required by the law of the State of Registry.

(2) An operator of an aircraft registered in Swaziland shall carry a flight crew adequate in number and description to ensure the safety of the aircraft and of at least the number and description specified in the aircraft flight manual.

(3) The number and composition of the flight crew of an aircraft registered in Swaziland and flying for the purpose of commercial air transport operations, shall not be less than that number specified in the operations manual of the operator.

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

(5) An operator of an aircraft registered in Swaziland and flying for the purpose of commercial air transport operations, having a maximum mass of 5,700kg or more shall carry not less than two pilots as members of the flight crew of that aircraft.

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

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

Operations under IFR or at night

28. (1) No person shall conduct a single pilot operation under the instrument flight rules or at night unless the operation is approved by the Authority and-

- (a) the flight manual does not require a flight crew of more than one;
- (b) the aeroplane is propeller-driven;
- (c) the maximum approved passenger seating configuration of the aeroplane is not more than nine;
- (d) the maximum certificated take-off mass of the aeroplane is 5,700 kg or less;
- (e) the aeroplane is equipped as described in sub-regulation (3); and
- (f) the pilot has satisfied the requirements of experience, training, checking and recency prescribed by regulation 33.

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

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

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

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

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

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

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

- (a) for operations under IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as PIC;
- (b) for operations under IFR, have accumulated at least 25 hours flight time under IFR on the class of aeroplane, which may form part of the 50 hours flight time in paragraph (a);
- (c) for operations at night, have accumulated at least 5 hours flight time at night, which may form part of the 50 hours flight time in sub-Paragraph (a);
- (d) for operations under IFR, have acquired recent experience as a pilot engaged in a single pilot operation under IFR of-
 - (i) at least 3 IFR flights, including 3 instrument approaches carried out during the preceding 6 months on the class of aeroplane in the single pilot role; or
 - (ii) an IFR instrument approach check carried out on such an aeroplane during the preceding 6 months;
- (e) for operations at night, have made at least 5 take-offs and landings at night on the class of aeroplane in the single pilot role in the preceding 6 months; and
- (f) for an air operator certificate holder, have successfully completed training programmes that include, in addition to the requirements as specified in the Civil Aviation Authority (Air Operator Certification and Administration) Regulations, passenger briefing with respect to emergency evacuation, autopilot management and the use of simplified in-flight documentation.

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

Pilot authorization in lieu of a type rating.

30. The Authority may authorize a pilot to operate an aircraft requiring a type rating without a type rating for a period not exceeding 60 days, if-

- (a) the applicant has demonstrated to the satisfaction of the Authority that an equivalent level of safety can be achieved through the operating limitations on the authorization;
- (b) the applicant shows that compliance with these Regulations is impracticable for the flight or series of flights;

(c) the operations-

- (i) involve only a ferry flight, training to qualify on type or test flight;
- (ii) are within Swaziland, unless, by previous agreement with the Authority, the aircraft is flown to an adjacent Contracting State for maintenance;
- (iii) are not for compensation or hire unless the compensation or hire involves payment for the use of the aircraft for training; and
- (iv) involve only the carriage of flight crew members considered essential for the flight.

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

31. (1) An operator shall not assign a pilot-in-command (PIC) or a co-pilot to operate at the flight controls of an aeroplane during take-off and landing unless that pilot has operated the flight controls for at least 3 take-offs and landings within the preceding 90 days on the same type of aeroplane or in a synthetic flight trainer approved for that purpose.

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

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

(3) An operator shall not assign a pilot to act as PIC of an aeroplane unless, on the same type of aeroplane within the preceding 90 days, that pilot has made at least 3 take-offs and landings.

(4) An operator shall not assign a co-pilot to operate at the flight controls during take-off and landing unless, on the same type of aeroplane within the preceding 90 days, that co-pilot has operated the flight controls, as pilot in command or as co-pilot, during 3 take-offs and landings or has otherwise demonstrated competence to act as co-pilot on a synthetic flight trainer approved for the purpose.

PIC: route and airport qualification

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

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

- (a) demonstrate to the operator an adequate knowledge of-
 - (i) the route to be flown and the aerodromes to be used which shall include knowledge of-
 - (aa) the terrain and minimum safe altitudes;

- (bb) the seasonal meteorological conditions;
 - (cc) the meteorological, communication and air traffic facilities, services and procedures;
 - (dd) the search and rescue procedures; and
 - (ee) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place;
- (ii) procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures and applicable operating minima;
- (b) have been tested as to proficiency in using instrument approach-to-land systems of the type in use at the aerodrome of intended landing and any alternate aerodromes, with the test being carried out either in flight instrument meteorology conditions (IMC) or IMC simulated by means approved by the Authority for the purpose, by means of apparatus approved in which flight conditions are simulated on the ground.

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

- (a) the approach to the aerodrome is not over difficult terrain and instrument approach procedures and aids available are similar to those with which the pilot is familiar, and a margin to be approved by the Authority is added to the normal operating minima, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions;
- (b) the descent from the initial approach altitude can be made by day in visual meteorological conditions;
- (c) the operator qualifies the PIC to land at the aerodrome concerned by means of an adequate pictorial presentation; or
- (d) the aerodrome concerned is adjacent to another aerodrome at which the PIC is currently qualified to land.

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

(5) An operator shall not continue to utilize a pilot as a PIC on a scheduled route unless, within the preceding 12 months, that pilot has made at least one trip between the terminal points of that route as a pilot member of the flight crew, or as a check pilot, or as an observer on the cockpit.

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

Pilot proficiency checks.

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

(2) The checks referred to in sub-regulation (1) shall be performed twice within any period of one year, and any two checks which are similar, and which occur within a period of 4 consecutive months shall not alone satisfy this requirement.

Licences required.

34. (1) No person shall act as pilot in command or in any other capacity as a required flight crew member of an aircraft of-

- (a) Swaziland registry, unless that person carries in their personal possession the appropriate and current licence for the flight crew position for that type of aircraft; or
- (b) foreign registry, unless that person carries in their personal possession a valid and current licence for that type of aircraft issued to them by the State of registry.

(2) The flight crew for international and domestic operations shall hold a valid radio telephone operator licence or endorsement issued or rendered valid by the State of Registry, authorizing operation of the type of radio transmitting equipment to be used.

Pilots: limitations.

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

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

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

Rating required for IFR operations.

36. No person shall act as pilot in command of an aircraft under instrument flight rules or instrument meteorology conditions unless-

- (a) in the case of an aeroplane, the pilot holds an instrument rating or an airline transport pilot's licence (ATPL) with an appropriate aeroplane category, class and type rating if required, for the aeroplane being flown; or
- (b) in the case of a helicopter, the pilot holds a helicopter instrument rating or an ATPL for helicopters not limited to visual flight rules operations.

Special Authorization required for category II/III operations.

37. (1) No person shall act as a pilot of an aircraft in a category II or III operations unless-

- (a) in the case of a pilot in command, the person holds a current category II or III pilot authorization for that aircraft type; or
- (b) in the case of a co-pilot, the person is authorized by the State of Registry to act in that capacity in that aircraft in category II or III operations.

(2) An authorization is not required for individual pilots of an air operator certificate holder which has operations specifications approving category II or III operations.

Recording of flight time, logging of flight time, etc.

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

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

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

(a) personal details: name and address of the holder;

(b) for each flight-

- (i) name of pilot in command (PIC);
- (ii) date (day, month, year) of flight;
- (iii) place and time of departure and arrival times co-ordinated universal time to be block time;
- (iv) type (aircraft make, model and variant) and registration of aircraft;
- (iv) Whether it is a single engine or multi-engine;
- (vi) total time of flight; and
- (vii) accumulated total time of flight;

(c) for each synthetic flight trainer or flight and navigation procedures trainers session-

- (i) type and qualification number of training device;
- (ii) synthetic training device instruction;
- (iii) date (date/month/year);
- (iv) total time of session; and
- (v) accumulated total time;

(d) pilot function-

- (i) pilot in command (PIC),
 - (ii) co-pilot;
 - (iii) dual;
 - (iv) authorized instructor or authorized examiner;
 - (v) a remarks column to give details of specific functions such as student PIC time, PIC under supervision time, PIC instrument flight time, etc;
- (e) operational conditions-
- (i) night;
 - (ii) instrument flight rules;
- (4) A holder of a licence may log as PIC flight time all of the flight time during which the holder is the PIC.
- (5) The applicant for or the holder of a pilot licence may log as PIC time all solo flight time and flight time as student PIC if the student PIC time is countersigned by the instructor.
- (6) A holder of an instructor rating may log as PIC all flight time during which he or she acts as an instructor in an aeroplane.
- (7) A holder of the authorization of an examiner may log as PIC all flight time during which the holder occupies the seat of a pilot seat and acts as an examiner in an aeroplane.
- (8) A co-pilot acting as PIC under the supervision of the PIC on an aeroplane on which more than one pilot is required under the certificate of airworthiness of the aeroplane or by these Regulations may log as PIC under supervision flight time if that PIC time under supervision is countersigned by the PIC.
- (9) Where the holder of a licence carries out a number of flights upon the same day returning on each occasion to the same place of departure and the interval between successive flights does not exceed 30 minutes that series of flights are to be recorded as a single entry.
- (10) Co-pilot flight time - the holder of a pilot licence occupying a pilot seat as a co-pilot may log all flight time as co-pilot flight time on an aeroplane on which more than one pilot is required under the certificate of airworthiness of the aeroplane.
- (11) Cruise relief co-pilot flight time-a cruise relief co-pilot may log all flight time as co-pilot when occupying a seat of a pilot.
- (12) Instruction time - a summary of all time logged by an applicant for a licence or rating as flight instruction, instrument flight instruction, instrument ground time, shall be certified by the appropriately rated or authorized instructor from whom it was received.
- (13) PIC under supervision - a co-pilot may log as PIC under supervision flight time flown as PIC under supervision, when all of the duties and functions of PIC on that flight were carried out, if the intervention of the PIC in the interest of safety was not required, and if the method of supervision is acceptable to the Authority.

(14) Presentation of flight time record-

- (a) the holder of a licence or a student pilot shall without undue delay present the flight time record for inspection upon request by an authorized person;
- (b) a student pilot shall carry the flight time record logbook on all solo cross-country flights as evidence of the required instructor authorizations.

PIC and co-pilot currency take-off and landings.

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

- (a) made 3 take-offs and landings as the sole manipulator of the flight controls in an aircraft of the same category and class and if a type rating is required, of the same type;
- (b) for a tail wheel aeroplane, made 3 take-offs and landings in a tail wheel aeroplane with each landing to a full stop; and
- (c) for night operations, made the 3 take-offs and landings required by paragraph (a) at night.

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

(3) The requirements of sub-regulations (1) and (2) may be satisfied in a synthetic flight trainer approved by the Authority.

Pilot currency: IFR operations

40. (1) No person shall act as pilot in command under instrument flight rules (IFR) or in instrumental meteorological conditions, unless that person has, within the past 6 months-

- (a) logged at least 6 hours of instrument flight time including at least 3 hours in flight in the category of aircraft; and
- (b) completed at least 6 instrument approaches.

(2) A pilot who has completed an instrument competency check with an authorized person shall be considered to be current for IFR operations for 6 months following that check.

Pilot currency: general aviation operations.

41. (1) No person shall act as pilot of an aircraft type certificated-

- (a) for more than one pilot unless, in the preceding 12 months, that person has passed a proficiency check carried out by an authorized person in an aircraft requiring more than one pilot;
- (b) for more than one pilot unless, in the preceding 24 months, that person has passed a proficiency check in the type of aircraft to be operated; or
- (c) for a single pilot unless, in the preceding 24 months, that person has passed a proficiency check carried out by an authorized person.

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

(3) No person shall act as co-pilot of an aircraft type certificated for more than one pilot unless, in the preceding twelve months, that person has-

- (a) an appropriate class and type rating for the aircraft to be flown: and
- (b) logged 3 take-offs and landings as the sole manipulator of the controls.

Pilot privileges and limitations.

42. No pilot shall conduct flight operations unless the operations are within the privileges and limitations of each licence that the pilot holds as specified in the Civil Aviation Authority (Personnel Licensing) Regulations.

PART V

CREW MEMBER DUTIES AND RESPONSIBILITIES.

Authority and responsibility of the PIC

43. (1) A pilot in command (PIC) of an aircraft shall-

- (a) be responsible for the operations and safety of the aircraft and for the safety of all persons on board, during flight;
- (b) have final authority as to the operation of the aircraft while in command; and
- (c) whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the Civil Aviation Authority (Rules of the Air and Air Traffic Control) Regulations, except that the PIC may depart from them in emergency circumstances that render that departure absolutely necessary in the interests of safety.

(2) Sub-regulation (1)(c) may be departed from to the extent necessary-

- (a) to avoid immediate danger or in an emergency situation;
- (b) to comply with the law of any State other than Swaziland within which the aircraft is.

(3) If any departure from the provisions of sub-regulation (1)(c), is made for the purpose of avoiding immediate danger or in an emergency situation, the PIC shall cause written particulars of the departure and of the circumstances giving rise to it, to be given without delay and in any case within 10 days after that, to the competent authority of the State in whose territory the departure was made with a copy of it to the Authority and in the case of Swaziland aircraft, the departure was made over the high seas, to the Authority.

Authority of the PIC.

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

Compliance with local regulations.

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

- (a) the State in which the aircraft is operated; and
- (b) the Authority in all instances where the regulations exceed but are not in conflict with those of the State in which the aircraft is operated.

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

- (a) notify the appropriate local authority of the violation without delay;
- (b) submit a report of the circumstances, if required by the State in which the incident occurs; and
- (c) submit a copy of the report to the State of Registry.

Imperilling the safety of persons and property.

46. No person shall wilfully, recklessly or negligently cause or permit an aircraft to endanger any life or property.

Fitness of flight crew members.

47. (1) No person shall act as a required crew member at any time when that person is aware of any decrease in the medical fitness which might render the person unable to safely and properly execute the duties of a crew member.

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

Use of narcotics drugs or intoxicating liquor

48. (1) No person shall act or attempt to act as a crew member of an aircraft-

- (a) within 8 hours after the consumption of any alcoholic beverage;
- (b) while under the influence of alcohol; or
- (c) while using any drug that affects the faculties of the person in any way contrary to safety; or
- (d) while having 0.04 percent by weight or more alcohol in the blood.

(2) A crew member shall, up to 8 hours before or immediately after acting or attempting to act as a crew member, on the request of the Authority, submit to a test to indicate the presence of alcohol or narcotic drugs in the blood.

(3) Where there is a reasonable basis to believe that a person may not be in compliance with this regulation and upon the request of the Authority, that person shall furnish the Authority or authorize any clinic, doctor or other person to release to the Authority, the results of each blood test taken for presence of alcohol or narcotic substances up to 8 hours before or immediately after acting or attempting to act as a crew member.

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

Crew member use of seatbelts and shoulder harnesses.

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

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

(3) An occupant of a seat equipped with a combined safety belt and shoulder harness shall have the combined safety belt and shoulder harness properly secured during take-off and landing and be able to properly perform assigned duties.

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

Flight crew members at duty stations.

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

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

(3) A flight crew member shall remain at the station during all phases of flight unless-

- (a) absence is necessary for the performance of the flight crew members duties in connection with the operation;
- (b) absence is necessary for physiological needs, provided one qualified pilot remains at the controls at all times; or
- (c) the flight crew member is taking a rest period and a qualified relief flight crew member replaces that crew member at the duty station.

(4) A required flight crew member may leave the assigned duty station if the crew member is taking a rest period, and relief is provided-

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

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

Required crew member equipment

51. (1) A crew member involved in night operations shall have an electric torch at the station.
- (2) A pilot shall have at the station all normal, abnormal and emergency procedures checklists.
- (3) A pilot shall have at the station current and suitable maps, charts, codes and other documents and navigational equipment necessary to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted.
- (4) A flight crew member assessed as fit to exercise the privileges of a licence subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when performing as a required crew member in commercial air transport.
- (5) A cabin crew member shall be required to have an emergency procedures manual for the type of aircraft.

Compliance with checklists.

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

Search and rescue information.

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

Information on emergency and survival equipment carried.

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

Locking of cockpit compartment door.

55. (1) In an aircraft equipped with a cockpit compartment door-
- (a) the door shall be capable of being locked; and
- (b) means shall be provided by which the cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.
- (2) A pilot in command shall ensure that the cockpit compartment door, if installed, is locked at all times during passenger carrying commercial air transport operations, except as necessary to permit access and egress by authorized persons.

Admission to the cockpit.

56. (1) No person shall admit any person to the cockpit of an aircraft engaged in commercial air transport operations unless the person being admitted is -

- (a) an operating crew member;
- (b) an authorized person responsible for certification, licensing or inspection;
- (c) any person authorized by the Authority with agreement with the operator; or
- (d) permitted and carried in accordance with instructions contained in the operations manual.

(2) No person shall admit any person who is not a flight crew member to the cockpit of an aircraft of maximum certificated mass of 5,700 kg or more unless there is a seat available in the passenger compartment for use by the person to be admitted in the cockpit.

(3) A pilot in command shall ensure that-

- (a) in the interest of safety, admission to the cockpit does not cause distraction to the flight crew or interfere with the operations of the flight; and
- (b) all persons carried in the cockpit are made familiar with the relevant safety procedures.

Power to inspect

57. (1) A pilot in command (PIC) shall give the inspector free and uninterrupted access to the aircraft, including the cockpit, when an inspector from the Authority presents valid aviation safety inspector credentials to the PIC in order to conduct an inspection.

(2) The PIC may refuse an inspector access to the cockpit if, in the opinion of the PIC, the safety of the aircraft would be endangered.

Duties during critical phases of flight.

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

(2) A pilot in command shall not permit a flight crew member to engage in any activity during a critical phase of flight which could distract or interfere with the performance of the assigned duties of that flight crew member.

Microphones.

59. A required flight crew member shall use a boom or throat microphone to intercommunicate and communicate with other flight crew members and air traffic services below the transition level or altitude.

Manipulation of the controls: commercial air transport.

60. (1) A pilot in command shall not allow an unqualified person to manipulate the controls of an aircraft during commercial air transport operations.

(2) No person shall manipulate the controls of an aircraft during commercial air transport operations unless that person is qualified to manipulate the controls and is authorized to do so by the air operators certificate holder.

Simulated abnormal situations in flight: commercial air transport.

61. No person shall cause or engage in simulated abnormal or emergency situations or the simulation of instrument meteorological conditions by artificial means during commercial air transport operations.

Completion of the technical logbook: commercial air transport.

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

Reporting mechanical irregularities.

63. A pilot in command shall ensure that all mechanical irregularities occurring during flight time are-

- (a) reported to the operator at the termination of the flight;
- (b) for general aviation operations, entered in the aircraft logbook and dealt with in accordance with the minimum equipment list;
- (c) for commercial air transport operations, entered in the technical log of the aircraft at the end of the flight time.

Reporting of facility and navigation aid inadequacies.

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

Reporting of incidents.

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

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

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

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

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

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

Accident notification.

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

(2) The PIC shall submit a report to the Authority of any accident which occurred while that PIC was responsible for the flight.

Operation of flight recorders.

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

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

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

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

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

Crew member oxygen supply.

68. (1) The approximate altitudes in the standard atmosphere corresponding to the values of absolute pressure used in this regulation are as follows-

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

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

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

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

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

(4) In addition to sub-regulation (3), when an aircraft is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa and cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, there shall be no less than a 10-minute supply for the occupants of the passenger compartment.

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

Use of oxygen.

69. (1) A flight crew member, when engaged in performing duties essential to the safe operation of an aircraft in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in regulation 68.

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

Carriage of dangerous goods.

70. (1) No person shall carry dangerous goods in an aircraft except-

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

(2) No person shall take or cause to be taken on board an aircraft or deliver or cause to be delivered for loading on an aircraft, any goods which that person knows or has reasonable cause to know to be dangerous goods without complying with this regulation.

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

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

(5) This regulation shall be in addition to and not in derogation of regulation 152.

Portable electronic devices.

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

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

PART VI**FLIGHT PLANS AND AIR TRAFFIC CONTROL CLEARANCE.****OPERATIONAL FLIGHT PLANNING AND PREPARATION*****Pre-flight action***

72. A pilot in command of an aircraft registered in Swaziland shall satisfy be satisfied before takeoff-

- (a) that the flight can safely be made, taking into account the latest information available as to the route and aerodromes to be used, the weather reports and forecasts available and any alternative cause of action which can be adopted in case the flight cannot be completed as planned;
- (b) that the equipment, including radio apparatus, required by these Regulations to be carried is carried and is in a fit condition for use;
- (c) that the aircraft is in every way fit for the intended flight, and that, where a certificate of release to service is required by the Civil Aviation Authority (Airworthiness) Regulations to be in force, is in force and will not cease to be in force during the intended flight;
- (d) that the load carried by the aircraft is of such weight and is so distributed and secured, that it may safely be carried on the intended flight;
- (e) in the case of an aeroplane, a rotorcraft or airship, that sufficient fuel, oil and engine coolant, if required, are carried for the intended flight and that a safe margin has been allowed for contingencies and, in the case of a flight for the purpose of commercial air transport, that the instructions in the operations manual relating to fuel, oil and engine coolant have been complied with;
- (f) in case of an airship or balloon, that, sufficient ballast if required is carried for the intended flight;
- (g) in the case of an aeroplane, that having regard to the performance of the aeroplane in the condition to be expected on the intended flight and to any obstacle at the places of departure and intended destination and on the intended route, it is capable of safely taking off, reaching and monitoring a safe height after that, and making a safe landing at the place of intended destination; and

- (h) that any pre-flight check system established by the operator and set out in the operations manual or elsewhere has been complied with by each member of the crew of the aircraft.

Operation of aircraft on the ground.

73. (1) No person shall taxi an aeroplane on the movement area of an aerodrome unless the person-

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

(2) No person shall cause a helicopter rotor to be turned under power unless there is a qualified pilot at the controls.

Flight into known or expected icing

74. No person shall commence a flight-

- (a) in an aircraft or continue to operate an aircraft enroute when the icing conditions are expected or encountered, without ensuring that the aircraft is certified for icing operations and has sufficient operational de-icing or anti-icing equipment;
- (b) in an aircraft when frost, ice or snow is adhering to the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft which might adversely affect the performance or controllability of the aircraft; or
- (c) for commercial air transport operations in an aircraft when conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless the procedures approved for the air operator certificate holder by the Authority are followed to ensure ground de-icing, and anti-icing is accomplished.

Aerodrome operating minima

75. No person shall operate to or from an aerodrome using aerodrome operating minima lower than those which may be established for that aerodrome by the State in which it is located, unless that State specifically approves that operation.

Take-off conditions.

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

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

Altimeter settings.

77. A person operating an aircraft registered in Swaziland shall set the aircraft altimeters to maintain the cruising altitude for flight level reference in accordance with the procedure notified by the State where the aircraft may be or the Aeronautical Information Publication.

Operation of radio in aircraft

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

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

(3) The radio watch may be discontinued or continued on another frequency to the extent that a message mentioned in sub-regulation (2) so permits.

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

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

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

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

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

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

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

Weather reports and forecasts.

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

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

- (a) a careful study of available current weather reports and forecasts taking into consideration fuel and oil requirements; and
- (b) an alternative course of action if the flight cannot be completed as planned because of weather conditions.

(3) A PIC who is unable to communicate by radio with an air traffic control unit at the aerodrome of destination shall not begin a flight to an aerodrome within a control zone if the information which it is reasonably practicable for the PIC to obtain indicates that flight will arrive at that aerodrome when the ground visibility is less than 8 kilometres or the cloud ceiling is less than 1,500 feet, unless the PIC has obtained from an air traffic control unit at that aerodrome permission to enter the aerodrome traffic zone.

Weather limitations for VFR flights

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

Adequacy of operating facilities

81. (1) No person 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 that flight and for the safe operation of the aircraft, are adequate, including communication facilities and navigation aids; and
- (b) that person is satisfied that the aerodromes at which the flight is intended to take-off or land and any alternative aerodrome at which a landing may be made are suitable for the purpose and in particular are adequately manned and equipped to ensure the safety of the aircraft and its passengers.

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

Diversions decision: engine inoperative

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

(2) Where not more than one engine of an aeroplane having 3 or more engines fails and its rotation stops, the pilot in command may proceed to an aerodrome if the pilot in command decides that proceeding to that aerodrome is as safe as landing at the nearest suitable aerodrome after considering the-

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

IFR destination aerodromes.

83. No person shall commence an instrument flight rules flight unless the available information indicates that the weather conditions at the aerodrome of intended landing and, if required, at least one suitable alternate at the estimated time of arrival, shall be at or above the-

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

IFR alternate aerodrome selection criteria.

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

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

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

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

Off-shore alternates for helicopter operations

85. (1) No person shall designate an offshore alternate landing site when it is possible to carry enough fuel to have an on-shore alternate landing site..

(2) The selection of offshore alternates shall be exceptional cases, the details of which have been approved by the Authority, and shall not include payload enhancement in instrument meteorological conditions.

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

- (a) until the point of no return, using an on-shore alternate;
- (b) the offshore alternate may be used only after a point of no return;
- (c) attaining one engine inoperative performance capability prior to arrival at the alternate;
- (d) guaranteeing helideck availability;
- (e) the weather information at the helideck shall be available from a source approved by the Authority; and
- (f) instrument flight rules operations, an instrument approach procedure shall be prescribed and available.

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

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

Take-off alternate aerodromes: commercial air transport operations.

86. (1) No person shall release or take-off an aircraft without a suitable take-off alternate specified in the flight release if it would not be possible to return to the aerodrome of departure.

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

- (a) for two-engine aircraft, one hour flight time at single-engine cruise speed unless the aircraft and crews are authorized for extended twin operations (ETOPS); or
- (b) for three or four-engine aircraft, two hours flight time at single-engine inoperative cruising speed

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

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

87. (1) Unless specifically granted an extended twin engine operations (ETOPS) approval by the Authority, an air operator certificate holder shall not operate a two-engine 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 sub-regulation (2) with either-
 - (i) a maximum approved passenger seating configuration of 20 or more; or
 - (ii) a maximum take-off mass of 45360 kilogram's or more;
- (b) reciprocating engine powered aeroplanes-
 - (i) the distance flown in 120 minutes at the one-engine-inoperative cruise speed determined in accordance with sub regulation (2); or
 - (ii) 300 nautical miles, whichever is less.

(2) An air operator certificate (AOC) holder shall determine a speed for the calculation of the maximum distance to an adequate aerodrome for each two-engine aeroplane type or variant operated, not exceeding V_{mo} based upon the true airspeed that the aeroplane can maintain with one-engine-inoperative under the following conditions-

- (a) international standard atmosphere;
- (b) level flight-
 - (i) for turbine engine powered aeroplanes at-
 - (aa) flight level 170; or
 - (bb) at the maximum flight level to which the aeroplane, with one engine inoperative, can climb and maintain, using the gross rate of climb specified in the aeroplane flight manual, whichever is less;
 - (ii) for propeller driven aeroplanes-
 - (aa) flight level 80; or
 - (bb) at the maximum flight level to which the aeroplane, with one engine inoperative, can climb, and maintain, using the gross rate of climb specified in the aeroplane flight manual, whichever is less;
 - (iii) maximum continuous thrust or power on the remaining operating engine;
 - (iv) an aeroplane mass not less than that resulting from-

- (aa) take-off at sea-level at maximum take-off mass until the time elapsed since take-off is equal to the applicable threshold prescribed in sub-regulation (1);
- (bb) all engines climb to the optimum long range cruise altitude until the time elapsed since take-off is equal to the applicable threshold prescribed in sub-regulation (1); and
- (cc) all engines cruise at the long range cruise speed at this altitude until the time elapsed since take-off is equal to the applicable threshold prescribed in sub-regulation (1).

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

- (a) the one-engine-inoperative cruise speed determined in accordance with sub-regulation (2); and
- (b) the maximum distance from an adequate aerodrome determined in accordance with sub-regulation (1) and (2).

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

Extended range operations with two-engine aeroplane.

88. (1) An air operator certificate (AOC) holder shall not conduct operations beyond the threshold distance determined in accordance with regulation 87, unless approved to do so by the Authority.

(2) Prior to conducting an extended twin engine operations (ETOPS) flight, an AOC holder shall ensure that a suitable ETOPS en route alternate is available, within either the approved diversion time or a diversion time based on minimum equipment list generated serviceability status of the aeroplane, whichever is shorter.

En-route alternate aerodromes: ETOPS operations.

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

(2) No person shall select an aerodrome as an ETOPS en-route alternate aerodrome unless the appropriate weather reports or forecasts or any combination of the two, indicate that during a period commencing one hour before and ending one hour after the expected time of arrival at the aerodrome, the weather conditions shall be at or above the planning minima prescribed in Table 1 and in accordance with the ETOPS approval of the operator.

TABLE 1—WEATHER CONDITIONS PLANNING MINIMA

Type of approach		Planning Minima
(RVR or visibility required & ceiling, if applicable)		
Aerodrome with		
At least 2 separate approach procedures based on 2 separate aids serving 2 separate runways (see regulation 91 (4))		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 runway
Precision approach Cat II, III (ILS, MLS)	Precision Approach Cat I Minima	Non-Precision approach Minima
Precision approach Cat I (ILS, MLS)	Non-Precision Approach Minima	Circling minima or, if not available, non-precision approach minima plus 200 feet per 100m
Non-Precision Approach	The lower of non-precision approach minima plus 200 feet per 100m or circling minima	The higher of non-precision approach minima plus 200 feet per 1000 m or circling minima
Circling Approach	Circling minima	

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

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

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

(b) each of the landing surfaces has a separate approach based on a separate aid.

Fuel and oil supply.

89. (1) No person shall commence a flight unless the aircraft carries sufficient fuel and oil including any reserve carried for contingencies to ensure that it can safely complete the flight taking into account both the meteorological conditions and any delays that are expected in flight.

(2) A person computing the fuel and oil required in sub-regulation (1) shall consider at least the following-

(a) meteorological conditions forecast;

(b) expected air traffic control routings and traffic delays;

- (c) for instrument flight rules (IFR) flight, one instrument approach at the destination aerodrome, including a missed approach;
- (d) the procedures prescribed in the operations manual for loss of pressurization, where applicable or failure of one power unit while en route; and
- (e) any other conditions that may delay the landing of the aircraft or increase fuel and oil consumption.

(3) The fuel and oil carried in order to comply with sub-regulation (1) shall, in the case of propeller-driven aeroplanes, be at least the amount sufficient to allow the aeroplane-

- (a) when a destination alternate aerodrome is required, either-
 - (i) to fly to the aerodrome to which the flight is planned thence to the most critical, in terms of fuel consumption, alternate aerodrome specified in the operational and air traffic services (ATS) flight plans and after that for a period of 45 minutes; or
 - (ii) to fly to the alternate aerodrome via any predetermined point and after that for 45 minutes, if this shall not be less than the amount required to fly to the aerodrome to which the flight is planned and after that for-
 - (aa) 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or
 - (bb) two hours, whichever is less;

- (b) when a destination alternate aerodrome is not required-
 - (i) in case of flight under visual flight rules (VFR), to fly to the aerodrome to which the flight is planned and after that for a period of 45 minutes; or
 - (ii) where the aerodrome of intended landing is isolated and there is no suitable destination alternate aerodrome to which the flight is planned and after that for-
 - (aa) 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or
 - (bb) two hours, whichever is less.

(4) The fuel and oil carried in order to comply with sub-regulation (1) shall, in the case of aeroplanes equipped with turbo-jet engines, be at least the amount sufficient to allow the aeroplane-

- (a) when a destination alternate aerodrome is required, either-
 - (i) to fly to and execute an approach, and a missed approach, at the aerodrome to which the flight is planned. and after that-
 - (aa) to fly to the alternate aerodrome specified in the operational and ATS flight plans; and then
 - (bb) to fly for 30 minutes at holding speed at 1,500 ft above the alternate aerodrome under standard temperature conditions, approach and land; and

- (cc) to have an additional amount of fuel sufficient to provide the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority; or
 - (ii) to fly to the alternate aerodrome via any predetermined point and after that for 30 minutes at 1,500 ft above the alternate aerodrome, due provision having been made for an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority; and the fuel shall not be less than the amount of fuel required to fly to the aerodrome to which the flight is planned and after that for two hours at normal cruise consumption.
- (b) when a destination alternate aerodrome is not required-
- (i) in case of a flight under VFR, to fly to the aerodrome to which the flight is planned and additionally-
 - (aa) to fly 30 minutes at holding speed at 1,500 ft above the aerodrome to which the flight is planned under standard temperature conditions; and
 - (bb) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority; and
 - (ii) in case where aerodrome of intended landing is isolated and there is no suitable destination alternate aerodrome, to fly to the aerodrome to which the flight is planned and after that for a period of two hours at normal cruise consumption.

(5) The fuel and oil carried in order to comply with sub regulation (1) shall, in the case of a helicopter under VFR operations, be at least the amount sufficient to allow the helicopter-

- (a) to fly to the heliport to which the flight is planned;
- (b) to fly after that for a period of 20 minutes at best-range speed plus 10 per cent of the planned flight time; and
- (c) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority.

(6) The fuel and oil carried in order to comply with sub regulation (1) shall, in the case of a helicopter under IFR operations, be at least the amount sufficient to allow the helicopter-

- (a) when an alternate is not required, in flights under VFR, to fly to the heliport to which the flight is planned and after that-
 - (i) to fly 30 minutes at holding speed at 1500 feet above the destination heliport under standard temperature conditions and approach and land; and
 - (ii) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority.

- (b) when an alternate is required, to fly to and execute an approach, and a missed approach, at the heliport to which the flight is planned, and thereafter-
 - (i) to fly to the alternate specified in the flight plan; and
 - (ii) to fly for 30 minutes at holding speed at 1,500ft above the alternate under standard temperature conditions, approach and land; and
 - (iii) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority.
- (c) when the intended landing is isolated and no suitable alternate heliport is available to fly to the heliport to which the flight is planned and after that for a period of 2 hours at holding speed.

(6) Nothing in this regulation shall preclude the amendment of a flight plan in flight in order to re-plan the flight to another aerodrome or heliport take-off.

Flight planning: document distribution and retention.

90. (1) A PIC operating an aircraft for commercial air transport shall complete and sign the following flight preparation documents prior to departure-

- (a) an operational flight plan, including notices to airmen (NOTAMs) and weather pertinent to the flight planning decisions regarding minimum fuel supply, en route performance, and destination and alternate aerodromes;
- (b) a load manifest, showing the distribution of the load, centre of gravity, take-off and landing mass and compliance with maximum operating mass limitations, and performance analysis; and
- (c) an applicable technical log page, to accept that the aircraft is fit for the intended flight after the pre-flight inspection has been conducted.

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

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

Commercial air transport: loading of aircraft.

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

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

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

(3) Sub-regulation (2) shall not apply in relation to a flight if-

- (a) the authorized maximum take-off mass of the aircraft does not exceed 1150 kg; or
- (b) the authorized maximum take-off mass of the aircraft does not exceed 2730 kg. and the flight is not intended to exceed 60 minutes in duration and is either a flight-
 - (i) solely for training persons to perform duties in an aircraft; or
 - (ii) intended to begin and end at the same aerodrome.

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

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

- (a) prepare and sign a load sheet in duplicate conforming to the requirements specified in sub-regulation (7); and
- (b) unless the operator is the pilot in command of the aircraft, submit the load sheet for examination by the PIC of the aircraft who shall, upon being satisfied that the aircraft is loaded in the manner required by sub-regulation (1), sign the name of the PIC on the load sheet.

(6) The requirements of sub-regulation (5) shall not apply where the load and the distributing and securing of the load upon the next intended flight are to be unchanged from the previous flight and the PIC of the aircraft makes and signs an endorsement to that effect upon the load sheet for the previous flight, indicating the date of the endorsement, the place of departure upon the next intended flight and the next intended destination.

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

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

- (a) the nationality and registration marks of the aircraft to which the load sheet relates;
- (b) particulars of the flight to which the load sheet relates;
- (c) the total mass of the aircraft as loaded for the flight;
- (d) the mass of the several items from which the total mass of the aircraft, as so loaded, has been calculated, including in particular the mass of the aircraft prepared for service and the respective total mass of the passengers, crew, baggage and cargo intended to be carried on the flight;

- (e) the manner in which the load is distributed and the resulting position of the centre of gravity of the aircraft which may be given approximately if and to the extent that the relevant certificate of airworthiness so permits; and
- (f) at the foot or end of the load sheet, a certificate signed by the person referred to in sub-regulation (1) as responsible for the loading of the aircraft, stating that the aircraft has been loaded in accordance with the written instructions furnished to that person by the operator of the aircraft pursuant to that sub-regulation.

(9) For the purpose of calculating the total mass of the aircraft, the respective total mass of the passengers and crew entered in the load sheet shall be computed from the actual mass of each person, and for that purpose each person shall be separately weighed unless sub-regulations (11), (21) and (13) applies.

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

(11) An operator shall compute the mass of passengers and checked baggage using the standard mass values specified in Tables 2 and 3 except where the number of passenger seats available is less than 10; the standard masses values include hand baggage and the mass of any infant below 2 years of age carried by an adult on one passenger seat; infants occupying separate passenger seats shall be considered as children for the purpose of this regulation.

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

(13) The procedure specifying when to select actual or standard masses and the procedure to be followed when using verbal statements shall be included in the operations manual.

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

TABLE 2—COMPUTATION OF MASS OF PASSENGERS

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

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

TABLE 3 - COMPUTATION OF MASS OF BAGGAGE

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

(15) Where sub-regulations (11) to (15) are applied, the load sheet shall bear a notation to that effect.

(16) Where sub-regulations (10) to (14) may apply, the pilot in command shall, if the standard masses described in regulation 6 appear to be inapplicable or doing so is in the interests of safety of the aircraft, require any or all of the passengers, crew and cargo to actually be weighed for the purpose of an entry to be made in the load sheet.

Aircraft loading, mass and balance.

93. 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 aeroplane and centre of gravity location indicate that the flight can be conducted safely, taking into account the flight conditions expected.

Stowage of baggage and cargo.

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

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

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

- (a) each item carried in cabin shall be stowed only in a location that is capable of restraining it;
- (b) mass limitations placard on or adjacent to stowages shall not be exceeded;
- (c) under-seat stowages shall not be used unless the seat is equipped with a restraint bar and the baggage is of a size that may adequately be restrained by this equipment;
- (d) items shall not be stowed in toilets or against bulkheads that are incapable of restraining articles against movement forwards, sideways or upwards and unless the bulkheads carry a placard specifying the greatest mass that may be placed there;

- (e) baggage and cargo placed in lockers shall not be of a size that prevents latched doors from being closed securely;
- (f) baggage and cargo shall not be placed where it can impede access to emergency equipment; and
- (g) checks shall be made before take-off, before landing and whenever the fasten seat belts signs are illuminated or it is otherwise so ordered to ensure that baggage is stowed where it cannot impede evacuation from the aircraft or cause injury by falling or other movement, as may be appropriate to the phase of flight.

Maximum allowable weights to be considered on all load manifests.

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

Flight release required: commercial air transport.

96. No person shall commence a-

- (a) flight under a flight following system without specific authority from the person authorized by the air operator certificate (AOC) holder to exercise operational control over the flight; or
- (b) passenger carrying flight in commercial air transport for which there is a published schedule, unless a qualified person authorized by the AOC holder to perform operational control functions has issued a flight release for that specific operation or series of operations.

Operational flight plan: commercial transport

97. (1) No person shall commence a flight unless the operational flight plan has been signed by the pilot in command (PIC).

(2) A PIC shall sign the operational flight plan only when the PIC and the person authorized by the operator to exercise operational control have determined that the flight can be safely completed.

(3) The operational flight plan shall include the routing and fuel calculations, with respect to the meteorological and other factors expected, to complete the flight to the destination and all required alternates.

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

(5) No person shall continue a flight from an intermediate aerodrome without a new operational flight plan if the aircraft has been on the ground more than 6 hours.

PART VII
AIRCRAFT OPERATING AND PERFORMANCE LIMITATIONS

ALL AIRCRAFT

Aircraft airworthiness and safety precautions

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

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

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

Performance and operating limitations.

99. No person shall operate an aircraft that-

- (a) exceeds its designed performance limitations for any operation, as established by the State of Registry; or
- (b) exceeds operating limitations contained in the aeroplane flight manual, the rotorcraft flight manual or its equivalent.

In-flight simulation of abnormal situations

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

Test-flight areas

101. No person shall operate an aircraft during a test-flight except over open water or sparsely populated areas having light traffic.

Operations in RNP, MNPS or RVSM airspace.

102. (1) No person shall operate an aircraft in defined portions of airspace or on routes where a required navigation performance (RNP) type has been prescribed, unless-

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

(2) No person shall operate an aircraft in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, without a written authorization issued by the State of the Operator for MNPS operations.

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

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

(4) No person shall operate an aircraft in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive, unless-

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

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

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

Electronic navigation data management

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

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

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

Compliance with visual and electronic glide slopes.

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

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

Restriction or suspension of operations: commercial air transport.

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

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

106. A pilot in command (PIC) shall not allow a flight to continue toward any aerodrome of intended landing where commercial air transport operations have been restricted or suspended, unless-

- (a) in the opinion of the PIC, the conditions that are a hazard to safe operations may reasonably be expected to be corrected or have improved by the estimated time of arrival; or
- (b) there is no safer procedure.

Continuation of IFR flight toward a destination

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

Operations of single-engine aircraft.

108. (1) An operator shall ensure that a single-engine aircraft other than turbine-powered, is operated only in conditions of weather and light and over the routes and diversions from the routes, that permit a safe forced landing to be executed in the event of engine failure.

(2) In complying with sub-regulation (1)-

- (a) the aircraft shall not be assumed to be flying, with the engine operating within the maximum continuous power condition specified, at an altitude exceeding that which the rate of climb equals 300 feet per minute; and
- (b) the assumed en-route gradient shall be the gross gradient of descent increased by gradient of 0.5%.

Operations of single-engine turbine-powered aircraft at night or in IMC.

109. (1) No person shall operate a single-engine turbine-powered aircraft at night or in instrument meteorological conditions unless the person ensures that-

- (a) the reliability of the turbine engine is to a level of safety intended by these Regulations and the Civil Aviation Authority (Airworthiness) Regulations;
- (b) the maintenance procedures, operating practices, flight dispatch procedures and crew training programmes are as intended by these Regulations and the Civil Aviation Authority (Airworthiness) Regulations; and
- (c) equipment and other requirements for IFR operations are as stipulated in the Civil Aviation Authority (Instruments and Equipment) Regulations.

(2) A single-engine turbine-powered aircraft operated at night or in IMC shall have an engine trend monitoring system.

IFR take-off minimums for commercial air transport.

110. Unless otherwise authorized by the Authority, a pilot operating an aircraft in commercial air transport operations shall not accept a clearance to take off from an aerodrome under instrument flight rules unless weather conditions are at or above-

- (a) for aircraft, other than helicopters, having two engines or less: 1500 metres;
- (b) for aircraft having more than two engines: 800 metres;
- (c) for helicopters: 800 metres.

Instrument approach procedures and IFR landing minima.

111. No person shall make an instrument approach at an airport except in accordance with instrument flight rules weather minima and instrument approach procedures set out in the operations specifications of the air operator certificate holder.

Commencing an instrument approach.

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

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

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

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

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

Instrument approaches to aerodromes

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

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

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

Threshold crossing height for precision approaches.

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

Operation below DH or MDA

115. (1) Where a decision height or minimum descent altitude is applicable, a pilot shall not operate an aircraft at any aerodrome or heliport below the authorized minimum descent altitude or continue an approach below the authorized decision height unless-

- (a) the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal manoeuvres;
- (b) for commercial air transport operations, a descent rate shall allow touchdown to occur within the touchdown zone of the runway of intended landing;
- (c) the flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and
- (d) at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot-
 - (i) the approach light system, except that the pilot shall not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable;
 - (ii) the threshold or the threshold markings;
 - (iii) threshold lights;
 - (iv) the runway end identifier lights;

- (v) the visual approach slope indicator system or precision approach path indicator;
- (vi) the touchdown zone or touchdown zone markings;
- (vii) the touchdown zone lights;
- (viii) the runway or runway markings; or
- (ix) the runway lights.

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

(3) The required visual references under category II and III operations shall be provided in the operations specifications of the air operator certificate holder or a special authorization prescribed by the Authority.

Landing during instrument meteorological conditions

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

Execution of a missed approach procedure

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

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

Minimum altitudes for use of an autopilot

118. (1) Except as provided in sub-regulations (2),(3) and (4),no person shall use an autopilot en route, including climb and descent, at an altitude above the terrain that is less than twice the maximum altitude loss specified in the aircraft flight manual for malfunction of the autopilot under cruise conditions, or less than 500 feet, whichever is higher.

(2) When using an instrument approach facility, no person shall use an autopilot at an altitude above the terrain that is less than twice the maximum altitude loss specified in the aircraft flight manual for a malfunction of the autopilot under approach conditions or less than 50 feet below the approved minimum descent altitude or decision height for the facility, whichever is higher, except-

- (a) when reported weather conditions are less than the basic visual flight rules (VFR) weather conditions as specified in the Civil Aviation Authority (Rules of the Air and Air Traffic Control) Regulations, no person shall use an autopilot with an approach coupler for instrument landing system approaches at an altitude above the terrain that is less than 50 feet higher than the maximum altitude loss specified in the aircraft flight manual for the malfunction of the autopilot with approach coupler under approach conditions; and
 - (b) when reported weather conditions are equal to or better than the basic VFR minima as specified in the Civil Aviation Authority (Rules of the Air and Air Traffic Control) Regulations, no person shall use an autopilot with an approach coupler for instrument landing system approaches at an altitude above the terrain that is less than the maximum altitude loss specified in the aircraft flight manual for the malfunction of the autopilot with approach coupler under approach conditions, or 50 feet, whichever is higher.
- (3) Notwithstanding sub-regulation (1) or (2), the Authority shall issue operation specifications to allow the use, to touchdown, of an approved flight control guidance system with automatic capability in any case in which-
- (a) the system does not contain any altitude loss (above zero) specified in the aircraft flight manual for malfunction of the autopilot with approach coupler; and
 - (b) the Authority finds that the use of the system to touchdown will not otherwise affect the safety standards required by this regulation.
- (4) Notwithstanding sub-regulation (1), the Authority shall issue operation specifications to allow the use of an approved autopilot system with automatic capability below the altitude specified in sub-regulation (1) during the take-off and initial climb phase of flight if-
- (a) the aircraft flight manual specifies a minimum altitude engagement certification restriction;
 - (b) the system is not engaged prior to the minimum engagement certification restriction specified in the aircraft flight manual or an altitude specified by the Authority, whichever is higher; and
 - (c) the Authority finds that the use of the system will not otherwise affect the safety standards required by this regulation.

Receiver failure

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

- (a) reports at the scheduled times or positions, on the frequency in use, preceded by the phrase "TRANSMITTING BLIND DUE TO RECEIVER FAILURE"; and
 - (b) the intended message, following this by a complete repetition, during this procedure, the aircraft shall also advise the time of its next intended transmission.
- (2) An aircraft which is provided with air traffic control service or advisory service shall, in addition to complying with sub-regulation (1), transmit information regarding the intention of the pilot in command (PIC) with respect to the continuation of the flight of the aircraft.

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

Aircraft performance calculations for all aircrafts.

120. (1) An operator shall ensure that the performance data contained in the aeroplane flight manual, rotorcraft flight manual or other authorized source is used to determine compliance with the appropriate requirements of these Regulations.

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

General weight and obstruction clearance limitations.

121. (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 considering the-

- (a) condition of the take-off and landing areas to be used;
- (b) the gradient of runway to be used for land planes only;
- (c) pressure altitude;
- (d) ambient temperature;
- (e) current and forecast winds; and
- (f) any known conditions, such as atmospheric and aircraft configuration, which may adversely affect performance.

(2) No person shall commence a flight at a mass that, assuming normal engine operation, cannot safely clear all obstacles during all phases of flight, including all points along the intended en-route path or any planned diversions.

Category II and III operations: general operating rules

122. (1) No person shall operate an aircraft in a category II or III operations unless-

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

(2) Unless otherwise authorized by the Authority, no person shall operate an aircraft in a category II or category III operations unless each ground component required for that operation and the related airborne equipment is installed and operating.

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

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

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

- (a) the aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal manoeuvres, and where that descent rate shall allow touchdown to occur within the touchdown zone of the runway of intended landing;
- (b) at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot-
 - (i) the approach light system, except that the pilot shall not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable;
 - (ii) the threshold or the threshold markings;
 - (iii) the threshold lights;
 - (iv) the touchdown zone or touchdown zone markings;
 - (v) the touchdown zone lights.

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

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

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

(8) No person shall operate an aircraft in a category II or category III operations conducted by an AOC holder unless the operation is conducted in accordance with the operations specifications of AOC holder.

Category II and category III operations manual

123. (1) Except as provided in sub-regulation (3), no person shall operate an aircraft in a category II or a category III operation unless-

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

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

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

(4) An applicant for approval of a category II or III operations manual or an amendment to an approved category II operations manual shall submit the proposed manual or amendment to the Authority.

(5) Where the application made under these Regulations is a request for an evaluation programme, the application shall include the following-

- (a) the location of the aircraft and the place where the demonstrations are to be conducted; and
 - (b) the date the demonstrations are to commence (at least 10 days after filing the application).
- (6) A Category II or III operations manual shall contain-
- (a) the registration number, make and model of the aircraft to which it applies;
 - (b) a maintenance programme; and
 - (c) the procedures and instructions related to-
 - (i) recognition of decision height or decision altitude
 - (ii) use of runway visual range information;
 - (iii) approach monitoring;
 - (iv) the decision region, which is the region between the middle marker and the decision height or decision altitude;
 - (v) the maximum permissible deviations of the basic instrument landing system indicator within the decision region;
 - (vi) a missed approach procedure;
 - (v) use of airborne low approach equipment;
 - (vi) minimum altitude for the use of the autopilot;

(ix) instrument and equipment failure warning systems;

(x) instrument failure; and

(xi) other procedures, instructions and limitations that may be found necessary by the Authority.

Authorization for deviation from certain category II operations

124. (1) The Authority may authorize deviations from the requirements of regulations 122 and 123 for the operation of small aircraft in category II operations if the Authority finds that the proposed operation can safely be conducted.

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

AIRCRAFT USED IN COMMERCIAL AIR TRANSPORT

General

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

(2) No person shall operate a multi-engine aircraft used for commercial air transport that is unable to comply with any of the performance limitations of regulations 128 to 132, inclusive, unless that aircraft is continually operated-

(a) in daylight;

(b) in visual flight rules; and

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

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

Rules of the air and air traffic control.

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

Aircraft performance calculations for commercial transport.

127. (1) No person shall commence a flight in an aircraft used in commercial air transport without ensuring that the applicable operating and performance limitations required by this regulation can be accurately computed based on the aeroplane flight manual, rotorcraft flight manual or other data source approved by the Authority.

(2) A person calculating performance and operating limitations for an aircraft used in commercial air transport shall ensure that performance data used to determine compliance with this regulation can, during any phase of flight, accurately account for-

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

(3) When calculating the performance and limitation requirements of regulations 128 to 132, inclusive a person performing the calculation 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, ice, etc;
- (ii) the gradient of runway to be used;
- (iii) the runway length including clearways and stop ways, if applicable;
- (iv) pressure altitudes at take-off and landing sites;
- (v) current ambient temperatures and winds at take-off;
- (vi) forecast ambient temperatures and winds at each destination and planned alternate landing site;
- (vii) the ground handling characteristics, for example braking action of the type of aircraft;
- (viii) landing aids and terrain that may affect the take-off path, landing path, and landing roll; and
- (ix) where conditions are different from those on which the performance is based, compliance may be determined by interpolation or by computing the effects of changes in the specific variables, if the results of the interpolation or computations are substantially as accurate as the results of direct tests.

(4) To allow for wind effect, take-off data based on still air may be corrected by taking into account not more than 50 percent of any reported headwind component and not less than 150 per cent of any reported tailwind component.

Take-off limitations.

128. (1) No person shall commence a flight in an aeroplane used in commercial air transport unless the following requirements are met when determining the maximum permitted take-off mass-

- (a) the take-off run shall not be greater than the length of the runway;
- (b) for turbine engine powered aeroplanes-
 - (i) the take-off distance shall not exceed the length of the runway plus the length of any clearway, except that the length of any clearway included in the calculation shall not be greater than the length of the runway; and
 - (ii) the accelerate-stop distance shall not exceed the length of the runway, plus the length of any stop way, at any time during take-off until reaching V₁;
- (c) for reciprocating engine powered aeroplanes the accelerate-stop distance shall not exceed the length of the runway at any time during take-off until reaching V₁; and
- (d) where the critical engine fails at any time after the aeroplane reaches V₁, to continue the take-off and clear all obstacles either-
 - (i) by a height of at least 9.1 m (35 ft) vertically for turbine engine powered aeroplanes or 15.2 m (50 ft) for reciprocating engine powered aeroplanes; and
 - (ii) by at least 60 m (200 ft) horizontally within the aerodrome boundaries and by at least 90 meters (300 ft) horizontally after passing the boundaries, without banking more than 15 degrees at any point on the take-off flight path.

(2) No person shall take-off a helicopter used in commercial air transport 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; or
- (b) for performance class 2 helicopters-
 - (i) before reaching a defined point after take-off, safely execute a forced landing within the rejected take-off area; or
 - (ii) at any point after reaching a defined point after take-off, continue the take-off and then climb, clearing all obstacles along the flight path, until a suitable landing site is found;
- (c) for performance Class 3 helicopters-

- (i) clear the obstacles along its flight path by an adequate margin;
- (ii) maintain minimum flight altitude; or
- (iii) at engine failure permit a safe, forced landing.

En-route limitations: all engines operating.

129. (1) No person shall commence a flight in a reciprocating engine powered aeroplane used in commercial air transport at a weight that does not allow a rate of climb of at least 6.9 V_{so} with all engines operating, at an altitude of at least 300 m (1,000 ft) above all terrain and obstructions within 10 miles of each side of the intended track.

(2) In this regulation the term “6.9 V_{so}” means the number of feet per minute obtained by multiplying the minimum steady flight speed of an aircraft by 6.9.

En-route limitations: one engine in operative

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

(2) The net flight path shall have a positive gradient at 1500 ft above the aerodrome where the landing is assumed to be made after engine failure, in meteorological conditions requiring the operation of ice protection systems. the effect of their use on the net flight path shall be taken into account.

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

(4) The net flight path shall permit the aeroplane to continue flight from the cruise altitude to an aerodrome where a landing can be made in accordance with regulation 132 as appropriate, the net flight path clearing vertically, by at least 2000 ft, all terrain and obstructions along the route within 9.3 km (5 nm) on either side of the intended track in accordance with the following-

- (a) the engine is assumed to fail at the most critical point along the route;
- (b) account is taken of the effects of winds on the flight path;
- (c) fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used; and
- (d) the aerodrome where the aeroplane is assumed to land after engine failure shall meet the following criteria-
 - (i) the performance requirements at the expected landing mass are met; and
 - (ii) weather reports or forecasts or any combination of weather reports and forecasts, and field condition reports indicate that a safe landing can be accomplished at the estimated time of landing.

(5) An operator shall increase the width margins of sub-regulation (4) to 18.5 km (10 nm) if the navigational accuracy does not meet the 95% containment level.

(6) No person shall commence a flight in a commercial air transport helicopter having two engines unless that helicopter can, in the event of the critical engine failing and any point in the en-route phase, continue the flight to the destination or alternate landing site without flying below the minimum flight altitude at any point and clearing all obstacles in the approach path by a safe margin.

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

131. (1) No person may take-off an aeroplane used in commercial air transport having 3 or more engines at a weight where there is no suitable landing aerodrome within 90 minutes at any point along the intended route, with all engines operating at cruising power, unless that aeroplane can, in the event of simultaneous power failure of 2 critical engines at the most critical point along that route, continue to a suitable landing aerodrome while complying with the requirements of sub-regulations (2) to (6).

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

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

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

(5) The 2 engines are assumed 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 net flight path shall have a positive gradient at 1500 ft above the aerodrome where the landing is assumed to be made after the failure of 2 engines.

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

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

(9) No person shall commence a flight in a performance class 1 or performance class 2 helicopter used in commercial air transport having three or more engines unless that helicopter can, in the event of two critical engines failing simultaneously at any point in the en-route phase, continue the flight to a suitable landing site.

Landing limitations.

132. (1) No person shall commence a flight in an aeroplane used in commercial air operations unless the aeroplane mass on arrival at either the intended destination aerodrome or any planned alternate aerodrome would allow a full stop landing from a point 50 feet above the intersection of the obstruction clearance plane and the runway, and within-

- (a) for turbine engine powered aeroplanes, 60 percent of the effective length of each runway; and
- (b) for reciprocating engine powered aeroplanes, 70 percent of the effective length of each runway.

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

- (a) the aeroplane is landed on the most favourable runway and in the most favourable direction, in still air; or
- (b) the aeroplane is landed on the most suitable runway considering the probable wind velocity and direction, runway conditions, the ground handling characteristics of the aeroplane and considering other conditions such as landing aids and terrain.

(3) Where the runway at the landing destination is reported or forecast to be wet or slippery, the landing distance available shall be at least 115 percent of the required landing distance unless, based on a showing of actual operating landing techniques on wet or slippery runways-

- (a) a shorter landing distance not less than that required by sub-regulation (1) has been approved for a specific type and model of aeroplane; and
- (b) this information is included in the aircraft flight manual.

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

(5) No person shall commence a flight in a helicopter used in commercial air transport unless, with all engines operating on arrival at the intended destination landing site or any planned alternate landing, it can clear all obstacles on the approach path and can land and stop within the landing distance available.

(6) No person shall commence a flight in a helicopter used in commercial air transport unless, in the event of any engine becoming inoperative in the approach and landing phase on arrival at the intended destination landing site or any planned alternate landing, can-

- (a) for performance class 1 helicopter-
 - (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;

- (b) for performance class 2 and performance class 3 helicopters before reaching a defined point before landing, safely execute a forced landing within the landing distance available.
- (7) For purposes of sub-regulation (1), an “obstruction clearance plane” is a plane-
- (a) sloping upward from the runway at a slope of 1:20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area;
 - (b) in the plane view, the centreline of the specified area coincides with the centreline of the runway, beginning at the point where the obstruction clearance plane intersects the centreline of the runway and proceeding to a point at least 1,500 feet from the beginning point;
 - (c) the centreline coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings) or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4,000 foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions; and
 - (d) this area extends laterally 200 feet on each side of the centreline at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centreline at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; after that, it extends laterally 500 feet on each side of the centreline.

PART VIII

PASSENGER AND PASSENGER HANDLING

ALL PASSENGER- CARRYING OPERATIONS

Unacceptable conduct.

133. No person on board an aircraft shall-

- (a) interfere with a crew member in the performance of the duties of the crew member;
- (b) refuse to fasten the seat belt and keep it fastened while the seat belt sign is switched on;
- (c) wilfully, recklessly or negligently act or omit to act-
 - (i) so as to endanger an aircraft or persons and property in an aircraft;
 - (ii) so as to cause or permit an aeroplane to endanger any person or property;
- (d) secrete on themselves or nor secrete cargo on board an aircraft;
- (e) smoke while the no-smoking sign is switched on;
- (f) smoke in any aircraft lavatory;

- (g) tamper with, disable or destroy any smoke detector installed in any aircraft lavatory; or
- (h) wilfully, recklessly or negligently imperil the safety of an aircraft or any person on board, whether by interference with any crew member or by tampering with the aircraft or its equipment or by disorderly conduct by any other means.

Refuelling or Defueling with passengers on board

134. (1) A pilot in command shall not allow an aeroplane to be refuelled or de-fuelled when passengers are embarking, on board or disembarking unless-

- (a) the aeroplane is manned by qualified personnel ready to initiate and direct an evacuation; and
- (b) two-way communication is maintained between the qualified personnel in the aeroplane and the ground crew supervising the refuelling.

(2) Unless specifically authorized by the Authority, no person shall allow a helicopter to be refuelled or de-fuelled when-

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

Passenger seats, safety belts and shoulder harnesses.

135. (1) A pilot in command (PIC) shall ensure that each person onboard the aircraft from the age of 2 years occupies an approved seat or berth with their own individual safety belt and shoulder harness, if installed, properly secured during take-off and landing.

(2) A passenger shall have the seatbelt securely fastened at any other time the PIC determines it is necessary for safety.

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

Passenger briefing: non AOC holder aircraft.

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

- (a) seat belts;
- (b) emergency exits;
- (c) life jackets;
- (d) oxygen dispensing equipment; and
- (e) other emergency equipment provided for individual use, including passenger emergency briefing cards.

(2) The PIC of a non AOC holder aircraft shall ensure that all persons on board are aware of the locations and general manner of use of the principal emergency equipment carried for collective use.

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

In-flight emergency instruction

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

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

Passenger oxygen: minimum supply and use.

138. A pilot in command shall-

- (a) ensure that breathing oxygen and masks are available to passengers in sufficient quantities for all flights at altitudes where a lack of oxygen might harmfully affect passengers;
- (b) ensure that the minimum supply of oxygen prescribed by the Authority is on board the aircraft; and
- (c) require all passengers to use oxygen continuously at cabin pressure altitudes above 15,000 feet.

Alcohol or drugs.

139. (1) No person shall permit any person who appears to be intoxicated or who demonstrates, by manner or physical indications, that that person is intoxicated to-

- (a) board an aircraft; or
- (b) while on board the aircraft be served alcohol.

(2) No person shall-

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

Use of psychoactive substance

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

(2) No person whose function is critical to the safety of aviation (safety-sensitive personnel) shall undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired.

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

COMMERCIAL AIR TRANSPORT PASSENGER CARRYING OPERATIONS

Passenger compliance with instructions.

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

Denial of transportation.

142. An air operator certificate holder may deny transportation to a passenger who-

- (a) refuses to comply with the instructions regarding exit seating restrictions prescribed by the Authority; or
- (b) has a handicap that can be physically accommodated only through causing an obstruction to the safe evacuation of other passengers from the aircraft as provided for in regulation 145.

Carriage of person without compliance with passenger carrying requirements

143. A pilot in command or an operator shall not allow a person to be carried without compliance with the passenger carrying requirements unless there is an approved seat with an approved seat belt for that person, and-

- (a) the seat is so located that the occupant is not in any position to interfere with the flight crew members performing their duties;
- (b) there is unobstructed access from the approved seat to the flight deck or a regular or emergency exit;
- (c) there is a means for notifying that person when smoking is prohibited and when seat belts shall be fastened; and
- (d) that person has been orally briefed by a crew member on the use of emergency equipment and exits.

Cabin crew at duty stations.

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

(2) During taxi of an aircraft, cabin crew members shall be located as near as practicable to required floor level exits and shall be uniformly distributed throughout the aircraft to provide the most effective egress of passengers in event of an emergency evacuation.

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

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

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

Evacuation capability

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

Arming of automatic emergency exits.

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

Accessibility of emergency exits and equipment

147. 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.

148. (1) At stops where passengers remain on board the aircraft, the PIC shall ensure that-

- (a) all engines are shut down;
- (b) at least one floor level exit remains open to provide for the evacuation of passengers if necessary; and
- (c) there is at least one person immediately available who is qualified in the emergency evacuation of the aircraft and who has been identified to the passengers on board as responsible for the passenger safety.

(2) When refuelling with passengers on board, the PIC or a designated representative of the AOC holder shall ensure that the operations manual procedures of the AOC holder are followed.

Carriage of persons with reduced mobility.

149. No person shall allow a person of reduced mobility to occupy seats where their presence could-

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

Exit row seating.

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

(2) A PIC shall ensure that a person is not seated in a passenger exit seat if it is likely that the person would be unable to perform one or more of the applicable functions listed below-

- (a) lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs to-
 - (i) reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;
 - (ii) grasp and push, pull, turn or otherwise manipulate the mechanisms;
 - (iii) push, shove, pull or otherwise open emergency exits;
 - (iv) lift out, hold, deposit on nearby seats, or manoeuvre over the seatbacks to the next row objects the size and weight of over-wing window exit doors;
 - (v) remove obstructions of size and weight similar to over-wing exit doors;
 - (vi) reach the emergency exit expeditiously;
 - (vii) maintain balance while removing obstructions;
 - (viii) exit expeditiously;
 - (ix) stabilise an escape slide after deployment; or
 - (x) assist others in getting off an escape slide;
- (b) is less than 15 years of age or lacks the capacity to perform one or more of the functions listed in this regulation without assistance;
- (c) lacks the ability to read and understand instructions required by this regulation and related to emergency evacuation provided by the AOC holder in printed or graphic form or the ability to understand oral crew commands;
- (d) lacks sufficient visual capacity to perform one or more of the functions specified in paragraphs (a) to (c) without the assistance of visual aids beyond contact lenses or eyeglasses;
- (e) lacks sufficient aural capacity to hear and understand instructions given by cabin crew members, without assistance beyond a hearing aid;
- (g) lacks the ability to adequately impart information orally to other passengers; or
- (h) has a condition or responsibilities, such as caring for small children, which might prevent the person from performing one or more of the functions listed above or a condition that might cause the person harm if the person performs one or more of the functions listed in this sub-regulation.

(3) Determination by a crew member as to the suitability of each person permitted to occupy an exit seat shall be made by the cabin crew members.

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

(5) In the event of full booking in the non-exit seats, and if necessary to accommodate a passenger being relocated from an exit seat, the cabin crew member shall move a passenger who is willing and able to assume the evacuation functions, to an exit seat.

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

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

(8) A cabin crew member shall include in their passenger briefings a request that a passenger identify themselves to allow reseating if that passenger-

- (a) cannot meet the selection criteria;
- (b) has a non discernible condition that shall prevent the passenger from performing the evacuation functions;
- (c) may suffer bodily harm as a result of performing one or more of the functions; or
- (d) does not wish to perform emergency exit functions.

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

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

(11) A PIC shall not allow taxi or pushback of an aircraft unless at least one required crew member has verified that all exit rows and escape paths are unobstructed and that no exit seat is occupied by a person the crew member determines is likely to be unable to perform the applicable evacuation functions.

(12) In order to comply with this regulation an AOC holder shall-

- (a) establish procedures that address the requirements of this regulation; and
- (b) submit their procedures for preliminary review and approval to the Authority.

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

Carriage of munitions of war.

151. (1) No person shall carry munitions of war on an aircraft.

(2) No person shall take or cause to be taken on board an aircraft, or deliver or cause to be delivered for carriage on an aircraft, any goods which that person knows or has reason to believe or suspect to be munitions of war.

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

(4) Without prejudice to sub-regulations (1) and (2), no person shall carry or have in their charge any weapon on board an aircraft registered in Swaziland, and a weapon, not being munitions of war, may be carried as the baggage of a passenger if it is stowed in the part of the aircraft inaccessible to passengers and, in the case of a firearm, it is not loaded.

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

Prohibition against carriage of weapons

152. No person shall, while on board an aircraft being operated in commercial air transport, carry on or about a deadly or dangerous weapon, either concealed or unconcealed.

Oxygen for medical use by passengers

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

(2) No person shall smoke, and no crew member shall allow any person to smoke within 10 feet of oxygen storage and dispensing equipment carried for the medical use of a passenger.

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

Carry-on baggage.

154. (1) No person shall allow-

- (a) the boarding of carry-on baggage unless it can be adequately and securely stowed in accordance with the operations manual procedures of the air operator certificate holder;
- (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 of the bulkhead; and
- (c) carry-on baggage to be stowed in a location that would cause that location to be loaded beyond its maximum placard weight limitation.

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

Carriage of cargo in passenger compartments

155. (1) No person shall allow the carriage of cargo in the passenger compartment of an aircraft except as prescribed by the Authority.

(2) Cargo may be carried anywhere in the passenger compartment if it is carried in an approved cargo bin that meets the following requirements-

- (a) the bin shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
- (b) the maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin shall be conspicuously marked on the bin;
- (c) the bin may not impose any load on the floor or other structure of the aircraft that exceeds the load limitations of that structure;
- (d) the bin shall be attached to the seat tracks or to the floor structure of the aircraft, and its attachment shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aircraft in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the aircraft, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
- (e) the bin may not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment;
- (f) the bin shall be fully enclosed and made of material that is at least flame resistant;
- (g) suitable safeguards shall be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and
- (h) the bin may not be installed in a position that obscures any view of a passenger of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

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

- (a) for cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions, or for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;
- (b) it is packaged or covered to avoid possible injury to occupants;
- (c) it does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;
- (d) it is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or is located in a position that obscures any view of a passenger of the "seat belt" sign, "no smoking" sign or placard, or any required exit sign,

unless an auxiliary sign or other approved means for proper notification of the passengers is provided;

- (e) it is not carried directly above seated occupants;
- (f) it is stowed in compliance with these restrictions during take-off and landing; and
- (g) for cargo-only operations, if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft if an emergency occurs.

Passenger information signs.

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

Required passenger briefings: AOC holder.

157. (1) No person shall commence a take-off unless the passengers are briefed prior to take-off in accordance with the operations manual procedures of the air operator certificate holder (AOC) on-

- (a) smoking limitations and prohibitions;
- (b) emergency exit location and use;
- (c) use of safety belts;
- (d) emergency floatation means location and use;
- (e) location and the general manner of use of the principal emergency equipment for collective use;
- (f) fire extinguisher location and operation;
- (g) placement of seat backs;
- (h) if flight is above 12,000 feet above mean sea level, the normal and emergency use of oxygen; and
- (i) the passenger briefing card.

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

(3) Before take-off, the PIC shall ensure that persons of reduced mobility are personally briefed on the-

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

(4) The PIC operating commercial air transport operations shall ensure that the briefing specified in this regulation contains all the objects approved for the specific operations conducted as included in the relevant operations manual.

(5) The operator shall ensure that during takeoff and landing and whenever, by reason of turbulence or any emergency occurring during flight the precaution is considered necessary, all passengers on board an aeroplane shall be secured in their seats by means of seat belts or harnesses provided.

Passenger briefing: extended overwater operations.

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

Passenger seat belts.

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

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

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

(4) No person who is 2 years of age or above may be held by an adult who is occupying a seat or berth.

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

Passenger seat backs.

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

(2) Exceptions to this requirement shall only be made in accordance with procedures in the operations manual of the air operator certificate holder if the seat back does not obstruct any access to the aisle or to any emergency exit by a passenger.

Stowage of food, beverage and passenger service.

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

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

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

Securing of items of mass in passenger compartment.

162. No person shall allow-

- (a) the take-off or landing of an aircraft unless each item of mass in the passenger cabin is properly secured to prevent it from becoming a hazard during taxi, take-off and landing and during turbulent weather conditions; or
- (b) an aircraft to move on the surface, take-off or land unless each passenger serving cart is secured in its stowed position.

Crew member and Flight Operations Officer Qualifications: Commercial Air Transport Age restriction.

163. No person shall serve nor shall any air operator certificate holder use a person as a required pilot on an aircraft engaged in international commercial air transport operations if that person has attained the age of 65 years.

PIC licence requirements : turbojet, turbofan or large aircraft.

164. A pilot shall not act as pilot in command of a turbojet, turbofan or large aircraft in commercial air transport operations unless that pilot holds an airline transport pilot licence and a type rating for that aircraft.

PIC licence requirement s: non turbo jet or turbofan small aircraft

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

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

PIC aeronautical experience: small aircraft

166. An operator shall ensure that-

- (a) a commercial pilot licence (CPL) holder shall not operate as a pilot in command (PIC) certificated in the aircraft flight manual for single pilot operations unless-
 - (i) when conducting passenger carrying operations under visual flight rules (VFR) outside a radius of 50 nautical miles from an aerodrome of departure, the pilot has a minimum of 500 hours total flight time on aeroplanes or holds a valid instrument rating; or
 - (ii) when operating on a multi-engine type under instrument flight rules (IFR), the pilot has a minimum of 700 hours total flight time on aeroplanes which includes 400 hours as PIC of which 100 hours have been under IFR including 40 hours multi-engine operation;
 - (iii) the 400 hours referred to sub-paragraph (ii) may be substituted by hours spent operating as co-pilot on the basis that two hours co-pilot is equivalent to one hour as PIC, if the hours were gained within an established multi-pilot crew system prescribed in the operations manual specified in the Civil Aviation Authority (Air Operator Certification and Administration) Regulations;

- (b) in addition to paragraph (a)(ii), when operating under IFR as a single pilot, requirements prescribed in regulation 32 are satisfied; and
- (c) in multi-pilot crew operations, in addition to sub-paragraph (a) and prior to the pilot operating as PIC, the command course prescribed in the operations manual specified in the Civil Aviation Authority (Air Operator Certification and Administration) Regulations is completed.

Co-pilot licence requirements.

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

- (a) a commercial pilot licence with appropriate category class and type ratings for the aircraft operated; and
- (b) an instrument rating.

Flight engineer licence requirements.

168. No person shall act as the flight engineer of an aircraft unless that person holds a flight engineer licence with the appropriate type rating.

One pilot qualified to perform flight engineer functions.

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

Persons qualified in flight release.

170. No person shall act as a flight operations officer in releasing a scheduled passenger-carrying commercial air transport operation aircraft unless that person holds a flight operations officer licence or an air transport pilots licence and is currently qualified by the air operator certificate holder for the operation and type of aircraft used.

Company procedures indoctrination.

171. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a crew member or flight operations officer unless that person has completed the company procedures indoctrination curriculum approved by the Authority, which shall include a complete review of operations manual procedures pertinent to the crew member or duties of the flight operation officer.

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

- (a) organisation, scope of operation and administrative practices of the AOC holder, as applicable to crew member assignments and duties;
- (b) appropriate provisions of Civil Aviation Authority regulations and other applicable regulations and guidance materials;
- (c) AOC holder policies and procedures;

(d) applicable crew member manuals; and

(e) appropriate portions of the operations manual of the AOC holder.

(3) An AOC holder 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.

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

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

- (a) staff who are engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in column 1 of Table 4 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify the goods and what requests apply to the carriage of the goods by passengers; and
- (b) crew members, passenger handling staff, and security staff used by an air operator certificate holder to deal with the screening of passengers and their baggage, have received training which covers as a minimum, the areas identified in column 2 of Table 4 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of the goods by passengers.

TABLE 4 - TRAINING: CREW MEMBER AND OTHERS

AREAS OF TRAINING	COLUMN 1	COLUMN 2
General philosophy	X	X
Limitations on dangerous goods in air transport	X	X
Package marking and labelling	X	X
Dangerous goods in passengers baggage	X	X
Emergency procedures	X	X

Note: "X" indicates an area to be covered

(3) An operator or owner holding a permanent approval to carry dangerous goods shall ensure that-

- (a) staff who are engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties which covers as a minimum, the areas identified in column 1 of Table 5 to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;

- (b) staff who are engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in column 2 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify the goods and how to handle and load them;
- (c) staff who are engaged in general cargo handling have received training to enable them to carry out their duties in respect of dangerous goods which covers as a minimum, the areas identified in column 3 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify the goods and how to handle and load them;
- (d) flight crew members have received training which covers as a minimum, the areas identified in column 4 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on an aircraft;
- (e) passenger handling staff and security staff used by the operator who deal with the screening of passengers and their baggage and crew members, other than flight crew members, have received training which covers as a minimum, the areas identified in column 5 of Table 5 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and the requirements that apply to the carriage of the goods by passengers or, more generally, their carriage on an aircraft.

TABLE 5 - TRAINING: STAFF OTHER THAN CREW MEMBER

Areas of training	Column 1	Column 2	Column 3	Column 4	Column 5
General philosophy	X	X	X	X	X
Limitations on dangerous goods in the air transport	X	X		X	X
Classification and list of dangerous goods	X	X		X	
General packing requirements and packing instructions	X				
Packaging specifications marking	X				
Package marking and labelling	X	X	X	X	X
Documentation from the shipper	X				
Acceptance of dangerous goods, including the use of a checklis	X				

Areas of training	Column 1	Column 2	Column 3	Column 4	Column 5
Loading, restrictions on loading and segregation	X	X	X	X	
Inspections for damage or leakage and decontamination procedures	X	X			
Provision for information to the PIC	X	X		X	
Dangerous goods in passengers baggage	X			X	X
Emergency procedures	X	X	X	X	X

Note: "X" indicates an area to be covered

(4) An operator or owner shall ensure that -

- (a) all staff who require dangerous goods training receive recurrent training at intervals of not longer than 2 years;
- (b) the records of dangerous goods training are maintained for all staff trained in accordance with the provisions of this regulation; and
- (c) staff of handling agents staff are trained in accordance with the applicable column of Table 4 or Table 5.

Security training programmes.

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

- (a) determination of the seriousness of any occurrence;
- (b) crew communication and coordination;
- (c) appropriate self-defence responses;
- (d) use of non-lethal protective devices assigned to crew members whose use is authorized by the State of the Operator;
- (e) understanding of 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) raft 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

174. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person 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 AOC holder shall ensure that all crew members have crew resource management training as part of their initial and recurrent training requirements.

(3) A crew resource management training program shall include

- (a) an initial indoctrination or awareness segment;
- (b) a method to provide recurrent practice and feedback; and
- (c) a method of providing continuing reinforcement.

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

- (a) communications processes and decision behaviour;
- (b) internal and external influences on interpersonal communications;
- (c) barriers to communication;
- (d) listening skills;
- (e) decision making skills;
- (f) effective briefings;
- (g) developing open communications;
- (h) inquiry, advocacy, and assertion training;
- (i) crew self-critique;
- (j) conflict resolution;
- (k) team building and maintenance;
- (l) leadership and fellowship training;
- (m) interpersonal relationships;
- (n) workload management;

- (o) situational awareness;
- (p) how to prepare, plan and monitor task completions;
- (q) workload distribution;
- (r) distraction avoidance;
- (s) individual factors; and
- (t) stress reduction.

Initial emergency equipment drills.

175. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a crew member unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crew member position approved by the Authority for the emergency equipment available on the aircraft to be operated.

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

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

- (a) protective breathing equipment or fire-fighting drill-
 - (i) locate the source of fire or smoke for an actual or simulated fire;
 - (ii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about the fire situation;
 - (iii) don and activate installed protective breathing equipment or approved protective breathing equipment simulation device;
 - (iv) manoeuvre in limited space with reduced visibility;
 - (v) effectively use the communication system of the aircraft; (vi) identify the class of fire;
 - (vii) select the appropriate extinguisher;
 - (viii) properly remove the extinguisher from the securing device;
 - (ix) prepare, operate and discharge the extinguisher properly; and
 - (x) utilise the correct fire-fighting techniques for the type of fire;
- (b) emergency evacuation drill-
 - (i) recognise and evaluate an emergency;
 - (ii) assume the appropriate protective position;

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

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

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

(a) emergency exit drill-

- (i) correctly pre-flight each type of emergency exit and evacuation slide or slide raft, if part of the assigned duties of the cabin crew member;
- (ii) disarm and open each type of door exit in normal mode;
- (iii) close each type of door exit in normal mode;
- (iv) arm each type of door exit in emergency mode;
- (v) open each type of door exit in emergency mode;
- (vi) use the manual slide inflation system to accomplish or ensure slide or slide raft inflation;
- (vii) open each type of window exit; and
- (viii) remove the escape rope and position it for use;

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

- (i) pre-flight each type of hand fire extinguisher:

- (ii) locate the source of fire or smoke and identify class of fire;
- (iii) select the appropriate extinguisher and remove from securing device;
- (iv) prepare the extinguisher for use;
- (v) actually operate and discharge each type of installed hand fire extinguisher;
- (vi) utilise correct fire-fighting techniques for the type of fire; and
- (vii) implement procedures for effective crew coordination and communication, including notification of crew members about the type of fire situation;

(c) emergency oxygen system drill-

- (i) actually operate portable oxygen bottles, including masks and tubing;
- (ii) verbally demonstrate operation of chemical oxygen generators;
- (iii) prepare for use and properly operate an oxygen device, including donning and activation;
- (iv) administer oxygen to self, passengers and to persons with special oxygen needs;
- (v) utilise proper procedures for effective crew coordination and communication;
- (vi) activate protective breathing equipment;
- (vii) manually open each type of oxygen mask compartment and deploy oxygen masks;
- (viii) identify compartments with extra oxygen masks;
- (ix) implement immediate action decompression procedures; and
- (x) reset the oxygen system, if applicable;

(d) flotation device drill-

- (i) don and inflate life vests;
- (ii) remove and use flotation seat cushions; and
- (iii) demonstrate swimming techniques using a seat cushion;

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

- (i) implement crew coordination procedures, including a briefing with the captain to obtain pertinent ditching information and briefing cabin crew members;
- (ii) coordinate time-frame for cabin and passenger preparation;
- (iii) adequately brief passengers on ditching procedures;

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

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

(c) slide and slide raft deployment, inflation, and detachment drill-

- (i) engage slide girt bar in floor brackets;
- (ii) inflate slides with and without quick-release handle, manually and automatically;
- (iii) disconnect slide from aircraft for use as a flotation device;
- (iv) arm slide rafts for automatic inflation; and
- (v) disconnect slide raft from the aircraft;

(d) emergency evacuation slide drill-

- (i) open armed exit with slide or slide raft deployment and inflation; and
- (ii) egress from aircraft via the evacuation slide and run away to a safe distance.

Initial aircraft ground training: flight crew.

176. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a flight crew member unless that person has completed the initial ground training approved by the Authority for the aircraft type.

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

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

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

- (a) dispatch, flight release or operational control or flight following procedures of the AOC holder;
- (b) principles and methods for determining mass and balance and runway limitations for take-off;
- (c) adverse weather recognition and avoidance and flight procedures which shall be followed when operating in the following conditions-
 - (i) icing;
 - (ii) fog;
 - (iii) turbulence;
 - (iv) heavy precipitation;
 - (v) thunderstorms;

- (vi) low-level wind shear and microburst; and
- (vii) low visibility;
- (d) normal and emergency communications procedures and navigation equipment including the communications procedures and air traffic control (ATC) clearance requirements of the AOC holder;
- (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;
- (h) aircraft performance characteristics during all flight regimes, including-
 - (i) the use of charts, tables, tabulated data and other related manual information;
 - (ii) normal, abnormal and emergency performance problems;
 - (iii) meteorological and weight limiting performance factors, such as temperature, pressure, contaminated runways, precipitation, climb and runway limits;
 - (iv) inoperative equipment performance limiting factors, such as minimum equipment list or configuration deviation list, inoperative antiskid; and
 - (v) special operational conditions, such as unpaved runways, high altitude aerodromes and drift down requirements.

(5) An AOC holder shall have an initial aircraft ground training curriculum for the flight crew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft systems-

- (a) aircraft-
 - (i) aircraft dimensions, turning radius, panel layouts, cockpit and cabin configurations; and
 - (ii) other major systems and components or appliances of the aircraft;
- (b) powerplants-
 - (i) basic engine description;
 - (ii) engine thrust ratings; and
 - (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, auxiliary power unit generator, and external power;

- (ii) electrical buses;
- (iii) circuit breakers;
- (iv) aircraft battery; and
- (v) standby power systems;
- (d) hydraulic-
 - (i) hydraulic reservoirs, pumps, accumulators, filters, check valves, interconnects and actuators; and
 - (ii) other hydraulically operated components;
- (e) fuel-
 - (i) fuel tanks, including location and quantities;
 - (ii) engine driven pumps;
 - (iii) boost pumps;
 - (iv) system valves and cross feeds;
 - (v) quantity indicators; and
 - (vi) provisions for fuel jettisoning;
- (f) pneumatic-
 - (i) bleed air sources, auxiliary power unit or external ground air; and
 - (ii) means of routing, venting and controlling bleed air via valves, ducts, chambers and temperature and pressure limiting devices;
- (g) air conditioning and pressurization-
 - (i) heaters, air conditioning packs, fans and other environmental control devices;
 - (ii) pressurisation system components such as outflow and negative pressure relief valves; and
 - (iii) automatic, standby and manual pressurisation controls and annunciations;
- (h) flight controls-
 - (i) primary controls, including yaw, pitch and roll devices;
 - (ii) secondary controls, including leading or trailing edge devices, flaps, trim and damping mechanisms;
 - (iii) means of actuation, whether direct or indirect or fly by wire; and
 - (iv) redundancy devices;

- (i) landing gear-
 - (i) landing gear extension and retraction mechanism including the operating sequence of struts, doors and locking devices and brake and antiskid systems, if applicable;
 - (ii) steering, including nose or body steering gear;
 - (iii) bogie arrangements;
 - (iv) air or ground sensor relays; and
 - (v) visual down lock indicators;
- (j) ice and rain protection-
 - (i) rain removal systems; and
 - (ii) anti-icing or de-icing systems affecting flight controls, engines, pitot static probes, fluid outlets, cockpit windows and aircraft structures;
- (k) equipment and furnishings-
 - (i) exits;
 - (ii) galleys;
 - (iii) water and waste systems;
 - (iv) lavatories;
 - (v) cargo areas;
 - (vi) crew member and passenger seats;
 - (vii) bulkheads;
 - (viii) seating and cargo configurations; and
 - (ix) non-emergency equipment and furnishings;
- (l) navigation equipment-
 - (i) flight directors;
 - (ii) horizontal situation indicator;
 - (iii) radio magnetic indicator;
 - (iv) navigation receivers such as global positioning system, automatic direction finder (ADF), very high frequency omni-directional radio range (VOR), OMEGA, long range navigation (LORAN-C), area navigation (RNAV), marker beacon, distance measuring equipment (DME);

- (v) inertial systems such as inertia navigation system (INS) and inertia reference (IRS);
 - (vi) functional displays;
 - (vii) fault indications and comparator systems;
 - (viii) aircraft transponders;
 - (ix) radio altimeters;
 - (x) weather radar; and
 - (xi) cathode ray tube or computer generated displays of aircraft position and navigation information;
- (m) auto flight system-
- (i) autopilot;
 - (ii) auto throttles;
 - (iii) flight director and navigation systems;
 - (iv) automatic approach tracking;
 - (v) auto land; and
 - (vi) automatic fuel and performance management systems;
- (n) flight instruments-
- (i) panel arrangement;
 - (ii) flight instruments, including attitude indicator, directional gyro, magnetic compass, airspeed indicator, vertical speed indicator, altimeters, standby instruments; and
 - (iii) instrument power sources, and instrument sensory sources, such as pilot static pressure;
- (o) display systems-
- (i) weather radar; and
 - (ii) other cathode ray tube displays, such as checklist, vertical navigation or longitudinal navigation displays;
- (p) communication equipment-
- (i) very high frequency or high frequency radios;
 - (ii) audio panels;
 - (iii) in-flight interphone and passenger address systems;

- (iv) voice recorder; and
- (v) aircraft communication addressing and reporting system (ACARS);
- (q) warning systems-
 - (i) aural, visual and tactile warning systems, including the character and degree of urgency related to each signal; and
 - (ii) warning and caution annunciator systems, including ground proximity and take-off warning systems;
- (r) fire protection-
 - (i) fire and overheat sensors, loops, modules or other means of providing visual or aural indications of fire or overheat detection;
 - (ii) procedures for the use of fire handles, automatic extinguishing systems and extinguishing agents; and
 - (iii) power sources necessary to provide protection for fire and overheat conditions in engines, auxiliary power unit, cargo bay or wheel well, cockpit, cabin and lavatories;
- (s) oxygen-
 - (i) passenger, crew and portable oxygen supply systems;
 - (ii) sources of oxygen such as gaseous or solid;
 - (iii) flow and distribution networks;
 - (iv) automatic deployment systems;
 - (v) regulators, pressure levels and gauges; and
 - (vi) servicing requirements;
- (t) lighting-
 - (i) cockpit, cabin, and external lighting systems;
 - (ii) power sources;
 - (iii) switch positions; and
 - (iv) spare light bulb locations;
- (u) emergency equipment-
 - (i) fire and oxygen bottles;
 - (ii) first aid kits;
 - (iii) life rafts and life preservers;

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- (iv) crash axes;
 - (v) emergency exits and lights;
 - (vi) slides and slide rafts;
 - (vii) escape straps or handles; and
 - (viii) hatches, ladders and movable stairs;
- (v) auxiliary power unit-
- (i) electric and bleed air capabilities;
 - (ii) interfaces with electrical and pneumatic systems;
 - (iii) inlet doors and exhaust ducts; and
 - (iv) fuel supply.

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

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

(e) cockpit familiarization-

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

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

Initial aircraft ground training: cabin crew

177. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a cabin crew member unless that person has completed the initial ground training approved by the Authority for aircraft type.

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

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

(a) aircraft familiarization-

- (i) aircraft characteristics and description;
- (ii) cockpit configuration;
- (iii) cabin configuration;
- (iv) galleys;
- (v) lavatories; and
- (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; and
- (vii) aircraft placards;

(c) aircraft systems-

- (i) air conditioning and pressurization system;
- (ii) aircraft communication systems (call, interphone and passenger address);
- (iii) lighting and electrical systems;
- (iv) oxygen systems (flight crew, observer and passenger); and
- (v) water system;

(d) aircraft exits-

- (i) general information;
- (ii) exits with slides or slide rafts for pre-flight and normal operation;
- (iii) exits without slides pre-flight and normal operations; and
- (iv) window exits;

(e) crew member communication and coordination-

- (i) authority of pilot in command;
- (ii) routine communication signals and procedures; and
- (iii) crew member briefing;

(f) routine crew member duties and procedures-

- (i) crew member general responsibilities;
- (ii) reporting duties and procedures for specific aircraft;
- (iii) pre-departure duties and procedures prior to passenger boarding;
- (iv) passenger boarding duties and procedures; (v) prior-to-movement-on-the-surface duties and procedures;
- (vi) prior-to-take-off duties and procedures applicable to specific aircraft;
- (vii) in-flight duties and procedures;
- (viii) prior-to-landing duties and procedures;
- (ix) movement on the surface and arrival duties and procedures;
- (x) after-arrival duties and procedures; and
- (xi) intermediate stops;

(g) passenger handling responsibilities-

- (i) crew member general responsibilities;
- (ii) infants, children and unaccompanied minors;
- (iii) passengers needing special assistance;
- (iv) passengers needing special accommodation;
- (v) carry-on stowage requirements;
- (vi) passenger seating requirements;
- (vii) smoking and no-smoking requirements ;and
- (viii) approved crew resource management training.

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

(a) emergency equipment

- (i) emergency communication and notification systems;
- (ii) aircraft exits;
- (iii) exits with slides or slide rafts, emergency operation;
- (iv) slides and slide rafts in a ditching;
- (v) exits without slides emergency operation;
- (vi) window exits emergency operation;
- (vii) exits with tail-cones (emergency operation);
- (viii) cockpit exits emergency operation;
- (ix) ground evacuation and ditching equipment;
- (x) first-aid equipment;
- (xi) portable oxygen systems, oxygen bottles, chemical oxygen generators, protective breathing equipment;
- (xii) fire-fighting equipment;
- (xiii) emergency lighting systems; and
- (xiv) additional emergency equipment;

(b) emergency assignments and procedures-

- (i) general types of emergencies specific to aircraft;

- (ii) emergency communication signals and procedures;
 - (iii) rapid decompression;
 - (iv) insidious decompression and cracked window and pressure seal leaks;
 - (v) fires;
 - (vi) ditching;
 - (vii) ground evacuation;
 - (viii) unwarranted evacuation for example, passenger initiated;
 - (ix) illness or injury;
 - (x) abnormal situations involving passengers or crew members;
 - (xi) unlawful interference;
 - (xii) bomb threat;
 - (xiii) turbulence;
 - (xiv) other unusual situations; and
 - (xv) previous aircraft accidents and incidents;
- (c) aircraft specific emergency drills
- (i) emergency exit drill;
 - (ii) hand fire extinguisher drill;
 - (iii) emergency oxygen system drill;
 - (iv) flotation device drill;
 - (v) ditching drill, if applicable;
 - (vi) life raft removal and inflation drill, if applicable;
 - (vii) slide raft pack transfer drill, if applicable;
 - (ix) slide or slide raft deployment, inflation and
 - (x) detachment drill, if applicable; and
 - (ix) emergency evacuation slide drill, if applicable.

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

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

- (a) multi-engine turbine: 32 hours; and
- (b) multi-engine reciprocating: 16 hours.

Competence checks: cabin crew members.

178. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a cabin crew member unless, within the preceding 12 months before that service, that person has passed the competency check approved by the Authority performing the emergency duties appropriate to the assignment of the person.

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

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

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

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

- (i) aircraft exits;
- (ii) exits with slides or slide rafts (emergency operation);
- (iii) slides and slide rafts in a ditching;
- (iv) exits without slides (emergency operation);
- (v) window exits (emergency operation);
- (vi) exits with tail cones (emergency operation);
- (vii) cockpit exits (emergency operation);
- (viii) ground evacuation and ditching equipment;
- (ix) first-aid equipment;
- (x) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
- (xi) fire-fighting equipment;
- (xii) emergency lighting systems; and
- (xiii) additional emergency equipment;

(b) emergency procedures-

- (i) general types of emergencies specific to aircraft; emergency communication signals and procedures;

- (ii) rapid decompression;
 - (iii) insidious decompression and cracked window and pressure seal leaks;
 - (iv) fires;
 - (v) ditching;
 - (vi) ground evacuation;
 - (vii) unwarranted evacuation, for example that is passenger initiated;
 - (viii) illness or injury;
 - (ix) abnormal situations involving passengers or crew members;
 - (x) turbulence; and
 - (xi) other unusual situations;
- (c) emergency drills-
- (i) location and use of all emergency and safety equipment carried on the aircraft;
 - (ii) the location and use of all types of exits;
 - (iii) actual donning of a lifejacket where fitted;
 - (iv) actual donning of protective breathing equipment; and
 - (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; and
 - (iv) workload management;
- (e) dangerous goods-
- (i) recognition of and transportation of dangerous goods;
 - (ii) proper packaging, marking, and documentation; and
 - (iii) instructions regarding compatibility, loading, storage and handling characteristics;
- (f) security-
- (i) unlawful interference; and

- (ii) disruptive passengers.

Initial training: flight operations officer

179. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a flight operations officer unless that person has completed the initial training approved by the Authority.

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

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

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

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

- (a) general operating characteristics of the aircraft of the AOC;
- (b) aircraft specific training with emphasis on the following topics-
 - (i) aircraft operating and performance characteristics;
 - (ii) navigation equipment;
 - (iii) instrument approach and communications equipment; and

(iv) emergency equipment.

(c) flight manual training; and

(d) equipment training.

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

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

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

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

Initial flight training: flight crew member

180. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a flight crew member unless that person has completed the initial flight training approved by the Authority for the aircraft type.

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

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

(4) Flight training may be conducted in an appropriate aircraft or adequate synthetic flight trainer having landing capability and qualified for training or checking on circling manoeuvres.

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

(a) preparation-

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

(ii) pre-taxi procedures; and

(iii) performance limitations;

(b) surface operation-

(i) pushback;

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

(iii) starting;

(iv) taxi; and

(v) pre-take-off checks;

(c) take-off-

- (i) normal;
- (ii) crosswind;
- (iii) rejected;
- (iv) power failure after v_1 ; and
- (v) lower than standard minimum, if applicable to type of operation to be conducted;

(d) climb-

- (i) normal; and
- (ii) one-engine inoperative during climb to en route altitude;

(e) en-route-

- (i) steep turns;
- (ii) approaches to stalls (take-off, en route and landing configurations);
- (iii) in-flight powerplant shutdown;
- (iv) in-flight powerplant restart; and
- (v) high speed handling characteristics;

(f) descent-

- (i) normal; and
- (ii) maximum rate;

(g) approaches-

- (i) visual flight rules (VFR) procedures;
- (ii) visual approach with 50% loss of power on one-engine (2 engines inoperative on 3-engine aircraft for PIC only);
- (iii) visual approach with slat or flap malfunction;
- (iv) instrument flight rules (IFR) precision approaches such as instrument landing system normal and instrument landing system with one-engine inoperative;
- (v) IFR non-precision approaches non-directional radio beacon (NDB) normal and VHF omni-directional radio range beacon (VOR) normal;

- (vi) non-precision approach with one engine inoperative (localizer back course procedures, simplified directional facility (SDF) or localizer type directional aid, a global positioning system, tactical air navigation system (TACAN) and circling approach procedures);
 - (vi) missed approach from precision approach;
 - (vii) missed approach from non-precision approach; and
 - (ix) missed approach with engine 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 on one side (2 engines inoperative on 3-engine aircraft);
 - (v) normal with flap or slat malfunction;
 - (vi) rejected landings;
 - (vii) crosswind;
 - (viii) manual reversion or degraded control augmentation;
 - (ix) short or soft field small aircraft, land amphibian aircraft only; and
 - (x) glassy or rough water, seaplanes only;
- (i) afterlanding-
- (i) parking;
 - (ii) emergency evacuation; and
 - (iii) docking, mooring and ramping, seaplanes only;
- (j) other flight procedures during any airborne phase-
- (i) holding;
 - (ii) ice accumulation on airframe;
 - (iii) air hazard avoidance; and
 - (iv) wind shear or microburst;
- (k) normal, abnormal and alternate systems procedures during any phase-

- (i) pneumatic or pressurization;
 - (ii) air conditioning;
 - (iii) fuel and oil;
 - (iv) electrical;
 - (v) hydraulic;
 - (vi) flight controls;
 - (vii) anti-icing and de-icing systems;
 - (viii) autopilot;
 - (ix) flight management guidance systems and automatic or other approach and landing aids;
 - (x) stall warning devices, stall avoidance devices, and stability augmentation systems;
 - (xi) airborne weather radar;
 - (xii) flight instrument system malfunction;
 - (xiii) communications equipment; and
 - (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; and
 - (vii) landing gear and flap system malfunction.

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

- (a) training and practice in procedures related to the carrying out of flight engineer duties and functions, where this training and practice may be accomplished either in flight or in a synthetic flight trainer; and
- (b) a proficiency check as specified in regulation 188.

Initial specialized operations training.

181. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a flight crew member unless that person has completed the appropriate initial specialized operations training curriculum approved by the Authority.

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

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

(3) An AOC holder shall provide initial specialized 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 specialized or new equipment, procedures, and techniques, such as-

(a) class II navigation-

- (i) knowledge of specialized navigation procedures, such as required navigation performance (RNP), minimum navigation performance specification (MNPS) and reduced vertical separation minima (RVSM); and

- (ii) knowledge of specialized equipment, such as INS, LORAN, OMEGA;

(b) CAT II and CAT III operations approaches-

- (i) special equipment, procedures and practice; and
- (ii) a demonstration of competency;

(c) lower than standard minimum take-offs-

- (i) runway and lighting requirements;
- (ii) rejected take-offs at or near V1 with a failure of the most critical engine;
- (iii) taxi operations; and
- (iv) procedures to prevent runway incursions under low visibility conditions;

(d) extended range operations with two turbine engine aeroplanes;

(e) airborne radar approaches; and

(f) autopilot instead of co-pilot.

Aircraft differences training.

182. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a crew member on an aircraft of a type for which a differences curriculum is included in

the approved training programme of the AOC holder, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

(2) An operator shall ensure that a crew member completes-

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

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

- (a) operations procedures-
 - (i) operations under adverse weather phenomena conditions, including clear air turbulence, wind shear, and thunderstorms;
 - (ii) mass and balance computations and load control procedures;
 - (iii) aircraft performance computations, to include take-off mass limitations based on departure runway, arrival runway, and en -route limitations, and also engine-out limitations;
 - (iv) flight planning procedures, to include route selection, flight time, and fuel requirements analysis;
 - (v) dispatch release preparation;
 - (vi) crew briefings;
 - (vii) flight monitoring procedures;
 - (viii) flight crew response to various emergency situations, including the assistance the aircraft flight operations officer can provide in each situation;
- (b) minimum equipment list and configuration deviation list procedures;
- (c) manual performance of required procedures in case of the loss of automated capabilities;

- (d) training in appropriate geographic areas;
- (e) air traffic control and instrument flight rules procedures, to include ground hold and central flow control procedures; and
- (f) radiotelephony procedures;
- (g) emergency procedures-
 - (i) actions taken to aid the flight crew; and
 - (ii) AOC holder and Authority notification.

Use of synthetic flight trainers

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

- (a) be specifically approved by the Authority for the-
 - (i) air operator certificate holder;
 - (ii) type aircraft, including type variations, for which the training or check is being conducted; and
 - (iii) particular manoeuvre, procedure or flight crew member function involved;
- (b) maintain the performance, functional and other characteristics that are required for approval;
- (c) be modified to conform with any modification to the aircraft being simulated that results in changes to performance, functional, or other characteristics required for approval;
- (d) be given a daily functional pre-flight check before use;
- (e) have a daily discrepancy logbook kept by the appropriate instructor or check pilot at the end of each training or check flight; and
- (f) for initial aircraft type training, be qualified for training and checking on the circling manoeuvre.

Aircraft and instrument proficiency checks

184. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a pilot flight crew member unless, since the beginning of the sixth calendar month before that service, that person has passed the proficiency check prescribed by the Authority in the make and model of aircraft on which their services are required.

(2) No person shall serve nor shall any AOC holder use a person as a pilot in instrument flight rules operations unless, since the beginning of the sixth calendar month before that service, that pilot has passed the instrument competency check prescribed by the Authority.

(3) A pilot may complete the requirements of sub-regulations (1) and (2) simultaneously in a make and model of the aircraft.

(4) The completion of an approved operator training programme for the particular aircraft type and the satisfactory completion of a pilot in command (PIC) proficiency check, shall satisfy the requirement for an aircraft type rating practical test if the proficiency check includes all manoeuvres and procedures required for a type rating practical test and is conducted by an examiner.

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

TABLE 6—INSTRUMENT PROFICIENCY CHECK

TYPE OF OPERATION OR PROCEDURE	PIC or Co-Pilot	Notes
Ground operations		
Pre-flight inspection	PIC/Co-Pilot	
Taxiing	PIC/Co-Pilot	Both pilots may take simultaneous credit
Powerplant checks	PIC/Co-Pilot	Both pilots may take simultaneous credit
Take-offs		simultaneous credit
Normal	PIC/Co-Pilot	
Instrument	PIC/Co-Pilot	
Crosswind	PIC/Co-Pilot	
With powerplant failure	PIC/Co-Pilot	
Rejected take-off	PIC/Co-Pilot	Both pilots may take simultaneous credit. May be waived
Instrument procedures		
Area departure	PIC/Co-Pilot	May be waived
Area arrival	PIC/Co-Pilot	May be waived
Holding	PIC/Co-Pilot	May be waived
Normal ILS approach	PIC/Co-Pilot	
Engine-out ILS	PIC/Co-Pilot	
Coupled ILS approach	PIC/Co-Pilot	Both pilots may take simultaneous credit
Non precision approach	PIC/Co-Pilot	
Second non precision approach	PIC/Co-Pilot	

TYPE OF OPERATION OR PROCEDURE	PIC or Co-Pilot	Notes
Missed approach from an ILS	PIC/Co-Pilot	
Second missed approach	PIC only	
Circling approach	PIC/Co-Pilot	Only when authorized in the AOC holder's operations manual. May be waived
In-flight manoeuvres		
Steep turns	PIC only	May be waived
Specific flight characteristics	PIC/Co-Pilot	
Approaches to stalls	PIC/Co-Pilot	May be waived
Powerplant failure	PIC/Co-Pilot	
2 engine inoperative approach (3 and 4 engine aircraft)	PIC/Co-Pilot	
Normal landing	PIC/Co-Pilot	
Landing from an ILS	PIC/Co-Pilot	
Cross wing landing	PIC/Co-Pilot	
Landing with engine out	PIC/Co-Pilot	
Landing from circling approach	PIC/Co-Pilot	Only if authorized in operations manual. May be waived
Normal and non-normal procedures	PIC/Co-Pilot	
Rejected landing	PIC/Co-Pilot	
2 engine inoperative landing (3 and 4 engine aircraft)	PIC only	
Other events	PIC or Co-Pilot	Examiner's discretion

(6) An examiner or check pilot may waive certain events on the proficiency check based on an assessment of the demonstrated level of performance of the pilot.

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

(8) When the examiner or check pilot determines that the performance of a pilot is unsatisfactory, the examiner or check pilot may terminate the proficiency immediately.

(9) If the proficiency check has to be terminated for mechanical or other reasons and there are events which still need to be repeated, the examiner or check pilot shall issue a letter of discontinuance, valid for 60 days, listing the specific areas of operation that have been successfully completed.

(10) At least one of the two annual proficiency checks shall be conducted by an examiner; the other proficiency check may be conducted by a check pilot or the Authority.

Introduction of new equipment or procedures.

185. No person shall serve nor shall an air operator certificate (AOC) holder use a person as a flight crew member when that service would require expertise in the use of new equipment or procedures for which a curriculum is included in the approved training programme of the AOC holder, unless that person has satisfactorily completed that curriculum, with respect to both the crew member position and the particular variant of that aircraft.

Pilot qualification : recent experience.

186. (1) An air operator certificate (AOC) holder shall not use any person nor shall a person serve as a required pilot, unless within the preceding 90 days, that person has made at least 3 take-offs and landings in the aircraft type in which that person is to serve.

(2) The take-offs and landings required by sub-regulation (1) may be performed in a visual synthetic flight trainer approved by the Authority to include take-off and landing manoeuvres and any person who fails to make the 3 required take-offs and landings within any consecutive 90 day period shall re-establish recency of experience as provided in sub-regulation (3).

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

- (a) under the supervision of a check pilot, make at least 3 take-offs and landings in the type of aircraft in which that person is to serve or if an advanced synthetic flight trainer is used, the requirements of sub-regulation (4) shall be met;
- (b) the take-offs and landings required in this paragraph shall include-
 - (i) at least one take-off with a simulated failure of the most critical engine;
 - (ii) at least one landing from an instrument landing system approach to the lowest instrument landing system minimum authorized for the certificate holder; and
 - (iii) at least one landing to a full stop.

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

- (a) have previously logged one hundred hours of flight time in the same aircraft type in which the pilot is to serve;
- (b) be observed on the first two landings made in operations under this Part by an approved check pilot who acts as pilot in command and occupies a pilot seat and the landings shall be made in weather minima that are not less than those contained in the operation specifications of the AOC holder for category I operations, and shall be made within 45 days following completion of synthetic flight trainer training.

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

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

Pilot operating limitations and pairing requirements.

187. (1) Where a co-pilot has fewer than 100 hours of flight time as co-pilot in operations in the aircraft type being flown, and the PIC is not an appropriately qualified check pilot, the pilot in command (PIC) shall make all take-offs and landings in the following situations-

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

(2) No person shall conduct operations under the Civil Aviation Authority (Air Operator Certification and Administration) Regulations unless, for that type aircraft, either the PIC or the co-pilot has at least 75 hours of line operating flight time, either as PIC or co-pilot.

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

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

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

Flight engineer proficiency check

188. 1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a flight engineer on an aircraft unless within the preceding 12 calendar months the person has-

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

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

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

- (vi) configuration deviation list (CDL); and
- (vii) emergency or alternate operation of aircraft flight systems.

Competence checks: flight operations officer

189. (1) No person shall serve nor shall any air operator certificate holder use a person as a flight operations officer unless, within the preceding 12 months before that service, that person has passed the competency check, approved by the Authority, performing the flight preparation and subsequent duties appropriate to the assignment of that person.

(2) An evaluator of the flight operations officer referred to under sub-regulation (1) shall conduct competency checks for flight operations officers to demonstrate that the proficiency level of the candidate is sufficient to ensure the successful outcome of all dispatch operations.

(3) An authorized person shall observe and evaluate competency checks for flight operations officers.

(4) Each competency check for flight operations officers shall include-

- (a) an evaluation of all aspects of the dispatch function;
- (b) a demonstration of the knowledge and abilities in normal and abnormal situations; and
- (c) an observation of actual flights being dispatched.

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

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

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

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

(9) A flight operations officer shall not qualify in extended twin engine operations or other special operations authorized by the Authority unless that flight operations officer submits special operations competency checks to the Authority.

Supervised line flying: pilots

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

(2) A PIC transitioning to a new aircraft type shall complete a minimum of 5 flights performing the duties of a PIC under the supervision of a check pilot.

(3) A pilot qualifying for duties other than PIC shall complete a minimum of 5 flights performing those duties under the supervision of a check pilot.

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

(5) In the case of a transitioning PIC, the check pilot serving as PIC may occupy the seat of the observer if the transitioning pilot has made at least 2 take-offs and landings in the type aircraft used, and has satisfactorily demonstrated to the authorized instructor that the pilot is qualified to perform the duties of a PIC for that type of aircraft.

Supervised line flying: flight engineers

191. A flight engineer who has qualified on a new type rating on an aircraft shall perform the functions of a flightengineer for a minimum of 5 flights under the supervision of aflight instructor or qualified flight engineer approved by the AOC holder and accepted by the Authority.

Supervised line experience: cabin crew.

192. A person training as a cabin crew member shall-

- (a) perform the functions of a cabin crew member for a minimum of 2 flights under the supervision of a cabin crew instructor; and
- (b) not serve as a required crew member.

Line observations: flight operations officer.

193. No person shall serve nor shall any holder of an air operators certificate use a person as a flight operations officer unless within the preceding 12 months before that service, that person has observed, in the cockpit, the conduct of two complete flights over routes representative of those for which that person is assigned duties.

Route and area checks: pilot qualification.

194. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a pilot unless, within the preceding 12 months, that person has passed a route check in which the person satisfactorily performed assigned duties in one of the types of aircraft that the person is to fly.

(2) No person shall perform pilot in command (PIC) duties over a designated special operational area that requires a special navigation system or procedures or in ETOPS operations unless the competency of the person with the system and procedures has been demonstrated to the AOC holder within the past 12 months.

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

- (a) the terrain and minimum safe altitudes;
- (b) the seasonal meteorological conditions;
- (d) the search and rescue procedures;

(e) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place.

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

Low minimums authorization: PIC

195. Where a PIC has not completed-

- (a) 5 flights performing pilot in command (PIC) duties in an aircraft type, including 5 approaches to landing using Category I or II operations procedures, that PIC shall not plan for or initiate an instrument approach when the ceiling is less than 300 feet and the visibility is less than 2000 m; and
- (b) 20 flights performing PIC duties in an aircraft including five approaches and landing using category III operations procedures, that PIC shall not plan for or initiate an approach when the ceiling is less than 100 feet or the visibility is less than 400 m runway visual range.

Designated special aerodromes and heliports: PIC qualification.

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

(2) No person shall serve nor shall any air operator certificate (AOC) holder use a person as pilot in command (PIC) for operations at special airport qualifications aerodromes unless within the preceding 12 months the PIC-

- (a) has been qualified by the AOC holder through a pictorial means acceptable to the Authority for that aerodrome or heliport; or
- (b) the assigned co-pilot has made a take-off and landing at that aerodrome or heliport while serving as a flight crew member for the AOC holder.

(3) Designated special airport qualifications aerodrome limitations are not applicable if the operation occurs-

- (a) during daylight hours;
- (b) when the visibility is at least 5 km; and
- (c) when the ceiling at that aerodrome is at least 1,000 feet above the lowest initial approach altitude prescribed for an instrument approach procedure.

Recurrent training and checking: flight crew members

197. (1) An operator shall ensure that-

- (a) a flight crew member undergoes recurrent training listed in sub-regulation (2) and checking in sub-regulation (3) and that all that training and checking is relevant to the type or variant of aircraft on which the flight crew member operates; and

- (b) a recurrent training and checking programme is established in the operations manual and approved by the Authority.

(2) Recurrent training referred to in sub-regulation (1) shall be conducted by the following personnel-

- (a) ground and refresher training - by suitably qualified personnel;
- (b) aeroplane synthetic flight trainer training - by an authorized instructor or in the case of the synthetic flight trainer content schedule, a synthetic flight trainer authorized instructor, if the authorized instructor or synthetic flight trainer authorized instructor satisfied the experience of the operator and knowledge requirements sufficient to instruct on the items specified in the operations manual;
- (c) emergency and safety equipment training-by suitably qualified personnel; and
- (d) crew resource management training-by suitably qualified personnel to integrate elements of crew resource management into all phases of recurrent training;
- (e) modular crew resource management training - by at least one crew resource management trainer acceptable to the Authority who may be assisted by experts in order to address specific areas.

(3) The recurrent checking referred to in sub-regulation (1) shall be conducted by the following personnel-

- (a) operator proficiency check-by a check pilot or flight engineer authorized by the air operator certificate holder and accepted by the Authority, as appropriate or if the check is conducted in a synthetic flight trainer training device, a check pilot or authorized flight engineer as appropriate;
- (b) line checks-by check pilot by the operator and acceptable to the Authority and;
- (c) emergency and safety equipment checking - by suitably qualified personnel.

(4) The period of validity of an operator proficiency check shall be-

- (a) 6 months in addition to the remainder of the month of issue; or
- (b) if issued within the final 3 months of validity of a previous operator proficiency check, extended from the date of issue until 6 months from the expiry date of that previous operator proficiency check.

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

(6) The period of validity of a line check referred to in sub-regulation (5) shall be-

- (a) 2 months, in addition to the remainder of the month of issue; or
- (b) if issued within the final 3 months of validity of a previous line check, extended from the date of issue until 12 months from the expiry date of that previous check.

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

(8) The period of validity of an emergency and safety equipment check referred to in sub-regulation (7) shall be-

(a) twelve months in addition to the remainder of the month of issue; or

(b) if issued within the final three months of validity of a previous emergency and safety check, extended from the date of issue until twelve months from the expiry date of the previous emergency and safety equipment check.

(9) An operator shall ensure that-

(a) elements of crew resource management (CRM) are integrated into all appropriate phases of the recurrent training; and

(b) a flight crew member undergoes specific modular CRM training and all major topics of CRM training shall be covered over a period not exceeding 3 years.

(10) An operator shall ensure that each flight crew member undergoes ground and refresher training at least every 12 months, if the training is conducted within 3 months prior to the expiry of the 12 months period, the next ground and refresher training shall be completed within 12 months of the original expiry date of the previous ground and refresher training.

(11) An operator shall ensure that each flight crew member undergoes aircraft training or synthetic flight trainer training at least every 6 months, if the training is conducted within 3 months prior to the expiry of the 12 months period, the next aircraft or synthetic flight trainer training shall be completed within 6 months of the original expiry date of the previous aircraft or synthetic flight trainer training.

Recurrent training: cabin crew members.

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

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

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

(4) If issued within the final 3 months of validity of a previous check, the period of validity shall extend from the date of issue until 12 months from the expiry date of that previous check.

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

(6) An operator shall ensure that every twelve months, the programme of practical training includes the following-

- (a) emergency procedures including pilot incapacitation;
 - (b) evacuation procedures including crowd control techniques;
 - (c) touch-drills by each cabin crew member for opening normal and emergency exits for passenger evacuation;
 - (d) the location and handling of emergency equipment, including oxygen systems and the donning by each cabin crew member of lifejackets, portable oxygen and protective breathing equipment;
 - (e) first aid and the contents of the first aid kit;
 - (f) stowage of articles in the cabin;
 - (g) security procedures;
 - (h) incident and accident review; and
 - (i) crew resource management.
- (7) An operator shall ensure that, at intervals not exceeding 3 years, recurrent training for cabin crew members also includes-
- (a) the operation and actual opening of all normal and emergency exits for passenger evacuation in an aeroplane or representative training device; and
 - (b) demonstration of the operation of all other exits including cock pit windows;
 - (c) the training of cabin crew members undergoing realistic and practical training in the use of all fire-fighting equipment, including protective clothing, representative of that carried in the aeroplane shall include-
 - (i) each cabin crew member extinguishing a fire characteristic of an aeroplane interior fire except that, in the case of halogen extinguishers, an alternative extinguishing agent may be used; and
 - (ii) the donning and use of protective breathing equipment by each cabin crew member in an enclosed, simulated smoke-filled environment.
 - (d) use of pyrotechnics, actual or representative devices; and
 - (e) demonstration of the use of the life-raft, or slide-raft, where fitted.
- (8) An operator shall ensure that all appropriate requirements in these Regulations are included in the training of cabin crew members.

Recurrent training: flight operations officers.

199. (1) No person shall serve nor shall an air operator certificate (AOC) holder use a person as a flight operations officer unless within the preceding 12 months that person has completed the recurrent ground curricula approved by the Authority.

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

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

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

(5) An AOC holder shall ensure that, every 12 months, each flight operations officer receive recurrent training in at least the following-

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

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

Check pilot training.

200. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a check pilot in an aircraft or check pilot in a synthetic flight trainer in a training programme unless, with respect to the aircraft type involved, that person has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as pilot in command.

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

- (a) check pilot duties, functions, and responsibilities;
- (b) applicable regulations and the policies and procedures of the AOC holder;
- (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) Transition ground training for all check pilots shall include the approved methods, procedures and limitations for performing the required normal, abnormal and emergency procedures applicable to the aircraft to which the check pilot is in transition.

(4) An AOC holder shall ensure that the initial and transition flight training for check pilots in an aircraft includes-

- (a) training and practice in conducting flight evaluations, from the left and right pilot seats for pilot check pilots in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight checks;
 - (b) the potential results of improper, untimely or non-execution of safety measures during an evaluation; and
 - (c) the safety measures, to be taken from either pilot seat for pilot check pilots for emergency situations that are likely to develop during an evaluation.
- (5) An AOC holder shall ensure that the initial and transition flight training for check pilots in a synthetic flight trainer includes-
- (a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by this regulation; and
 - (b) training in the operation of synthetic flight trainers to ensure competence to conduct the evaluations required by this regulation.
- (6) An AOC holder shall accomplish flight training for check pilot in full or in part in an aircraft, in flight in a synthetic flight trainer, as appropriate.

Authorized instructor or synthetic flight trainer and authorized instructor training

201. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as an authorized instructor or a synthetic flight trainer authorized instructor in a training programme unless-

- (a) that person has satisfactorily completed initial or transition authorized instructor or a synthetic flight trainer authorized instructor training, as appropriate; and
- (b) within the preceding 24 months, that person satisfactorily conducts instruction under the observation of an authorized person, a check pilot of an AOC holder, an authorized flight engineer, as appropriate or an examiner employed by the AOC holder.

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

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

- (a) the duties, functions and responsibilities;
- (b) applicable regulations and the policies and procedures of the AOC holder;
- (c) appropriate methods, procedures and techniques for conducting the required checks;
- (d) proper evaluation of trainee performance including the detection of improper and insufficient training, and personal characteristics of an applicant that could adversely affect safety;
- (e) appropriate corrective action in the case of unsatisfactory checks;

- (f) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aircraft;
- (g) except for holders of a flight instructor licence-
 - (i) the fundamental principles of the teaching-learning process;
 - (ii) teaching methods and procedures; and
 - (iii) the instructor-trainee relationship.

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

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

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

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

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

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

Authorized instructor qualifications

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

- (i) holds a licence and rating required to serve as a pilot in command (PIC) or a flight engineer, as applicable;
- (ii) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a PIC or a flight engineer, as applicable;
- (iii) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a PIC or a flight engineer, as applicable;
- (iv) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check; and
- (v) holds a class 1 medical certificate.

Check pilot and authorized flight engineer qualifications.

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

- (a) holds the pilot licences and ratings required to serve as a PIC or a flight engineer as applicable;
- (b) has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training, that are required to serve as a pilot in command (PIC) or a flight engineer as applicable;
- (c) has satisfactorily completed the appropriate proficiency, competency and recency of experience checks that are required to serve as a PIC or a flight engineer as applicable;
- (d) has satisfactorily completed the applicable initial or transitional training requirements and the Authority-observed in-flight competency check;
- (e) holds class I or II medical certificate as may be applicable; and has been approved by the Authority for the check pilot or authorized flight engineer duties involved as applicable.

Check pilot authorizations and limitations

204. No person shall serve nor shall any air operator certificate (AOC) holder use a person as a check pilot for any flight check unless that person has been designated by name for specified function by the Authority within the preceding 12 months.

Check pilot designation

205. (1) No person shall serve nor shall any air operator certificate (AOC) holder use a person as a check pilot for any check-

- (a) in an aircraft as a required pilot flight crew member, unless that person holds the required pilot licence and ratings and has completed for the AOC holder all applicable training, qualification and currency requirements under these Regulations applicable to the crew position and the flight operations being checked;

- (b) in an aircraft as an observer check pilot, unless that person holds the pilot licences and ratings and has completed all applicable training, qualification and line observation requirements under these Regulations applicable to the position and the flight operations being checked; or
 - (c) in a synthetic flight trainer unless that person has completed or observed with the AOC holder all training, qualification and line observation requirements under these Regulations applicable to the position and flight operations being checked.
- (2) For purposes of sub-regulation (1), a check pilot is authorized to-
- (a) conduct proficiency or competency checks, line checks and special qualification checks;
 - (b) supervise the re-establishment of landing currency; and
 - (c) supervise any initial operating experience requirements prescribed by the Regulations or the Authority.

Synthetic flight trainer approval.

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

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

Line qualification: check pilot and instructor.

207. No person shall serve nor shall any air operator certificate holder use a person as a check pilot or synthetic flight trainer instructor unless, within the preceding 12 months before that service, that person has-

- (a) flown at least 5 flights as a required crew member for the type of aircraft involved;
or
- (b) observed, in the cockpit, the conduct of 2 complete flights in the aircraft type to which the person is assigned.

Termination of proficiency, competence or line check.

208. An air operator certificate holder shall not use a crew member or flight operations officer whose check was terminated in commercial air transport operations until the completion of a satisfactory recheck of that crew member or flight operations officer has been carried out.

Recording of crew member qualifications

209. (1) The air operator certificate holder shall record and maintain for each crew member and flight operations officer, a record of each test and check as required by these Regulations.

(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.

Monitoring of training and checking activities.

210. (1) To enable adequate supervision of its training and checking activities, an air operator certificate (AOC) holder shall forward to the Authority at least 5 working days prior to the scheduled activity, the dates, location, reporting times and report of all-

- (a) training for which a curriculum is approved in the training programme of the AOC holder; and
- (b) proficiency, competence and line checks.

(2) Failure to provide the information required by sub-regulation (1) may invalidate the training or check and the Authority may require that it be repeated for observation purposes.

Eligibility period.

211. (1) A crew member who is required to take a proficiency check, a test or competency check or recurrent training to maintain qualification for commercial air transport operations shall complete those requirements at any time during the eligibility period.

(2) The eligibility period is defined as the 3 month period including the month prior, the month due and the month after any due date specified by these Regulations.

(3) Completion of the requirement at any time during the period shall be considered as completed in the month due for calculation of the next due date.

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

FATIGUE OF CREW

Application, interpretation and modification.

212. (1) This Part shall apply to an aircraft registered in Swaziland which is

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

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

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

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

“duty period” in relation to any person who flies in an aircraft as a member of the flight crew, means any continuous period throughout which the person, under the provisions of sub-

regulation (4) or (5), to be treated as being on duty and if two or more periods which are separated by an interval of less than 10 hours, the period starting when the first of those duty periods began and finishing when the last of them ended shall be treated as constituting a single continuous duty period; and

“rest period” in relation to any person, means any continuous period no part of which forms part of a duty period of that person.

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

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

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

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

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

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

213. (1) Notwithstanding regulation 214 and for the purposes of ensuring that the requirements of these provisions are complied with, every operator of an aircraft to which this regulation applies shall establish for every person flying in that aircraft as a crew member-

- (a) limits on the aggregate of all that persons flight times during every period of 28 consecutive days;
- (b) limits on the flight duty period of that person; and
- (c) minimum rest periods which that person is to have immediately before any duty period in the course of which he or she makes any flight.

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

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

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

(4) No limits or minimum rest periods may be established under sub-regulation (1) which would require or permit any person to fly in any aircraft at a time when such flying would constitute a contravention of any of the provisions of regulations 208, 209 and 211 or would require or permit any person to fly in any aircraft as a crew member of the aircraft within the period of one hour immediately preceding the end of the specified time referred to in regulation 208(2) or when the specified time is 24 hours, within the period of 2 hours immediately preceding the end of the specified time.

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

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

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

(8) The discretion in sub-regulation (7) shall not be exercised unless-

(a) it appears to the PIC-

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

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

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

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

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

Maximum flight duty periods for crew member.

214. (1) No person shall fly in an aircraft to which this regulation applies as a crew member in the course of any duty period of that person after more than the specified time has elapsed since the beginning of that duty period.

(2) In this regulation "specified time" means in relation to a pilot, whenever sub-regulation (4) does not apply, 11 hours; except that, if during the duty period there has been a period of not less than 5 continuous hours throughout which that person has not flown in any aircraft to which this regulation applies or performed any duties, this sub-regulation shall have effect as if 12 hours were substituted for 11 hours.

(3) In relation to a person who, at all times when that person flies as a pilot in the course of duty period, is one of two or more persons carried as pilots of an aircraft undertaking-

- (a) an international flight or service - 15 hours;
- (b) a flight within Swaziland - 12 hours; except that if during the duty period there has been a period of not less than 5 continuous hours throughout which that person has not flown in any aircraft to which this regulation applies or performed any duties, this paragraph shall have effect as if 15 hours were substituted for 12 hours and 20 hours were substituted for 15 hours if that person is one of three or more persons carried as pilots of the aircraft and the following conditions are fulfilled-
 - (i) at least 2 of the pilots are qualified to act as pilot in command in the circumstances both by their respective licences and in accordance with the requirements of regulation 33 (except in respect of their knowledge of the aerodromes of take-off and landing and any alternate aerodromes);
 - (ii) at least one of the pilots is carried in addition to the flight crew members who are required to be carried in the circumstances by or under these Regulations;
 - (iii) one suitable bunk is always available for the use only of pilots; and
 - (iv) each of the pilots has, during the duty period, been afforded opportunities of resting for a reasonable time.

(4) In relation to a flight engineer-15 hours; except that this sub-regulation shall have effect as if 24 hours were substituted for 15 hours in relation to a person who, at all times when that person flies as a flight engineer in the course of their duty period, is one of two or more persons carried as flight engineers of the aircraft, if the following conditions are fulfilled-

- (a) at least one of the flight engineers is carried in addition to the crew members who are required to be carried in the circumstances by or under these Regulations;
- (b) one suitable bunk is always available for the use only of flight engineers; and
- (c) each of the flight engineers has, during the duty period, been afforded opportunities of resting for a reasonable time.

(5) In relation to a cabin crew - 15 hours which shall apply to cabin crew members as it applies to flight engineers.

(6) The maximum total hours associated with the duty periods undertaken by any crew member shall not exceed 160 hours during any period of 28 days; except that whenever a crew member exceeds 120 hours "non-flying time", that member shall not, because of this, be disqualified from further flying duties providing all other requirements are met.

Minimum rest periods

215. (1) Notwithstanding regulation 213 no person shall fly in an aircraft to which this regulation applies as a crew member unless immediately before the duty period in the course of which that person makes that flight, the person has had a sufficient rest period as set out in Table 4.

TABLE 7 - MINIMUM REST PERIODS FOR FLIGHT CREW.

Length of immediately preceding duty	Minimum length of sufficient rest period
Not exceeding 10 hours	11 hours
Exceeding 10 but not exceeding 11 hours	12 hours
Exceeding 11 but not exceeding 12 hours	13 hours
Exceeding 12 but not exceeding 13 hours	14 hours
Exceeding 13 but not exceeding 14 hours	15 hours
Exceeding 14 but not exceeding 15 hours	16 hours
Exceeding 15 but not exceeding 16 hours	17 hours
Exceeding 16 but not exceeding 17 hours	19 hours
Exceeding 17 but not exceeding 18 hours	21 hours
Exceeding 18 but not exceeding 19 hours	23 hours
Exceeding 19 but not exceeding 20 hours	25 hours
Exceeding 20 but not exceeding 21 hours	27 hours
Exceeding 21 but not exceeding 22 hours	29 hours
Exceeding 22 but not exceeding 23 hours	31 hours
Exceeding 23 hours	33 hours

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

TABLE 8 - MINIMUM REST PERIOD: DISTANCE NOT WITHIN 50 MILES OF PLACE OF RESIDENCE

Length of immediately preceding duty period	Minimum length of sufficient rest period
Exceeding 10 but not exceeding 11 hours	10 hours
Exceeding 11 but not exceeding 12 hours	12 hours
Exceeding 12 but not exceeding 14 hours	13 hours
Exceeding 14 but not exceeding 17 hours	15 hours

Length of immediately preceding duty period	Minimum length of sufficient rest period
Exceeding 17 but not exceeding 20 hours	16 hours
Exceeding 20 but not exceeding 23 hours	17 hours
Exceeding 23 hours	18 hours

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

Duty and rest periods for flight operations officers

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

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

Records of flight times and duty periods.

217. (1) An operator of an aircraft to which this regulation applies shall not cause or permit any person to fly as a crew member unless the operator has in possession an accurate and up-to-date record maintained by that operator or by another operator of aircraft in respect of that person and in respect of the 28 days immediately preceding the flight showing-

- (a) the times of the beginning and end of each flight in any aircraft made by that person as a crew member in the course of any of the duty periods;
- (b) the times of the beginning and end of each duty period of that person in the course of which the person made a flight as a crew member;
- (c) the times of the beginning and end of each duty period of that person ending within a period of 72 hours immediately preceding the beginning of any duty period of that person in the course of which he or she made a flight in any aircraft as a crew member; and
- (d) brief particulars of the nature of the work or other duties carried out by that person during each of the duty periods of the crew member of which a record is required to be kept under this sub-regulation.

(2) The Authority may notify the form and manner in which any records required to be kept under sub-regulation (1) shall be kept and, where the Authority has so notified, the records shall be kept accordingly.

(3) Subject to regulation 12, an operator of an aircraft shall preserve the records referred to in this regulation for a period of at least 6 months after the end of the flight duty period or rest period to which they relate.

Maximum flight times or crew member.

218. (1) No person shall fly in any aircraft registered in Swaziland as a crew member at any time on any day after the aggregate of all the flight times of that person, whether arising from flight in an aircraft to which this regulation applies or in any other aircraft, during the period of 28 consecutive days expiring at the end of that day amounts to 105 hours or more.

(2) The prohibition referred to in sub-regulation (1) shall not apply-

- (a) to a flight made in an aircraft of which the maximum total weight authorized does not exceed 1,600 kg and which is not flying for the purpose of commercial air transport or aerial work; or
- (b) to a flight made in an aircraft not flying for the purpose of commercial air transport but excluding aerial work if at the time of the flight the aggregate of all the flight times of the person making the flight since the person was last medically examined under these Regulations and found fit does not exceed 105 hours.

Provision for particular cases

219. (1) Notwithstanding anything contained in regulations 208, 209 and 211, a person shall be deemed not to have contravened any of the provisions of these Regulations by reason of a flight made at any time by that person or by another person if the first mentioned person proves that-

- (a) it was due to an unavoidable delay in the completion of the flight that the person so flying was flying at that time; and
- (b) the first mentioned person could not reasonably be expected to have foreseen before the flight began that the delay was likely to occur.

(2) Notwithstanding regulation 241(2) and anything contained in regulation 208, 209 and 211, the pilot in command (PIC) of an aircraft may make, or authorize any other person to make, and that other person if so authorized may make, a flight in that aircraft which the person would, but for this sub-regulation, be prohibited from making by virtue of any provision contained in the regulations 208, 209 and 211, if-

(a) it appears to the PIC-

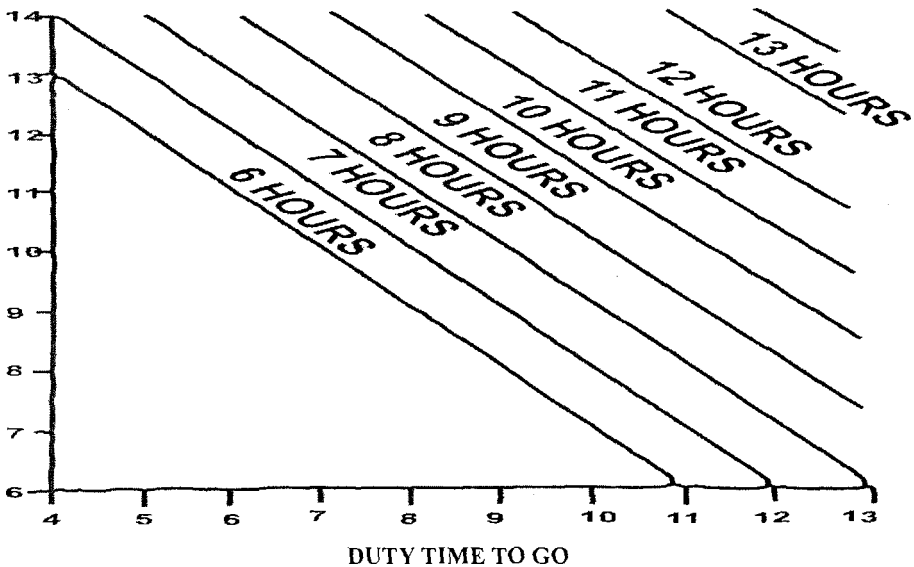
- (i) that arrangements had been made for the flight to be made with such a crew member and so as to begin and end at such times that no crew member would have been prohibited from making the flight in accordance with those arrangements by any provision contained in regulations 208, 209 and 211, and that since those arrangements were made the flight has been or will be prevented from being in accordance with those arrangements by reason of circumstances which were not foreseen as likely to prevent that flight from being so made; or
 - (ii) that the flight is one which ought to be carried out in the interest of the safety or health of any person; and
- (b) the PIC is satisfied that the safety of the aircraft on that flight will not be endangered if the PIC or that other person makes that flight.

(3) Where the PIC or any other person makes a flight in an aircraft which the PIC or that other person is permitted to make under sub-regulation (2), a report in writing that the PIC or that other person has made that flight, giving full particulars of the circumstances in which it was made and the reasons why the PIC made that flight or authorized that other person to do so, shall be made as soon as is reasonably practicable by the PIC to the operator of the aircraft and in any event by the operator to the Authority; and the operator and the PIC shall furnish any authority with any further information in the possession of the PIC relating to the flight and to the circumstances in which it was made as the Authority may require.

(4) Notwithstanding regulations 208, 209, 210, 211 and this regulation, where a scheduled service has an unavoidable and prolonged delay en route, subject to the discretion of the PIC, a reduced period of rest may be taken, and that period shall include at least six hours between 2000 and 0600 hours local time and shall be of a duration of not less than that appropriately extracted from the following graph.

REST PERIODS

DUTY TIME COMPLETED



Duties of operators to prevent excessive fatigue of crew members

220. An operator of an aircraft to which this regulation applies shall ensure, in respect of each person flying as a crew member of that aircraft, that-

- (a) the period during which that person is required or permitted by the operator to carry out any work or other duties are so limited in length and frequency; and
- (b) that person is afforded such period for rest, that the work and duties are not likely to cause the person any fatigue while the person is flying in the aircraft, in respect of flight crew, as may endanger the safety of the flight crew, and in respect of other crew members, as may impair their efficiency to adequately perform their duties in relation to the possible evacuation or control of passengers or the provision of assistance in the event of an emergency situation.

PROTECTION OF CREW MEMBER FROM COSMIC RADIATION

Protection of flight crew member from cosmic radiation

221. (1) An operator shall take appropriate measures to-

- (a) assess the exposure to cosmic radiation when in flight of those crew members who may be exposed to cosmic radiation in excess of 1 milli Sievert per year;
- (b) take into account the assessed exposure when organizing work schedules with a view to reducing the doses of highly exposed crew members; and
- (c) inform the workers concerned of the health risks their work involves.

(2) An operator shall ensure that in relation to a pregnant crew member, the conditions of exposure to cosmic radiation when that crew member is in flight are such that the equivalent dose to the foetus will be as low as reasonably achievable and is unlikely to exceed 1 milli Sievert during the remainder of the pregnancy.

(3) An operator who is not informed of a pregnancy referred to in sub-regulation (2) shall not be held liable for any cosmic radiation exposure to the foetus exceeding 1 milli Sievert.

(4) In this regulation

- (a) "highly exposed crew member" means a flight crew member operating in high performance aircraft capable of flying above an altitude of 49,000 feet;
- (b) "Sievert" means a unit of equivalent or effective dose of one joule per kilogramme; and
- (c) "year" means any period of twelve months.

Cosmic radiation: records to be kept

222. The operator of an aircraft registered in Swaziland shall, in respect of any flight at an altitude of more than 49,000 feet, keep a record of a total dose of cosmic radiation to which the aircraft and the crew members are exposed during the flight together with the names of the crew members.

PART X**FLIGHT RELEASE: COMMERCIAL AIR TRANSPORT***Qualified persons required for operational control functions.*

223. (1) An air operator certificate (AOC) holder shall designate a qualified person to exercise the functions and responsibilities for operational control of each flight in commercial air transport.

(2) For passenger-carrying flights conducted on a published schedule, a licensed and qualified flight operations officer or equivalently qualified person shall be on duty at an operations base to perform the operational control functions of the AOC holder.

(3) For all other flights, the qualified person exercising operational control responsibilities shall be available for consultation prior to, during and immediately following the flight operation.

(4) For all flights, the pilot in command (PIC) shares in the responsibility for operational control of the aircraft and has the situational authority to make decisions regarding operational control issues in-flight.

(5) Where a decision of the PIC differs from that recommended, the person making the recommendation shall make a record of the associated facts.

Functions associated with operational control

224. A person exercising responsibility for operational control for an air operator certificate holder shall-

- (a) authorise the specific flight operation;
- (b) ensure that an airworthy aircraft properly equipped for the flight is available;
- (c) ensure that qualified personnel and adequate facilities are available to support and conduct the flight;
- (d) ensure that proper flight planning and preparation is made;
- (e) ensure that flight locating and flight following procedures are followed; and
- (f) for scheduled passenger-carrying flights, ensure the monitoring of the progress of the flight and the provision of information that may be necessary to safety.

Operational control duties.

225. (1) For passenger-carrying flights conducted on a published schedule, the qualified person performing the duties of a flight operations officer shall-

- (a) assist the pilot in command (PIC) in flight preparation and provide the relevant information required;
- (b) assist the PIC in preparing the operational and air traffic control flight plans;
- (c) sign the dispatch copy of the flight release;
- (d) furnish the PIC while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight; and
- (e) in the event of an emergency, initiate the applicable procedures contained in the operations manual of the air operator certificate (AOC) holder.

(2) A qualified person performing the operational control duties shall avoid taking any action that would conflict with the procedures established by-

- (a) air traffic control;
- (b) the meteorological service
- (c) the communications service; or
- (d) AOC holder.

Contents of a flight release

226. A flight release shall contain at least the following information concerning each flight-

- (a) company or organization name;
- (b) make, model and nationality and registration marks of the aircraft being used;
- (c) flight or trip number and date of flight;
- (d) name of each crew member and the pilot in command (PIC);
- (e) departure aerodrome, destination aerodromes, alternate aerodromes and route;
- (f) minimum fuel supply;
- (g) a statement of the type of operation, for example instrument flight rules, visual flight rules;
- (h) the latest available weather reports and forecasts for the destination aerodrome and alternate aerodromes; and
- (i) any additional available weather information that the PIC considers necessary.

Flight release: aircraft requirements.

227. No person shall issue a flight release for a commercial air transport operation-

- (a) unless the aircraft is airworthy and properly equipped for the intended flight operation; and
- (b) using an aircraft with inoperative instruments and equipment installed, except as specified in the minimum equipment list approved by the Authority.

Flight release: facilities and NOTAMs.

228. (1) No person shall release an aircraft over any route or route segment unless there are adequate communications and navigational facilities in satisfactory operating condition as is necessary to conduct the flight safely.

(2) A flight operation officer shall ensure that the pilot in command (PIC) is provided with all available current reports or information on aerodrome conditions and irregularities of navigation facilities that may affect the safety of the flight.

(3) For the review of the operational flight plan by the PIC, the PIC shall be provided with all available NOTAMs with respect to the routing, facilities and aerodromes.

Flight release: weather reports and forecasts.

229. No person shall release a flight unless that person-

- (a) is familiar with reported and forecast weather conditions on the route to be flown; and

- (b) has communicated all information and reservations that the person may have regarding weather reports and forecasts to the pilot in command.

Flight release in icing conditions.

230. No person shall release an aircraft-

- (a) when in the opinion of that person or that of the pilot in command, the icing conditions that may be expected or are met exceed that for which the aircraft is certified and unless the aircraft has sufficient operational de-icing or anti-icing equipment; or
- (b) any time conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless there is available to the pilot in command at the aerodrome of departure adequate facilities and equipment to accomplish the procedures approved for the air operators certificate holder by the Authority for ground de-icing and anti-icing.

Flight release under VFR or IFR.

231. No person shall release a flight under visual flight rules or instrument flight rules unless the weather reports and forecasts indicate that the flight can reasonably be expected to be completed as specified in the flight release.

Flight release: minimum fuel supply

232. No person shall issue a flight release for a commercial air transport operation unless the fuel supply specified in that flight release is equivalent to or greater than the minimum flight planning requirements of these Regulations, including anticipated contingencies.

Flight release: aircraft loading and performance.

233. No person shall issue a flight release unless that person is familiar with the anticipated loading of the aircraft and is reasonably certain that the proposed operation shall not exceed the-

- (a) centre of gravity limits;
- (b) aircraft operating limitations; and
- (c) minimum performance requirements.

Flight release: amendment or re-release en-route.

234. (1) A person who amends a flight release while the flight is en route shall record that amendment.

(2) No person shall amend the original flight release to change the destination or alternate aerodrome while the aircraft is en route unless the flight preparation requirements for routing, aerodrome selection and minimum fuel supply are met at the time of amendment or re-release.

(3) No person shall allow a flight to continue to an aerodrome to which it has been released if the weather reports and forecasts indicate changes which would render that aerodrome unsuitable for the original flight release.

Flight release: requirement for airborne weather radar equipment.

235. No person shall release a large aircraft carrying passengers under instrument flight rules when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment is in satisfactory operating condition.

**PART XI
GENERAL**

Possession of the licence

236. (1) A holder of a licence, certificate or authorization or other document issued by the Authority shall have in their physical possession or at the work site when exercising the privileges of that licence, certificate, authorization or such other document.

(2) A flight crew of a foreign registered aircraft shall hold a valid licence, certificate or authorization and have it in their physical possession or at the work site when exercising the privileges of that licence, certificate or authorization.

Drug and alcohol testing and reporting.

237. (1) A person who performs any function related to operation of aircraft under these Regulations may be tested for drug or alcohol usage.

(2) The Authority may prohibit any person who-

- (a) tests positive for drug or alcohol usage;
- (b) refuses to submit to a test; or
- (c) refuses to furnish or to authorize the release of the test results requested by the Authority, from carrying out the functions related to operation of aircraft.

Inspection of licences and certificates

238. A person who holds a licence, certificate, authorization or other document required by these Regulations shall present it for inspection upon a request from the Authority or any person authorized by the Authority.

Change of name.

239. (1) A holder of a licence, certificate, authorization or other document issued under these Regulations may apply to change the name on a licence, certificate, authorization or such other document.

(2) The holder shall include with any such request-

- (a) the current licence, certificate, authorization or such other document sought to be amended; and
- (b) a court order or other legal document verifying the name change.

(3) The Authority may change the licence, certificate, authorization or such other document and issue a replacement.

(4) The Authority shall return to the holder the original documents specified in sub-regulation 2(b) and retain copies of the documents and return the replaced licence, certificate or authorization with the appropriate endorsement.

(5) A licence, certificate, authorization or other document issued to a person under these Regulations is not transferable.

Change of address.

240. (1) A holder of a certificate or authorization issued under these Regulations shall notify the Authority of the change in the physical and mailing address and shall do so in the case of-

(a) physical address, at least 14 days in advance; and

(b) mailing address, upon the change.

(2) A person who does not notify the Authority of the change in the physical address within the time frame specified in sub-regulation (1) shall not exercise the privileges of the certificate or authorization.

Replacement of documents

241. A person may apply to the Authority in the prescribed form for replacement of documents issued under these Regulations if the documents are lost or destroyed.

Certificate suspension and revocations

242. (1) The Authority may, where it considers it to be in the public interest, suspend provisionally, pending further investigation, any certificate, approval, permission, exemption, authorization or other document issued, granted or having effect under these Regulations.

(2) The Authority may, upon the completion of an investigation which has shown sufficient ground to its satisfaction and where it considers it to be in the public interest, revoke, suspend or vary any certificate, approval, permission, exemption or other document issued or granted under these Regulations.

(3) The Authority may, where it considers it to be in the public interest, prevent any person or aircraft from flying.

(4) A holder or any person having the possession or custody of any certificate, approval, permission, exemption or other document which has been revoked, suspended or varied under these Regulations shall surrender it to the Authority within 14 days from the date of revocation, suspension or variation.

(5) The breach of any condition subject to which any certificate, approval, permission, exemption or any other document has been granted or issued under these Regulations shall render the document invalid during the continuance of the breach.

Use and retention of certificates and records

243. (1) No person shall-

- (a) use any certificate, approval, permission, exemption or other document issued or required by or under these Regulations which has been forged, altered, revoked or suspended or to which the person is not entitled; or
- (b) forge or alter any certificate, approval, permission, exemption or other document issued or required by or under these Regulations; or
- (c) lend any certificate, approval, permission, exemption or other document issued or required by or under these Regulations to any other person; or
- (d) make a false representation for the purpose of procuring for themselves or any other person the issue, renewal or variation of any such certificate, approval, permission or exemption or other document.

(2) During the period for which record is required under these Regulations to be preserved, no person shall mutilate, alter, render illegible or destroy any records or any entry made in the record, required by or under these Regulations to be maintained, or knowingly make, or procure or assist in the making of, any false entry in the record or wilfully omit to make a material entry in the record.

(3) A record required to be maintained by or under these Regulations shall be recorded in a permanent and indelible material.

(4) No person shall purport to issue any certificate, document or exemption under these Regulations unless that person is authorized to do so by the Authority.

(5) No person shall issue any certificate of the kind referred to in sub-regulation (4) unless that person is satisfied that all statements in the certificate are correct, and that the applicant is qualified to hold that certificate.

Reports of violation.

244. (1) A person who knows of a violation of the Civil Aviation Authority Act, any regulation or order issued under the Act shall report it to the Authority.

(2) The Authority will determine the nature and type of any additional investigation or enforcement action that need be taken.

Enforcement of directions.

245. A person who fails to comply with any direction given to that person by the Authority or by any authorized person under any provision of these Regulations shall be deemed for the purposes of these Regulations to have contravened that provision.

Aeronautical user fees

246. (1) The Authority may notify the fees to be charged in connection with the issue, validation, renewal, extension or variation of any certificate, licence or other document, including the issue of a copy, or the undergoing of any examination, test, inspection or investigation or the grant of any permission or approval, required by or for the purpose of these Regulations and any orders, notices or proclamations made.

(2) Upon an application being made in connection with which any fee is chargeable in accordance with the provisions of sub-regulation (1), the applicant shall be required, before the application is entertained, to pay the fee so chargeable.

(3) If, after payment has been made, an application is withdrawn by the applicant or otherwise ceases to have effect or is refused, the Authority shall not refund the payment made.

Application of regulations to Government and visiting forces, etc.

247. (1) These Regulations shall apply to aircraft, not being military aircraft, belonging to or exclusively employed in the service of the Government and for the purposes of such application, the Department or other authority for the time being responsible for management of the aircraft shall be deemed to be the operator of the aircraft and in the case of an aircraft belonging to the Government, to be the owner of the interest of the Government in the aircraft.

(2) Except as otherwise expressly provided, the naval, military and air force authorities and member of any visiting force and property held or used for the purpose of such a force shall be exempt from the provision of these Regulations to the same extent as if the visiting force formed part of the military force of Swaziland.

Extraterritorial application of Regulations.

248. Except where the context otherwise requires, the provisions of these Regulations-

- (a) in so far as they apply, whether by express reference or otherwise, to aircraft registered in Swaziland, shall apply to such aircraft wherever they may be;
- (b) in so far as they apply, whether by express reference or otherwise, to other aircraft, shall apply to such aircraft when they are within Swaziland;
- (c) in so far as they prohibit, require or regulate, whether by express reference or otherwise, the doing of anything by any person in or by any of the crew of, any aircraft registered in Swaziland, shall apply to those persons and crew, wherever they may be; and
- (d) in so far as they prohibit, require or regulate, whether by express reference or otherwise, the doing of anything in relation to any aircraft registered in Swaziland by other persons shall, where such persons are citizens of Swaziland, apply to them wherever they may be.

Flights over any foreign country

249. (1) The operator or pilot in command of an aircraft registered in Swaziland, or, if the principal place of business or permanent residence of the operator is in Swaziland, any other aircraft, which is being flown over any foreign State shall not allow the aircraft to be used for a purpose which is prejudicial to the security, public order or public health of or to the safety of air navigation in relation to that State.

(2) A person does not contravene sub-regulation (1) if that person neither knew nor suspected that the aircraft was being or was to be used for a purpose referred to in sub-regulation (1).

(3) The operator or pilot in command of an aircraft registered in Swaziland, or, if the principal place of business or permanent residence of the operator is in Swaziland, any other aircraft, which is being flown over any foreign State shall comply with any directions given by the appropriate aeronautical authorities of that State whenever-

- (a) the flight has not been duly authorized;

(b) there are reasonable grounds for the appropriate aeronautical authorities to believe that the aircraft is being or will be used for a purpose which is prejudicial to the security, public order or public health of, or to the safety of air navigation in relation to that State; or

(c) unless the lives of persons on board or the safety of the aircraft would thereby be endangered.

(4) A person does not contravene sub-regulation (3) if that person neither knew nor suspected that directions were being given by the appropriate aeronautical authorities.

(5) The requirement in sub-regulation (3) is without prejudice to any other requirement to comply with directions of an aeronautical authority.

(6) In this regulation "appropriate aeronautical authorities" includes any person, whether a member of a country's military or civil authorities, authorized under the law of the foreign State to issue directions to aircraft flying over that State.

PART XII OFFENCES AND PENALTIES

Contravention of Regulation

250. A person who contravenes any provision of these Regulations may have a licence, certificate, approval, authorization, exemption or other document revoked or suspended.

Penalties

251. (1) If any provision of these Regulations or orders, notices or proclamations made under these Regulations is contravened in relation to an aircraft, the operator of that aircraft and the pilot in command, if the operator or the pilot in command is not the person who contravened that provision shall, without prejudice to the liability of any other person under these Regulations for that contravention, be deemed to have contravened that provision unless the operator or PIC proves that the contravention occurred without their consent or connivance and that all due diligence was exercised to prevent the contravention.

(2) A person who contravenes any provision specified as an "A" provision in the Schedule to these Regulations commits an offence and is liable on conviction to a fine not exceeding fifty thousand Emalangeni for each offence or each flight or to imprisonment for a term not exceeding one year or to both.

(3) A person who contravenes any provision specified as a "B" provision in the Schedule to these Regulations commits an offence and is liable on conviction to a fine not exceeding one hundred thousand Emalangeni for each offence or each flight or to imprisonment for a term not exceeding three years or to both.

(4) A person who contravenes any provision of these Regulations not being a provision referred to in the Schedule to these Regulations, commits an offence and is liable on conviction to a fine not exceeding one hundred thousand Emalangeni, and in the case of a second or subsequent conviction for a similar offence to a fine not exceeding four million shillings.

PART XIII
EXEMPTIONS

Application for exemption

252. (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 60 days in advance of the proposed effective date, to obtain timely review.

(3) A request for an exemption shall contain the applicant's-

- (a) name;
- (b) physical address and mailing address;
- (c) telephone number;
- (d) fax number if available; and,
- (e) email address if available.

(4) The application shall be accompanied by a fee specified by the Authority, for technical evaluation.

Additional contents of application

253. (1) An application for an exemption shall contain the following-

- (a) a citation of the specific requirement from which the applicant seeks exemption;
- (b) an explanation of why the exemption is needed;
- (c) a description of the type of operations to be conducted under the proposed exemption;
- (d) the proposed duration of the exemption;
- (e) an explanation of how the exemption would be in the public interest, that is, benefit the public as a whole;
- (f) a detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the regulation in question;
- (g) a review and discussion of any known safety concerns with the requirement, including information about any relevant accidents or incidents of which the applicant is aware.

(2) Where an applicant seeks emergency processing, the application shall contain supporting facts and reasons that the application was not timely filed, and the reasons it is an emergency.

(3) The Authority may deny an application if the Authority finds that the applicant has not justified the failure to apply for an exemption on time.

REVIEW, PUBLICATION AND ISSUE OR DENIAL OF THE EXEMPTION

Initial review by the Authority.

254. (1) The Authority shall review the application for accuracy and compliance with the requirements of regulations 252 and 253.

(2) If the application appears on its face to satisfy the provisions of this regulation and the Authority determines that a review of its merits is justified, the Authority will publish a detailed summary of the application in the Gazette, aeronautical information circular or at least one local daily newspaper for comment and specify the date by which comments shall be received by the Authority for consideration.

(3) Where the filing requirements of regulations 252 and 253 have not been met, the Authority will notify the applicant and take no further action until 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 decision of the Authority as soon as possible after processing the application.

Evaluation of the request

255. (1) After initial review, if the filing requirements have been satisfied, the Authority shall conduct an evaluation of the request to include-

- (a) determination of whether an exemption would be in the public interest;
- (b) a determination, after a technical evaluation of whether the proposal of the applicant 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 technical resources of the Authority, the Authority may deny the exemption on that basis;
- (c) a determination of whether a grant of the exemption would contravene the applicable International Civil Aviation Organization (ICAO) Standards and Recommended Practices; and
- (d) a recommendation based on the preceding elements, of whether the request should be granted or denied and of any conditions or limitations that should be part of the exemption.

(2) The Authority shall notify the applicant by letter and publish a detailed summary of its evaluation and decision to grant or deny the request.

(3) The summary referred to in sub-regulation (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.

(4) If the exemption affects a significant population of the aviation community in Swaziland, the Authority shall publish the summary in aeronautical information circular.

PART XIV
TRANSITION AND SAVINGS

Transition and Savings

256. A valid licence, certificate, permit or authorization issued or granted by the Authority before the commencement of these Regulations shall remain operational until it expires or is revoked, annulled or replaced.

SCHEDULE

PENALTIES

REG NO.	TITLE	PART
3	Registration markings	A
4	Civil aircraft airworthiness	B
5	Restricted certificate of airworthiness	A
6	Aircraft instruments and equipment	A
7	Inoperative instruments and equipment	A
8	Aircraft flight manual, marking and placard requirements	A
9	Required aircraft and equipment inspections	A
10	Documents to be carried on aircraft	A
11	Production of documents	A
12	Preservation of documents	A
13	Insurance	B
14	Stowaways	A
15	Coordination of activities potentially hazardous to civil aircraft	B
16	Power to prohibit or restrict flying or landing or taking off	A
17	Balloons, kites and airships	A
18	Aircraft maintenance requirements	B
19	Maintenance required	B
20	Inspections: commercial air transport	B
23	Inspections: all other aircraft	B
24	Maintenance records	A
25	Maintenance records retention	A

REG NO.	TITLE	PART
26	Transfer of maintenance records	A
27	Composition of flight crew	B
29	Requirements of experience, recency and training for single pilot operations at night or IFR	A
31	Pilot recent experience: PIC and co-pilot, cruise relief pilot	A
32	PIC: route and airport qualification	A
33	Pilot proficiency checks	A
34	Licences required	A
35	Pilots: limitations	A
36	Rating required for IFR operations	B
37	Special authorization for category II or III operations	B
38	Recording of flight time	A
39	PIC and co-pilot currency: take offs and landings	A
40	Pilot currency: IFR operations	A
41	Pilot currency: general aviation operations	A
42	Pilot privileges and limitations	B
47	Fitness of flight crew members	B
48	Use of narcotics, drugs or intoxicating liquor	B
49	Crew member use of seat belts and shoulder harnesses	A
50	Flight crew members at duty station	A
57	Power to inspect	A
60	Manipulation of the controls: commercial air transport	B
61	Simulated abnormal situations in flight: commercial air transport	A
67	Operation of flight recorders	A
68	Crew member oxygen supply	A
70	Carriage of dangerous goods	B

REG NO.	TITLE	PART
71	Portable electronic devices	A
72	Pre-flight action	A
73	Operation of aircraft on the ground	A
74	Flight into known or expected icing	A
75	Aerodrome operating minima	A
78	Operation of radio in aircraft	A
79	Weather reports and forecasts	A
80	Weather limitations for VFR flights	A
81	Adequacy of operating facilities	A
82	Diversions decision: engine inoperative	A
83	IFR destination aerodromes	A
84	IFR alternate aerodrome selection criteria	A
85	Off-shore alternates for helicopter operations	A
86	Takeoff alternate aerodromes: commercial air transport operations	A
87	Maximum distance from an adequate aerodrome for two-engine aeroplanes without an ETOPS approval	B
88	Extended range operations with two-engine aeroplanes	B
89	En-route alternate aerodromes: ETOPS operations	A
90	Fuel, oil and oxygen planning and contingency factors	B
91	Flight planning: document distribution and retention	A
92	Commercial air transport: loading of aircraft	B
93	Aircraft loading, mass and balance	B
94	Stowage of baggage and cargo	A
95	Maximum allowable weights to be considered on all load manifests	A
96	Flight release required: commercial air transport	A
97	Operational flight plan: commercial air transport	A
99	Performance and operating limitations	A

REG NO.	TITLE	PART
100	In-flight simulation of abnormal situations	A
101	Test flight areas	A
102	Operations in MNPS or RVSM airspace	A
104	Compliance with visual and electronic glide slopes	A
105	Restriction or suspension of operations: commercial air transport	A
109	Operations of single-engine turbine-powered aircraft at night or in IMC	A
110	IFR takeoff minimums for commercial air transport	A
111	Instrument approach procedures and IFR landing minima	A
112	Commencing an instrument approach	A
113	Instrument approaches to aerodromes	A
114	Threshold crossing height for precision approaches	A
116	Landing during instrument meteorological conditions	A
120	Aircraft performance calculations for all aircrafts	A
121	General weight and obstruction clearance limitations	A
122	Category II and III operations: general operating rules	A
123	Category II and Category III: operations manual	A
125	General	A
127	Aircraft performance calculations for commercial air transport	A
128	Takeoff limitations	A
129	En-route limitations: all engines operating	A
130	En-route limitations: one engine inoperative	A
131	En-route: three or more engines, two engines inoperative	A
132	Landing limitations	A
133	Unacceptable conduct	B
134	Refuelling and de-fuelling with passengers	A
135	Passenger seats, safety belts and shoulder harnesses	A

REG NO.	TITLE	PART
136	Passenger briefing: non AOC holder aircraft	A
138	Passenger oxygen: minimum supply and use	A
139	Alcohol or drugs	A
140	Use of psychoactive substances	B
141	Passenger compliance with instructions	B
143	Carriage of persons without compliance with passenger carrying requirements	A
146	Arming of automatic emergency	A
148	Stops where passengers remain on board	A
149	Carriage of persons with reduced mobility	A
151	Carriage of munitions of war	B
152	Prohibition against carriage of weapons	B
153	Oxygen for medical use by passengers	B
157	Required passenger briefings: AOC holder	A
158	Passenger briefing: extended over water operations	A
163	Age restriction	A
164	PIC licence requirements: non turbojet or turbofan small aircraft	B
165	PIC licence requirements: non turbojet or turbofan small aircraft	B
166	PIC aeronautical experience: small aircraft	B
167	Co-pilot licence requirements	B
168	Flight engineer licence requirements	B
169	One pilot qualified to perform flight engineer functions	A
170	<i>Persons qualified in flight release</i>	A
184	Aircraft and instrument proficiency checks	A
185	Introduction of new equipment procedures	A
186	Pilot qualification: recent experience	A
188	Flight engineer proficiency checks	A

REG NO.	TITLE	PART
189	Competence checks: flight operations officer	A
193	Line observations: flight operations officer	A
194	Route and area checks: pilot qualification	A
196	Designated special aerodromes and heliports: PIC qualification	A
203	Check pilot and authorized flight engineer qualifications	A
204	Check airman designation	A
205	Check pilot authorizations and limitations	A
206	Synthetic flight trainer approval	A
207	Line qualification: check pilot instructor	A
208	Termination of proficiency, competence or line check	A
209	Recording of crew member qualifications	A
214	Maximum flight duty periods for crew members	A
215	Minimum rest periods for crew members	A
216	Duty and rest periods for flight operations officers	A
217	Records of flight times and duty periods	A
218	Maximum flight time for crews	A
221	Protection of flight crew from cosmic radiation	B
222	Cosmic radiation: records to be kept	A
227	Flight release: aircraft requirements	A
228	Flight release: facilities and TOTAMs	A
229	Flight release: weather reports and forecasts	A
231	Flight release under VFR or IFR	A
232	Flight release: minimum fuel supply	A
233	Flight release: aircraft loading and performance.	A
234	Flight release: amendment or re-release en-route.	A
235	Flight release: requirement for airborne weather radar equipment	A

REG NO.	TITLE	PART
237	Drug and alcohol testing and reporting	B
238	Inspection of licences and certificates	A
243	Use and retention of certificates and records	B

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