

Statutory Instrument No. 60 of 2022

CIVIL AVIATION ACT
(Cap. 71:01)

CIVIL AVIATION (AIR TRAFFIC SERVICES) REGULATIONS, 2022
(Published on 6th June, 2022)

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SCHEDULES

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

PART I — Preliminary

- Citation **1.** These Regulations may be cited as the Civil Aviation (Air Traffic Services) Regulations, 2022.

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

“accident” means an occurrence associated with the operation of an aircraft which, in the case of --

- (a) a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all persons have disembarked; or
- (b) an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which --
 - (i) a person is fatally or seriously injured as a result of --
 - (aa) being in the aircraft;
 - (bb) direct contact with any part of the aircraft, including a part which has become detached from the aircraft; or
 - (cc) direct exposure to jet blast, except where the injury is from a natural cause, self-inflicted or inflicted by another person, or where the injury is due to a stowaway hiding outside an area normally available to passengers and crew,
 - (ii) the aircraft sustains damage structural failure which --
 - (aa) adversely affects the structural strength, performance or flight characteristics of the aircraft; and
 - (bb) would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, and its cowlings and accessories, propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windcreens, small dents or puncture holes, the aircraft skin, minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike including holes in the radome; or
 - (cc) the aircraft is missing or is completely inaccessible;

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

“advisory route” means a designated route along which an air traffic advisory service is available;

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

“aerodrome control service” means an air traffic control service for aerodrome traffic;

“aerodrome control tower” means a unit established to provide air traffic control service to aerodrome traffic;

“aerodrome traffic” means traffic on the maneuvering area of an aerodrome and all aircraft flying in the vicinity of an aerodrome;

“aeronautical fixed service (AFS)” means a telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services;

“Aeronautical Information Publication (AIP)” means a publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation;

- “aeronautical mobile service” means a mobile service between an aeronautical station and an aircraft station, or between an aircraft station, in which survival craft stations may participate, emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies;
- “aeronautical telecommunications station” means a station in the aeronautical telecommunication service;
- “Airborne Collision Avoidance System (ACAS)” means an aircraft system based on Secondary Surveillance Radar (SSR) transponder signals which operates independently of ground based equipment to provide advice to the pilot on potential conflicting aircrafts that are equipped with SSR transponders;
- “aircraft” means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface;
- “air-ground communication” means a two-way communication between an aircraft and a station or location on the surface of the earth;
- “AIRMET information” means information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof;
- “air traffic” means an aircraft in flight or operating on the manoeuvring area of an aerodrome;
- “air traffic advisory service” means a service provided within an advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans;
- “ATC” means Air Traffic Control;
- “air traffic control clearance” means authorisation for an aircraft to proceed under conditions specified by an air traffic control unit;
- “air traffic controller schedule” means a plan for allocating air traffic controller duty periods and non-duty periods over a period of time, otherwise referred to as a roster;
- “air traffic control service (ATS)” means a service provided —
- (a) for the purpose of preventing collisions between aircrafts;
 - (b) on the manoeuvring area between aircraft and obstructions; and
 - (c) for the purpose of expediting and maintaining an orderly flow of air traffic;
- “air traffic control unit” means a generic term meaning variously, area control centre, approach control unit or aerodrome control tower;
- “air traffic flow management (ATFM)” means a service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilised to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority;
- “air traffic service” means a generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service);

“air traffic services reporting office” means a unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure;

“air traffic services unit” means a generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office;

“airway” means a control area or portion thereof established in the form of a corridor;

“ALERFA” means the code word used to designate an alert phase;

“alerting service” means a service provided to notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required;

“alert phase” means a situation wherein apprehension exists as to the safety of an aircraft and its occupants;

“alternate aerodrome” means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use;

“altitude” means the vertical distance of a level, a point or an object considered as a point, measured from mean sea level;

“Appeals Tribunal” means the Appeals Tribunal established under section 79 of the Act;

“approach control service” means air traffic control service for arriving or departing controlled flights;

“approach control unit” means a unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes;

“appropriate ATS authority” means the relevant authority designated by the State responsible for providing air traffic services in the airspace concerned;

“apron” means a defined area on a land aerodrome, intended to accommodate an aircraft for purposes of loading or unloading passengers, mail or cargo, fueling, parking or maintenance;

“apron management service” means a service provided to regulate the activities and the movement of aircraft and vehicles on an apron;

“area control centre” means a unit established to provide air traffic control service to a controlled flight in a control area under the unit’s jurisdiction;

“area control service” means air traffic control service for a controlled flight in a control area;

“area navigation (RNAV)” means a method of navigation which permits aircraft operation on any desired flight path within the coverage of ground or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these;

“area navigation route” means an ATS route established for the use of an aircraft capable of employing area navigation;

“ATS route” means a specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services;

“Automatic Dependent Surveillance - Broadcast (ADS-B)” means a means by which an aircraft, aerodrome vehicles and other objects can automatically transmit or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link;

- “Automatic Dependent Surveillance - Contract (ADS-C)”** means a means by which the terms of an ADS-C agreement is exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports;
- “Automatic Terminal Information Service (ATIS)”** means the automatic provision of current routine information to an arriving or departing aircraft throughout 24 hours or a specified portion thereof;
- “base turn”** means a turn executed by an aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track;
- “calendar”** means a discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day;
- “change-over point”** means the point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency omnidirectional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft;
- “clearance limit”** means the point to which an aircraft is granted an air traffic control clearance;
- “conference communications”** means communication facilities whereby direct speech conversation may be conducted between three or more locations simultaneously;
- “control area”** means a controlled airspace extending upwards from a specified limit above the earth;
- “controlled aerodrome”** means an aerodrome at which air traffic control service is provided to aerodrome traffic;
- “controlled airspace”** means an airspace of defined dimensions within which an air traffic control service is provided in accordance with the airspace classification;
- “controlled flight”** means any flight which is subject to an air traffic control clearance;
- “Controller-Pilot Data Link Communications (CPDLC)”** means a means of communication between a controller and a pilot, using data link for ATC communications;
- “control zone”** means a controlled airspace extending upwards from the surface of the earth to a specified upper limit;
- “cruising level”** means a level maintained during a significant portion of a flight;
- “danger area”** means an airspace of defined dimensions within which an activity dangerous to a flight of aircraft may exist at a specified time;
- “Data link-Automatic Terminal Information Service (D-ATIS)”** means the provision of ATIS through data link;
- “data link communications”** means a form of communication intended for the exchange of messages via a data link;
- “Data-link VOLMET (D-VOI.MET)”** means provision of current aerodrome routine meteorological reports and aerodrome special meteorological reports, aerodrome forecasts, SIGMET, special air-reports not covered by a SIGMET and where available, AIRMET via data link;
- “datum”** means any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities;

- “declared capacity” means a measure of the ability of the ATC system or any of its subsystems or operating positions to provide a service to an aircraft during normal activities and is expressed as the number of aircrafts entering a specified portion of an airspace in a given period of time, taking due account of weather, ATC unit configuration, staff and equipment available, and any other factor that may affect the workload of the controller responsible for the airspace;
- “DETRESFA” means the code word used to designate a distress phase;
- “distress phase” means a situation where there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance;
- “downstream clearance” means a clearance issued to an aircraft by an air traffic control unit that is not the current controlling authority of that aircraft;
- “duty” means any task that an air traffic controller is required by the air traffic services provider to perform and these tasks include those performed during time-in-position, administrative work and training;
- “duty period” means a period which starts when an air traffic controller is required by an air traffic service provider to report for or to commence a duty and ends when an air traffic controller is free from all duties;
- “emergency phase” means a generic term meaning uncertainty phase, alert phase or distress phase;
- “fatigue” means a physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, or workload, mental or physical activity that can impair a person’s alertness and ability to perform safety-related operational duties;
- “Fatigue Risk Management System (FRMS)” means a data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles, knowledge and operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness;
- “final approach” means that part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified –
- (a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or
 - (b) at the point of interception of the last track specified in the approach procedure; and
 - (c) ends at a point in the vicinity of an aerodrome from which –
 - (i) a landing can be made, or
 - (ii) a missed approach procedure is initiated;
- “flight information centre” means a unit established to provide flight information service and alerting service;
- “flight information region” means an airspace of defined dimensions within which flight information service and alerting service are provided;
- “flight information service” means a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights;
- “flight level” means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals;

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

“forecast” means a statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of an airspace;

“gregorian calendar” means the calendar in general use, first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar;

“height” means the vertical distance of a level, a point or an object considered as a point, measured from a specified datum;

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

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

“instrument flight procedure design service” means a service established for the design, documentation, validation, maintenance and periodic review of instrument flight procedures necessary for the safety, regularity and efficiency of air navigation;

“Instrument Flight Rules (IFR)” means the symbol used to designate the instrument flight rules;

“IFR flight” means a flight conducted in accordance with the instrument flight rules;

“INCRFA” means a code word used to designate an uncertainty phase;

“incident” means an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation;

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

“integrity classification (aeronautical data)” means classification based upon the potential risk resulting from the use of corrupted data classified as –

- (a) routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;
- (b) essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and
- (c) critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;

“international NOTAM office” means an office designated by the Authority for the exchange of NOTAM internationally;

“level” means a generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level;

“maneuvering area” means that part of an aerodrome to be used for the take-off, landing or taxiing of an aircraft, excluding an apron;

“meteorological office” means an office designated to provide meteorological service for international air navigation;

“movement area” means that part of an aerodrome to be used for the take-off, landing or taxiing of an aircraft, consisting of the maneuvering area and the apron;

“navigation specification” means a set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications —

- (a) “Required Navigation Performance (RNP) specification” means a navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, such as RNP 4, RNP APCH; and
- (b) area navigation (RNAV) specification” means a navigation specification based on an area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, such as RNAV 5, RNAV 1;

“night” means the time between 30 minutes after sunset and 30 minutes before sunrise, sunset and sunrise being determined at surface level;

“non-duty period” means a continuous and defined period of time, subsequent to, or prior to duty periods, during which the air traffic controller is free of his or her duties;

“NOTAM” means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations;

“obstacle” means a fixed, whether temporary or permanent, or mobile object, or part thereof, that —

- (a) is located on an area intended for the surface movement of an aircraft;
- (b) extends above a defined surface intended to protect aircraft in flight; or
- (c) stands outside the defined surfaces, and that have been assessed as being a hazard to air navigation;

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

“Performance-Based Navigation (PBN)” means an area navigation based on performance requirements for an aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace;

“Performance-Based Communication (PBC)” means communication based on performance specifications applied to the provision of air traffic services;

“Performance-Based Surveillance (PBS)” means surveillance based on performance specifications applied to the provision of air traffic services;

“printed communications” means communications which automatically provide a permanent printed record at each terminal of a circuit of messages which pass over such circuit;

“prohibited area” means airspace of defined dimensions, above the land area or territorial waters of a State, within which the flight of an aircraft is prohibited;

“radio navigation service” means a service providing guidance information or position data for the efficient and safe operation of an aircraft supported by one or more radio navigation aid;

“radiotelephony” means a form of radio communication primarily intended for the exchange of information in the form of speech;

“reporting point” means a specified geographical location in relation to which the position of an aircraft can be reported;

“Required Communication Performance (RCP) specification” means a set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based communication;

- “Required Surveillance Performance (RSP) specification” means a set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based surveillance;
- “rescue coordination centre” means a unit responsible for promoting efficient organisation of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region;
- “restricted area” means an airspace of defined dimensions, above the land area or territorial waters of Botswana, within which the flight of an aircraft is restricted in accordance to certain specified conditions;
- “runway” means a defined rectangular area on a land aerodrome prepared for the landing or take-off of an aircraft;
- “Runway Visual Range (RVR)” means the range over which a 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;
- “safety management system” means a systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures;
- “SIGMET information” means information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations;
- “significant point” means a specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes;
- “special VFR flight” means a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC or at night;
- “state safety programme” means an integrated set of regulations and activities aimed at improving safety;
- “strayed aircraft” means an aircraft which has deviated significantly from its intended track or which reports that it is lost;
- “taxiing” means movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off or landing;
- “terminal control area” means a control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes;
- “time-in-position” means the period of time when an air traffic controller is exercising the privileges of the air traffic controller’s licence at an operational position;
- “track” means the projection on the earth’s surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from north (true, magnetic or grid);
- “traffic avoidance advice” means advice provided by an air traffic service unit specifying maneuvers to assist a pilot to avoid a collision;
- “traffic information” means information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight, and to help the pilot avoid a collision;
- “transfer of control point” means a defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next;

“transferring control unit” means an air traffic control unit in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit along the route of flight;

“uncertainty phase” means a situation where uncertainty exists as to the safety of an aircraft and its occupants;

“unidentified aircraft” means an aircraft which has been observed or reported to be operating in a given area but whose identity has not been established;

“Visual Flight Rules (VFR)” means the symbol used to designate the visual flight rules;

“VFR flight” means a flight conducted in accordance with the visual flight rules;

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

“Voice-Automatic Terminal Information Service (Voice-ATIS)” means provision of ATIS by means of a continuous and repetitive voice broadcast; and

“VOLMET” means meteorological information for aircraft in flight.

3. These Regulations shall apply to any person providing air traffic services within a designated air space and at an aerodrome registered in Botswana.

Application

PART II — *General Provisions*

4. A person who wishes to provide air traffic services shall have an Air Navigation Services Provider Certificate issued in accordance with the Civil Aviation (Air Navigation Services) Regulations.

Air Navigation
Services Provider
Certificate
Cap. 71:01
(Sub. Leg.)

5. (1) The Authority shall determine, those portions of an airspace and those aerodromes where air traffic services shall be provided including territories over which the Authority has jurisdiction.

Establishment
of air traffic
services provider

(2) Air traffic services shall be provided in accordance with these Regulations, except that by mutual agreement, the Authority may delegate to another State the responsibility for establishing and providing air traffic services in flight information regions, control areas or control zones extending over the territory of Botswana.

(3) The portion of the airspace of undetermined sovereignty where air traffic services are provided shall be determined on the basis of a regional air navigation agreement.

(4) Where Botswana has accepted the responsibility to provide air traffic services in such portions of airspace referred to under subregulation (3), the Authority shall arrange for such services to be established and provided in accordance with these Regulations.

(5) Where it has been determined that air traffic services will be provided, the Authority shall designate the air navigation services provider to be responsible for providing such services.

(6) Where air traffic services are established, information shall be published in the AIP, as necessary to permit the utilisation of such services.

Objectives of air traffic services

6. The objectives of the air traffic services shall be to —
- (a) prevent collisions between aircraft;
 - (b) prevent collisions between aircraft on the maneuvering area and obstructions on that area;
 - (c) expedite and maintain an orderly flow of air traffic;
 - (d) provide advice and information useful for the safe and efficient conduct of flights; and
 - (e) notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required.

Divisions of air traffic services

7. Air traffic services provided for the purpose of these Regulations shall comprise of the —
- (a) air traffic control service;
 - (b) area control service;
 - (c) approach control service;
 - (d) aerodrome control service;
 - (e) flight information service; and
 - (f) alerting service.

Determination of need for air traffic services

8. (1) The need for the provision of air traffic services shall be determined by consideration of the following —
- (a) the types of air traffic involved;
 - (b) the density of air traffic;
 - (c) the meteorological conditions; and
 - (d) such other factors as may be relevant.

(2) The requirement for an aircraft to carry ACAS whilst flying in a given area shall not be considered as a factor in determining the need for air traffic services in that area.

Designation of portions of airspace and controlled aerodromes where air traffic services are provided

9. (1) Where it has been determined that air traffic services shall be provided in particular portions of an airspace or at a particular aerodrome, the portions of the airspace or the aerodromes shall be designated in relation to the air traffic services that are to be provided.

(2) The designation of the particular portions of the airspace or aerodromes shall be —

- (a) flight information regions, portions of the airspace where it is determined that flight information service and alerting service will be provided, shall be designated as flight information regions;
- (b) control areas and control zones —
 - (i) portions of the airspace where it is determined that air traffic control services are provided to IFR flights shall be designated as control areas or control zones,
 - (ii) portions of controlled airspace wherein it is determined that air traffic control services are also provided to VFR flights shall be designated as Classes B, C, or F airspace, and
 - (iii) where designated within a flight information region, control areas and control zones shall form part of that flight information region;
- (c) controlled aerodromes and such aerodromes where it is determined that air traffic control services are provided to aerodrome traffic shall be designated as controlled aerodromes;
- (d) reduced vertical separation minima airspace;

- (e) a sector, if the Authority considers such a designation is necessary to facilitate the provision of air traffic services within the flight information region; and
 - (f) air traffic services routes and significant points along the routes.
- (3) The Authority may designate portions of the airspace as special use airspace if it considers such airspace necessary in the interest of safety or national security or for any other reasons in the public interest.
- (4) Subject to subregulation (3), a special use airspace may be designated as —
- (a) restricted area;
 - (b) prohibited area;
 - (c) danger area;
 - (d) low flying zone; and
 - (e) flight training area.
- (5) The lateral limits of the airspaces designated under this regulation shall be defined by —
- (a) WGS-84 geographical coordinates; or
 - (b) the prominent geographical lines, circles or any part of a circle of a specified radius or great circle between two points or a parallel of latitude.
- (6) The vertical limits of airspaces designated under these Regulations shall be defined by heights, altitudes or flight levels.
- (7) The Authority shall publish the designation of particular portions of the airspace in the relevant aeronautical publications.
- 10.** (1) The Authority shall classify designated controlled airspace as set out in Schedule I.
- (2) The Authority shall select airspace classes in accordance with the needs of the State.
- (3) The requirements for flights within each class of airspace shall be as set out in the table in Schedule I.
- 11.** (1) The navigation specifications for PBN within the Gaborone Flight Information Region shall be in accordance with subregulation (2).
- (2) PBN specifications shall be as follows —
 - (a) RNAV 5 and RNAV 2 for en-route continental ATS routes;
 - (b) RNAV 1 and RNP 1 for terminal area arrival or departure; and
 - (c) RNP APCH with (Bato- RNAV), APV and LNAV for approach.
 - (3) An ATS provider shall implement performance-based navigation within designated airspaces and aerodromes in accordance with the set specifications.
- 12.** (1) The Authority shall determine RCP specifications when applying performance-based communication (PBC).
- (2) Where applicable, the RCP specifications shall be determined on the basis of regional air navigation agreements.
 - (3) The RCP specification shall be appropriate to the air traffic services provided in the Gaborone Flight Information Region.
- 13.** (1) The Authority shall determine RSP specifications when applying performance-based surveillance (PBS).
- (2) Where applicable, the RSP specification shall be determined on the basis of regional air navigation agreements.

Classification
of airspaces

Performance
Based Navigation
(PBN) operations

Performance
Based
Communication
(PBC) operations

Performance
Based
Surveillance
(PSB) operations

(3) The RSP specification shall be appropriate to the air traffic services provided.

(4) The ATIS units shall be provided with equipment capable of performance consistent with the RSP specifications where applicable.

Establishment and designation of units providing air traffic services

14. The air traffic services shall be provided by units established and designated as follows —

(a) flight information established to provide flight information service and alerting service within flight information regions, unless the responsibility of providing such services within a flight information region is assigned to an air traffic control unit having adequate facilities for the discharge of such responsibility; or

(b) air traffic control units established to provide air traffic control services, flight information service and alerting service within control areas, control zones and at controlled aerodromes.

Specifications for flight information regions, control areas and control zones

15. (1) The delineation of airspace, wherein air traffic services are to be provided, shall be related to the nature of the route structure and the need for efficient service rather than to national boundaries.

(2) A flight information region shall —

(a) be delineated to cover the whole of the air route structure to be served by such regions; and

(b) include all airspace within the flight information region's lateral limits except as limited by an upper flight information region.

(3) Where a flight information region is limited by an upper flight information region, the lower limit specified for the upper flight information region shall constitute the upper vertical limit of the flight information region and shall coincide with a VFR cruising level of the tables as set out in Schedule 1 to the Civil Aviation (Rules of the Air) Regulations.

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(4) A control area including, inter alia, airways and terminal control areas, shall be delineated so as to encompass sufficient airspace to contain the flight paths of IFR flights or portions thereof to which it is desired to provide the applicable parts of the air traffic control service, taking into account the capabilities of the navigation aids normally used in that area.

(5) A lower limit of a control area shall be established at a height above the ground or water of not less than 200 m (700 ft).

(6) The lower limit of a control area shall, when practicable and desirable in order to allow freedom of action for VFR flights below the control area, be established at a greater height than the minimum specified in subregulation (5).

(7) When the lower limit of a control area is above 900 m (3000 ft.) Mean Sea Level (MSL) it shall coincide with a VFR cruising level of the table as set out in Schedule 1 to the Civil Aviation (Rules of the Air) Regulations.

(8) An upper limit of a control area shall be established when either —

(a) air traffic control service is not provided above such upper limit; or

(b) the control area is situated below an upper control area, in which case the upper limit shall coincide with the lower limit of the upper control area.

(9) When established, such upper limit shall coincide with a VFR cruising level of the table set out in Schedule 1 to the Civil Aviation (Rules of the Air) Regulations.

16. Where it is desirable to limit the number of flight information regions or control areas through which a high flying aircraft would otherwise have to operate, a flight information region or control area, as appropriate, shall be delineated to include the upper airspace within the lateral limits of a number of lower flight information regions or control areas.

Flight information regions or control areas in upper airspace

17. (1) The lateral limits of a control zone shall encompass at least portions of the airspace, which are not within control areas, containing the paths of IFR flights arriving at and departing from aerodromes to be used under instrument meteorological conditions.

Control zones

(2) The lateral limits of a control zone shall extend to at least 9.3 km (5 NM) from the centre of the aerodrome concerned in the directions from which approaches may be made.

(3) Where a control zone is located within the lateral limits of a control area, the control zone shall extend upwards from the surface of the earth to at least the lower limit of the control area.

(4) Where a control zone is located outside the lateral limits of a control area, an upper limit shall be established.

(5) Where it is desired to establish the upper limit of a control zone at a level higher than the lower limit of the control area established above it, or where the control zone is located outside of the lateral limits of a control area, the control zone's upper limit shall be established at a level which can easily be identified by a pilot.

(6) Where the limit under subregulation (5) is above 900 m (3 000 ft.) Mean Sea Level it shall coincide with a VFR cruising level as set out in Schedule 1 to the Civil Aviation (Rules of the Air) Regulations.

18. (1) An area control centre or flight information centre shall be identified by the name of a nearby town or city or geographic feature.

Identification of air traffic services units and airspaces

(2) An aerodrome control tower or approach control unit shall be identified by the name of the aerodrome at which it is located.

(3) A control zone, control area or flight information region shall be identified by the name of the unit having jurisdiction over such airspace.

19. (1) When an ATS route is established, a protected airspace along each ATS route and a safe spacing between adjacent ATS routes shall be provided.

Establishment and identification of ATS routes

(2) When warranted by density, complexity or nature of the traffic, a special route shall be established for use by low-level traffic, including helicopters.

(3) When determining the lateral spacing between routes under subregulation (2), account shall be taken of the navigational means available and the navigation equipment carried on board helicopters.

(4) An ATS route shall be identified by a designator.

(5) A designators for an ATS route other than a standard departure and arrival route shall be selected in accordance with the principles set out in Schedule 2.

(6) Standard departure and arrival routes and associated procedures shall be identified in accordance with the principles set out in Schedule 3.

20. (1) Change-over points shall be established on ATS route segments defined by reference to very high frequency omni-directional radio ranges where this will assist accurate navigation along the route segments.

Establishment of change-over points

(2) The establishment of change-over points shall be limited to route segments of 110 km (60 NM) or more, except where the complexity of ATS routes, the density of navigation aids or other technical and operational reasons warrant the establishment of change-over points on shorter route segments.

(3) Unless otherwise established in relation to the performance of the navigation aids or frequency protection criteria, the change-over point on a route segment shall be the mid-point between the facilities in the case of a straight route segment or the intersection of radials in the case of a route segment which changes direction between the facilities.

Establishment and identification of significant points

21. (1) Significant points shall be established for the purpose of defining an ATS route or in relation to the requirements of air traffic services for information regarding the progress of aircraft in flight.

(2) Significant points shall —

(a) be identified by designators; and

(b) be established and identified in accordance with the principles set out in Schedule 4.

Establishment and identification of standard routes of taxiing aircraft

22. (1) Standard routes for taxiing aircraft shall be established on an aerodrome between runways, aprons and maintenance areas and such routes shall be direct, simple and where practicable, designed to avoid traffic conflicts.

(2) Standard routes for taxiing aircraft shall be identified by designators distinctively different from those of the runways and ATS routes.

Coordination between operator and air traffic services
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23. (1) An air traffic services unit shall have due regard for the requirements of the operators consequent on the air traffic services unit's obligations as set out in Civil Aviation (Operation of Aircraft) Regulations.

(2) The ATS units shall make available to the operators or the operator's designated representatives such information as may be available to enable them or their designated representatives to carry out their responsibilities.

(3) The ATS Units shall provide the operator or a designated representative whenever requested, with messages including position reports in so far as practicable in accordance with locally agreed procedures.

Coordination between military authorities and air traffic services

24. (1) An air traffic services authority shall establish and maintain close cooperation with military authorities responsible for activities that may affect flights of a civil aircraft.

(2) Coordination of activities potentially hazardous to a civil aircraft shall be effected in accordance with regulation 25.

(3) An arrangement shall be made to permit information relevant to the safe and expeditious conduct of flights of civil aircraft to be promptly exchanged between air traffic services units and appropriate military units.

(4) The air traffic services unit shall in accordance with locally agreed procedures, provide appropriate military units with pertinent flight plan and other data concerning flights of civil aircraft.

(5) The air traffic services authority shall designate any area or route where the requirements of Civil Aviation (Rules of the Air) Regulations concerning flight plans, two-way communications and position reporting apply to all flights to facilitate identification of civil aircraft.

(6) Special procedures shall be established in order to ensure that —

(a) air traffic services units are notified if a military unit observes that an aircraft which is, or might be, a civil aircraft is approaching, or has entered, any area in which interception might become necessary; and

(b) all possible efforts are made to confirm the identity of the aircraft and to provide it with the navigational guidance necessary to avoid the need for interception.

25. (1) An arrangement for activities potentially hazardous to a civil aircraft, whether over the territory of Botswana or over the high seas, shall be coordinated with the appropriate air traffic services authorities.

(2) The coordination shall be effected to permit timely promulgation of information regarding the activities in accordance with the Civil Aviation (Aeronautical Information Services) Regulations.

(3) Where the appropriate ATS authority is not that of the State where the organisation planning the activities is located, initial coordination shall be effected through the ATS authority responsible for the airspace over the State where the organisation is located.

(4) The objective of the coordination shall be to achieve the best arrangement which may avoid hazards to civil aircraft and minimise interference with the normal operations of such aircraft.

(5) In determining the arrangements under subregulation (4), the appropriate ATS authority shall apply the following conditions —

(a) the location or area, time and duration for the activities shall be selected as far as possible in order to avoid closure or realignment of established ATS routes, blocking of the most economic flight levels, or delays of scheduled aircraft operations, unless no other options exist;

(b) the size of the airspace designated for the conduct of the activities shall be kept as small as possible; and

(c) direct communication between the appropriate ATS authority or air traffic services unit and the organisation or unit conducting the activities shall be provided for use in the event that civil aircraft emergencies or other unforeseen circumstances require discontinuation of the activities.

(6) The appropriate ATS authority shall be responsible for initiating the promulgation of information regarding the activities.

(7) Where an activity that is potentially hazardous to civil aircraft takes place on a regular or continuing basis, special committees shall be established as required to ensure that the requirements of all parties concerned are adequately coordinated.

(8) Adequate steps shall be taken to prevent emission of laser beams from adversely affecting flight operations.

(9) The Air Navigation Service Provider (ANSP) together with the military authorities, through the civil or military coordination arrangements, shall establish procedures providing for a flexible use of airspace reserved for military or other special activities in order to provide added airspace capacity and to improve efficiency and flexibility of aircraft operations.

(10) The procedures under subregulation (9) shall permit all airspace users to have safe access to such reserved airspace.

(11) The ANSP shall ensure that a safety risk assessment is conducted as soon as practicable, for activities potentially hazardous to a civil aircraft, and that appropriate risk mitigation measures are implemented.

(12) The risk mitigation measures under subregulation (11) may include airspace restriction or temporary withdrawal of established ATS routes or portions thereof.

(13) The Authority shall establish procedures to enable the organisation or unit conducting or identifying activities potentially hazardous to a civil aircraft to contribute to the safety risk assessment in order to facilitate consideration of relevant safety-significant factors.

Coordination of
activities
potentially
hazardous to
civil aircraft
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Aeronautical
data

26. (1) Determination and reporting of air traffic services-related aeronautical data shall be in accordance with the accuracy and integrity classification required to meet the needs of the end user of aeronautical data.

(2) Digital data error detection techniques shall be used during the transmission and or storage of aeronautical data and digital data sets.

Coordination
between
meteorological
and air traffic
services providers

27. (1) Meteorological and air traffic services providers shall make arrangements to ensure that an aircraft receives the most up-to-date meteorological information for aircraft operations.

(2) The meteorological and air traffic services authority shall make an arrangement where necessary for air traffic personnel to —

(a) report if observed by an air traffic services personnel or communicated by aircraft, such other meteorological elements as may be agreed upon in addition to using indicating instruments;

(b) report as soon as possible to the associated meteorological office meteorological phenomena of operational significance, if observed by air traffic services personnel or communicated by aircraft, which have not been included in the aerodrome meteorological report; or

(c) report as soon as possible to the associated meteorological office pertinent information concerning pre-eruption volcanic activity, volcanic eruptions and information concerning volcanic ash cloud.

(3) An area control centre or a flight information centre shall report the information under subregulation (2)(c) to the associated meteorological watch office and volcanic ash advisory centres.

(4) The area control centre, flight information centre and associated meteorological watch office shall maintain close coordination to ensure that information on volcanic ash included in NOTAM and SIGMET messages is consistent.

Coordination
between
aeronautical
information
services and
air traffic
services

28. (1) An aeronautical information service and air traffic service responsible for air traffic services shall make an arrangement to ensure that aeronautical information services units obtain information to enable them to provide up-to-date pre-flight information and to meet the need for inflight information.

(2) An arrangement shall be made between aeronautical information services and air traffic services responsible for air traffic services to report to the responsible aeronautical information services unit, with a minimum of delay —

(a) information on an aerodrome's condition;

(b) the operational status of associated facilities, services and navigation aids within their area of responsibility;

(c) the occurrence of volcanic activity observed by air traffic services personnel or reported by aircraft; and

(d) any other information considered to be of operational significance.

(3) The services responsible for changes to the air navigation system shall, before introducing any change, take due account of the time needed by the aeronautical information service for the preparation, production and issuance of relevant material for promulgation and to ensure timely provision of the information to the aeronautical information service, close coordination between those services concerned shall be required.

(4) A change to aeronautical information that affects charts or computer-based navigation systems which qualify to be notified by the Aeronautical Information Regulation and Control (AIRAC) system, shall be as set out in the Civil Aviation (Aeronautical Information Services) Regulations.

(5) Subject to subregulation (4), the predetermined, internationally agreed AIRAC effective dates in addition to 14 days postage time shall be observed by the responsible air traffic services when submitting the raw information or data to aeronautical information services.

(6) The air traffic services responsible for the provision of raw aeronautical information or data to the aeronautical information services shall do so while taking into account accuracy and integrity requirements required to meet the needs of the end-user of aeronautical data.

29. (1) The Authority shall determine and promulgate minimum flight altitudes for each Air Traffic Service route and control area.

Minimum flight altitudes

(2) The minimum flight altitudes determined under subregulation (1) shall provide a minimum clearance above the controlling obstacle located within the areas concerned.

30. (1) An aircraft known or believed to be in a state of emergency, including being subjected to unlawful interference, shall be given maximum consideration, assistance and priority over other aircraft as may be necessitated by the circumstances.

Service to aircraft in event of emergency

(2) An aircraft equipped with an appropriate data link capability or an SSR transponder to indicate that the aircraft is in a state of emergency, shall operate the equipment as follows —

(a) on Mode A, Code 7700;

(b) on Mode A, Code 7500, to indicate specifically that it is being subjected to unlawful interference;

(c) activate the appropriate emergency or urgency capability of ADS-B or ADS-C; or

(d) transmit the appropriate emergency message via CPDLC.

(3) Human factor principles shall be observed in communications between an ATS units and an aircraft in the event of an emergency.

(4) The ATS unit shall attend promptly to requests by an aircraft when an occurrence of unlawful interference with the aircraft takes place or is suspected.

(5) Information pertinent to the safe conduct of the flight as referred to under subregulation (4) shall be transmitted and the necessary action shall be taken to expedite the conduct of all phases of the flight, especially the safe landing of the aircraft.

(6) The ATS unit in accordance with locally agreed procedures shall immediately inform the appropriate authority designated by the State and exchange necessary information with the operator or its designated representative when an occurrence of unlawful interference with an aircraft takes place or is suspected.

31. (1) An ATS unit shall take all necessary steps as outlined under subregulations (2) and (3) to assist strayed aircraft and to safeguard its flight as soon as the unit becomes aware of the strayed aircraft.

In-flight contingencies, strayed and unidentified aircraft

(2) Where the aircraft's position is not known, the air traffic services unit shall —

(a) attempt to establish a two-way communication with the aircraft, unless such communication already exists;

(b) use available means to determine its position;

(c) inform other ATS units into whose area the aircraft may have strayed or may stray, taking into account any factor which may have affected the navigation of the aircraft in the circumstances;

- (d) inform, in accordance with a locally agreed procedure, appropriate military units and provide them with pertinent flight plan and other data concerning strayed aircraft; and
 - (e) request from the units referred to under paragraphs (c) and (d) and from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position.
- (3) When the aircraft's position is established, the air traffic services unit shall —
- (a) advise the aircraft of its position and corrective action to be taken; and
 - (b) provide, as necessary, other ATS units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.
- (4) Where an ATS unit becomes aware of an unidentified aircraft in its area, the air traffic services unit shall endeavour to establish the identity of the aircraft in accordance with locally agreed procedures.
- (5) Subject to subregulation (4) the ATS unit shall take the following steps —
- (a) attempt to establish a two-way communication with the aircraft;
 - (b) inquire of other air traffic services units within the flight information region about the flight and request their assistance in establishing two-way communication with the aircraft;
 - (c) inquire of the ATS unit serving the adjacent flight information regions about the flight, and request the ATS' unit assistance in establishing two-way communication with the aircraft; and
 - (d) attempt to obtain information from any other aircraft in the area.
- (6) The air traffic services unit shall, inform the appropriate military unit as soon as the identity of the aircraft has been established.
- (7) The appropriate State agency shall immediately be informed, in accordance with locally agreed procedures when the ATS unit considers that a strayed or unidentified aircraft may be the subject of an unlawful interference.

Interception of
civil aircraft

- 32. (1)** Where an ATS unit learns that an aircraft is being intercepted in its area of responsibility, the air traffic services unit shall take the following steps as are appropriate in the circumstances —
- (a) attempt to establish two-way communication with the intercepted aircraft via any means available, including the emergency radio frequency 121.5 MHz, unless such communication already exists;
 - (b) inform the pilot of the intercepted aircraft of the interception;
 - (c) establish contact with the intercept control unit maintaining two-way communication with the intercepting aircraft and provide it with available information concerning the aircraft;
 - (d) relay messages between the intercepting aircraft or the intercept control unit and the intercepted aircraft, as necessary;
 - (e) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft; and
 - (f) inform ATS units serving adjacent flight information regions if it appears that the aircraft has strayed from such adjacent flight information regions.
- (2) Where an ATS unit learns that an aircraft is being intercepted outside its area of responsibility, the air traffic services unit shall take the following steps as are appropriate in the circumstances —
- (a) inform the ATS unit serving the airspace in which the interception is taking place, providing this unit with available information that will assist in identifying the aircraft and requesting it to take action in accordance with subregulation (1); and

(b) relay messages between the intercepted aircraft and the appropriate ATS unit, the intercept control unit or the intercepting aircraft.

33. (1) An ATS unit shall use Coordinated Universal Time (UTC) and shall express the time in hours and minutes, and where required, seconds of the 24 hour day beginning at midnight.

Time in air
traffic services

(2) An ATS unit shall be equipped with clocks indicating the time in hours, minutes and seconds, clearly visible from each operating position in the unit concerned.

(3) The ATS unit clocks and other time recording devices shall be checked as necessary to ensure correct time to within plus or minus 30 seconds of UTC.

(4) Wherever data link communications are utilised by an air traffic services unit, clocks and other time-recording devices shall be checked as necessary to ensure correct time to within 1 second of UTC.

(5) The correct time shall be obtained from a standard time station or, if not possible, from another unit which has obtained the correct time from such station.

(6) An aerodrome control tower shall, prior to an aircraft taxiing for take-off, provide the pilot with the correct time, unless arrangements have been made for the pilot to obtain it from other sources.

(7) The ATS unit shall provide an aircraft with the correct time on request and time checks shall be given to the nearest half minute.

34. The Authority shall establish requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of an airspace.

Establishment
of requirement
for carriage
and operation
of pressure-
altitude reporting
transponders
Safety
management
Cap. 71:01
(Sub. Leg.)

35. (1) An ATS provider shall establish a safety management system in accordance with the Civil Aviation (Safety Management) Regulations.

(2) Any significant safety-related change to the ATS system, including the implementation of a reduced separation minimum or a new procedure, shall only be effected after a safety assessment has demonstrated that an acceptable level of safety will be met and users have been consulted.

(3) The ATS provider, when appropriate, shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.

36. (1) The Authority shall determine requirements for Fatigue Management for the purpose of managing fatigue in the provision of air traffic control services.

Prescriptive
fatigue
management

(2) The requirements referred to under subregulation (1) are set out in Schedule 5.

(3) The ATS provider, for the purposes of managing its fatigue-related safety risks, shall establish air traffic controller schedules commensurate with the services provided and in compliance with Schedule 5.

(4) Where the air traffic services provider complies with scheduling limits in the provision of part or all of its air traffic control services under subregulation (3), the Authority shall —

(a) require evidence that the limitations are not exceeded and that non-duty period requirements are met;

(b) require an ATS provider to familiarise its personnel with the principles of fatigue management and its policies with regard to fatigue management;

	<p>(c) establish a process to allow variations from the applicable scheduling limits to address any additional risks associated with sudden, unforeseen operational circumstances; and</p> <p>(d) where an air traffic services provider demonstrates that any associated risk is managed to a level of safety equivalent to, or better than, that achieved through the applicable scheduling limits, the Authority may approve variations to these limits in order to address strategic operational needs in exceptional circumstances.</p>
Horizontal reference system	<p>37. (1) The World Geodetic System -1984 shall be used as the horizontal-reference system for air navigation.</p> <p>(2) Reported aeronautical geographical coordinates indicating latitude and longitude shall be expressed in terms of the World Geodetic System-1984 geodetic reference datum.</p>
Vertical reference system	<p>38. Mean Sea Level datum, which gives the relationship of gravity-related height or elevation to a surface known as the geoids shall be used as the vertical reference system for air navigation.</p>
Temporal reference system	<p>39. (1) The Gregorian calendar and Coordinated Universal Time shall be used as the temporal reference system for air navigation.</p> <p>(2) Where a different temporal reference system is used, the temporal reference system shall be indicated in Part 1, section 2.1.2. of the Aeronautical Information Publication.</p>
Contingency arrangements	<p>40. (1) An ATS provider shall ensure that an air traffic controller speaks and understands the languages used for radiotelephony communications as set out in the Civil Aviation (Personnel Licensing) Regulations.</p> <p>(2) The English language shall be used for communications between air traffic control units except when conducted in a mutually agreed language.</p>
Language proficiency Cap. 71:01 (Sub. Leg.)	<p>41. (1) An ATS authority shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services.</p> <p>(2) The contingency plan shall be developed with the assistance of International Civil Aviation Organization in coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.</p>
Identification and delineation of prohibited, restricted and danger areas	<p>42. (1) A prohibited, restricted or danger area shall upon initial establishment, be given identification and full details and be promulgated by the Authority.</p> <p>(2) The identification assigned shall be used to identify the area in all subsequent notifications pertaining to that area.</p> <p>(3) The identification shall be composed of a group of letters and figures as follows —</p> <p>(a) nationality letters for location indicators assigned to the State or territory which has established the airspace;</p> <p>(b) the letter —</p> <p>(i) P for prohibited area,</p> <p>(ii) R for restricted area, and</p> <p>(iii) D for danger area,</p> <p>as appropriate; and</p> <p>(c) a number, unduplicated within the State or territory.</p>

(4) An identification number shall not be reused for a period of at least one year after cancellation of the area to which they refer to avoid confusion.

(5) Where a prohibited, restricted or danger area is established, the area shall be as small as practicable and be contained within simple geometrical limits, so as to permit ease of reference by all concerned.

43. The Authority shall ensure that an instrument flight procedure design service is in place in accordance with the Civil Aviation (Construction of Visual and Instrument Flight Procedures) Regulations.

Instrument flight
procedure
design service
Cap. 71:01
(Sub. Leg.)

PART III — *Air Traffic Control Service*

44. An air traffic control service shall be provided to —

- (a) IFR flights in airspace Classes A, B, C, D and E;
- (b) VFR flights in airspace Classes B, C and D;
- (c) special VFR flights; and
- (d) aerodrome traffic at controlled aerodromes.

Application of
air traffic
control service

45. The divisions of air traffic control service under regulation 7(1) shall be provided by the various units as follows —

Provision of
air traffic
control service

- (a) area control service by —
 - (i) an area control centre, or
 - (ii) the unit providing approach control service in a control zone or in a control area of limited extent which is designated primarily for the provision of approach control service, and where no area control centre is established; or
- (b) approach control service by —
 - (i) an aerodrome control tower or area control centre when it is necessary or desirable to combine under the responsibility of one unit the functions of the approach control service with those of the aerodrome control service or the area control service, or
 - (ii) by an approach control unit when it is necessary or desirable to establish a separate unit; and
- (c) aerodrome control service by an aerodrome control tower.

46. (1) In order to provide air traffic control services, an air traffic control unit shall —

Operation of
air traffic
control service

- (a) be provided with information on the intended movement of each aircraft, or variations there from, and with current information on the actual progress of each aircraft;
- (b) determine from the information received, the relative positions of known aircrafts to each other;
- (c) issue clearances and information for the purpose of preventing collision between aircrafts under the air traffic control services' control and of expediting and maintaining an orderly flow of traffic; and
- (d) coordinate clearances as necessary with other units —
 - (i) whenever an aircraft might otherwise conflict with traffic operated under the control of such other units, or
 - (ii) before transferring control of an aircraft to such other units.

(2) Information on an aircraft's movement, together with a record of air traffic control clearances issued to such aircraft, shall be so displayed as to permit ready analysis in order to maintain an efficient flow of air traffic with adequate separation between aircrafts.

(3) Clearances issued by an air traffic control unit shall provide separation between —

- (a) flights in airspace Classes A and B;
 - (b) IFR flights in airspace Classes C, D and E;
 - (c) IFR flights and VFR flights in airspace Class C;
 - (d) IFR flights and special VFR flights; and
 - (e) special VFR flights when so determined by the appropriate ATS authority.
- (4) A flight may be cleared without separation being provided in respect of a specific portion of the flight conducted in visual meteorological conditions when requested by an aircraft and if so determined by the appropriate ATS authority for the cases listed under subregulation (3) (b) in airspace Classes D and E.
- (5) Separation by an air traffic control unit shall be obtained by at least one of the following —
- (a) vertical separation, obtained by assigning different levels selected from—
 - (i) the appropriate table of cruising levels described in the Civil Aviation (Rules of the Air) Regulations, or
 - (ii) a modified table of cruising levels, when so determined in accordance with the Civil Aviation (Rules of the Air) Regulations or flight above FL 410, except that the correlation of levels to track as determined therein shall not apply whenever otherwise indicated in appropriate aeronautical information publications or air traffic control clearances;
 - (b) horizontal separation, obtained by providing —
 - (i) longitudinal separation, by maintaining an interval between air crafts operating along the same, converging or reciprocal tracks, expressed in time or distance, or
 - (ii) lateral separation, by maintaining aircraft on different routes or in different geographical areas; or
 - (c) composite separation, consisting of a combination of vertical separation and one of the other forms of separation contained under paragraph (b) using minima for each which may be lower than, but not less than half of, those used for each of the combined elements when applied individually.
- (6) Composite separation shall only be applied on the basis of regional air navigation agreements.
- (7) For an airspace where a reduced vertical separation minimum of 300 m (1000 ft) is applied between FL 290 and FL 410 inclusive, a programme shall be instituted on a regional basis, for monitoring the height-keeping performance of an aircraft operating at these levels, in order to ensure that the continued application of this vertical separation minimum meets the safety objectives.
- (8) The scope of regional monitoring programmes shall be adequate to conduct analysis of aircraft group performance and evaluate the stability of altimetry system error.
- (9) Where RCP or RSP specifications are applied, programmes shall be instituted for monitoring the performance of the infrastructure and the participating aircraft against the appropriate RCP or RSP specifications, to ensure that operations in the applicable airspace continue to meet safety objectives.
- (10) The scope of monitoring programmes shall be adequate to evaluate communication or surveillance performance, as applicable.
- 47.** (1) The selection of separation minima for application within a given portion of airspace shall be as follows —

Separation
minima

- (a) the separation minima shall be selected from those determined by the provisions of the Procedure for Air Navigation Services- Air Traffic Management (PANS-ATM) and the Regional Supplementary Procedures as applicable under the prevailing circumstances except, that where types of aids are used or circumstances prevail which are not covered by these Regulations, other separation minima shall be established as necessary by –
 - (i) the appropriate ATS Authority following consultation with operators, for routes or portions of routes contained within the sovereign airspace of Botswana, or
 - (ii) regional air navigation agreements for routes or portions of routes contained within an airspace over areas of undetermined sovereignty;
 - (b) the selection of separation minima shall be made in consultation between the appropriate ATS authorities responsible for the provision of air traffic services in neighbouring airspaces where –
 - (i) traffic passes from one airspace into the other neighbouring airspace, and
 - (ii) routes are closer to the common boundary of the neighbouring airspaces than the separation minima applicable in the circumstances.
- (2) Details of the selected separation minima and of their areas of application shall be notified –
- (a) to the ATS units concerned; and
 - (b) to pilots and operators through aeronautical information publications, where separation is based on the use by aircraft of specified navigation aids or specified navigation techniques.
- 48.** (1) A controlled flight shall be under the control of only one air traffic control unit at any given time. Responsibility for control
- (2) The responsibility for the control of all aircrafts operating within a given block of airspace shall be vested in a single air traffic control unit.
- (3) The control of an aircraft may be delegated to other air traffic control units provided that coordination between all air traffic control units concerned is assured.
- 49.** The responsibility for the control of an aircraft shall be transferred from one air traffic control unit to another in accordance with the principles set out in Schedule 6. Place or time of transfer
- 50.** (1) Responsibility for the control of an aircraft shall not be transferred from one air traffic control unit to another without the consent of the accepting control unit, and such transfer shall be obtained in accordance with the following conditions – Coordination of transfer
- (a) the transferring control unit shall communicate to the accepting control unit the appropriate parts of the current flight plan, and any control information pertinent to the transfer requested;
 - (b) where transfer of control is to be effected using radar or ADS-B data, the control information pertinent to the transfer shall include information regarding the position and where required, the track and speed of the aircraft, as observed by radar or ADS-B immediately prior to the transfer; or
 - (c) where the transfer of control is to be effected using ADS-C data, the control information pertinent to the transfer shall include the four-dimensional position and other information as necessary.

- (2) The accepting control unit shall —
- (a) indicate its ability to accept control of the aircraft on the terms specified by the transferring control unit, unless by prior agreement between the two units concerned, and the absence of any such indication shall be understood to signify acceptance of the terms specified, or indicate any necessary changes thereto; and
 - (b) specify any other information or clearance for a subsequent portion of the flight, which the accepting control unit requires the aircraft to have at the time of transfer.

(3) The accepting control unit shall notify the transferring control unit when it has established two-way voice or data link communications with, and assumed control of the aircraft concerned, unless otherwise specified by agreement between the two control units concerned.

(4) Applicable coordination procedures, including transfer of control points, shall be specified in the letters of agreement and ATIS unit instructions, as appropriate.

Air traffic control clearances

51. Air traffic control clearances shall be based solely on the requirements for providing air traffic control service.

Contents of clearances

52. (1) An air traffic control clearance shall indicate —

- (a) aircraft identification as shown in the flight plan;
- (b) clearance limit;
- (c) route of flight;
- (d) level of flight for the entire route or part of the route and changes of levels if required; and
- (e) any necessary instructions or information on other matters such as approach or departure manoeuvres, communications and the time of expiry of the clearance.

(2) Standard departure or arrival routes and associated procedures shall be established where necessary to facilitate —

- (a) the safe, orderly and expeditious flow of air traffic; and
- (b) the description of the route and procedure in air traffic control clearances.

Clearances for transonic flight

53. (1) An air traffic control clearance relating to the transonic acceleration phase of a supersonic flight shall extend at least to the end of that phase.

(2) An air traffic control clearance relating to the deceleration and descent of an aircraft from supersonic cruise to subsonic flight shall provide for uninterrupted descent, at least during the transonic phase.

Read-back of clearances and safety-related information

54. (1) A flight crew shall read back to the air traffic controller safety-related parts of Air Traffic Control clearances and instructions which are transmitted by voice.

(2) The flight crew shall always read back the following items of ATC clearances and instructions —

- (a) ATC route clearances;
- (b) clearances and instructions to enter, land on, take off from, hold short of, cross and backtrack on any runway; and
- (c) runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions and, whether issued by the controller or contained in ATIS broadcasts, transition levels.

(3) Other clearances or instructions, including conditional clearances, shall be read back or acknowledged in a manner to clearly indicate that they have been understood and shall be complied with.

(4) The controller shall listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and shall take immediate action to correct any discrepancies revealed by the read-back.

(5) Unless specified by the appropriate ATS Authority, voice read-back of Controller Pilot Data Link Communication messages shall not be required.

55. (1) An air traffic control clearance shall be coordinated between air traffic control units to cover the entire route of an aircraft or a specified portion of the route.

Coordination of clearances

(2) An aircraft shall be cleared for the entire route to the aerodrome of first intended landing —

- (a) when it has been possible, prior to departure, to coordinate the clearance between all the units under whose control the aircraft will come; or
- (b) when there is reasonable assurance that prior coordination will be effected between those units under whose control the aircraft will subsequently come.

(3) Where coordination under subregulation (2) has not been achieved or is not anticipated, the aircraft shall be cleared only to that point where coordination is reasonably assured and prior to reaching such point, or at such point, the aircraft shall receive further clearance, holding instructions being issued as appropriate.

(4) When determined by the appropriate ATS authority, an aircraft shall contact a downstream air traffic control unit, for the purpose of receiving a downstream clearance prior to the transfer of control point.

(5) An aircraft shall maintain the necessary two-way communication with the current air traffic control unit while obtaining a downstream clearance.

(6) A clearance issued as a downstream clearance shall be clearly identifiable as such to the pilot.

(7) A downstream clearance shall not affect the aircraft's original flight profile in any airspace, other than that of the air traffic control unit responsible for the delivery of the downstream clearance unless the downstream clearance has been coordinated.

(8) Where data link communications are used to facilitate downstream clearance delivery, two-way voice communications between the pilot and the air traffic control unit providing the downstream clearance shall be available.

(9) Where an aircraft intends to depart from an aerodrome within a control area to enter another control area within a period of 30 minutes, or such other specific period of time as has been agreed between the area control centres concerned, coordination with the subsequent area control centre shall be effected prior to issuance of the departure clearance.

(10) When an aircraft intends to leave a control area for flight outside controlled airspace, and re-enter the same or another control area, a clearance from point of departure to the aerodrome of first intended landing shall be issued.

(11) The clearance or revision referred to under subregulation (10) shall apply only to those portions of the flight conducted within controlled airspace.

56. (1) Air traffic flow management shall be implemented for airspace where air traffic demand at times exceeds, or is expected to exceed, the declared capacity of the air traffic control services concerned.

Air traffic flow management

(2) Air traffic flow management shall be implemented on the basis of regional air navigation agreements or, where appropriate, through multilateral agreements and such agreements shall make provision for common procedures and common methods of capacity determination.

(3) Where it becomes apparent to an ATC unit that traffic additional to that already accepted —

- (a) cannot be accommodated within a given period of time at a particular location or in a particular area; or
- (b) can only be accommodated at a given rate, that unit shall advise the ATFM unit, when such is established, as well as when appropriate, the ATS units concerned.

(4) A flight crew of an aircraft destined to the location or area in question and operators concerned shall also be advised of the delays expected or the restrictions that will be applied.

Control of persons and vehicles at aerodromes

57. (1) The movement of a person or vehicle including a towed aircraft on the maneuvering area of an aerodrome shall be controlled by the aerodrome control tower to avoid hazard to such person or vehicle, or to an aircraft landing, taxiing or taking off.

(2) In conditions where low visibility procedures are in operation —

- (a) a person and a vehicle operating on the maneuvering area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the Instrument Landing System or Micro Landing System sensitive areas when Category II or Category III precision instrument operations are in progress;
- (b) subject to subregulation (3), the minimum separation between vehicles and taxiing aircraft shall be as determined by the appropriate ATS authority taking into account the aids available; and
- (c) when mixed Instrument Landing System or Micro Landing System Category II or Category III precision instrument operations are taking place to the same runway continuously, the more restrictive Instrument Landing System or Micro Landing System critical and sensitive areas shall be protected.

(3) An emergency vehicle proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic.

(4) Subject to subregulation (3), a vehicle on the maneuvering area shall be required to comply with the following rules —

- (a) a vehicle or a vehicle towing an aircraft shall give way to an aircraft which is landing, taking off or taxiing;
- (b) a vehicle shall give way to other vehicles towing an aircraft;
- (c) a vehicle shall give way to other vehicles in accordance with ATS unit instructions; and
- (d) notwithstanding paragraphs (a), (b) and (c), a vehicle or a vehicle towing an aircraft shall comply with instructions issued by the aerodrome control tower.

(5) The ATS provider shall establish a runway safety programme to enhance runway safety using collaborative approach that involves regulators, aircraft operators, aerodrome operators and air navigation service providers.

Provision of radar and ADS-B

58. Radar and ADS-B ground systems shall provide for the display of safety-related alerts and warnings, including conflict alert, conflict prediction, minimum safe altitude warning and unintentionally duplicated SSR codes.

Use of surface movement radar

59. In the absence of visual observation of all or part of the maneuvering area or to supplement visual observation, Surface Movement Radar or other suitable surveillance equipment, shall be utilised to —

- (a) monitor the movement of an aircraft and vehicles on the maneuvering area;

- (b) provide directional information to pilots and vehicle drivers as necessary; and
- (c) provide advice and assistance for the safe and efficient movement of an aircraft and vehicles on the maneuvering area.

60. (1) Flight information service shall be provided to all aircraft which are likely to be affected by the information and which are —

Application of flight information service

- (a) provided with air traffic control service; or
- (b) otherwise known to the relevant air traffic services units.

(2) Where an ATS unit provides both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires.

61. (1) Flight information service shall include the provision of pertinent —

Scope of flight information service

- (a) SIGMET and AIRMET information;
- (b) information concerning pre-eruption volcanic activity, volcanic eruptions and volcanic ash clouds;
- (c) information concerning the release into the atmosphere of radioactive materials or toxic chemicals;
- (d) information on changes in the availability of radio navigation services;
- (e) information on changes in condition of an aerodrome and associated facilities, including information on the state of the aerodrome movement areas when they are affected by significant depth of water;
- (f) information on unmanned free balloons; and
- (g) any other information likely to affect safety.

(2) Flight information services provided to a flight shall include, in addition to that outlined under subregulation (1), the provision of information concerning —

- (a) weather conditions reported or forecast at departure, destination and alternate aerodromes;
- (b) collision hazard to an aircraft operating in airspace Classes C, D, E, F and G as set out in Schedule 1; and
- (c) for flight over water areas, in so far as practicable and when requested by a pilot, any available information including radio call sign, position, true track, speed of surface vessels in the area.

(3) An ATS unit shall transmit, as soon as practicable, special air-reports to other aircrafts concerned, to the associated meteorological office, and to other ATS units concerned.

(4) The transmission to an aircraft referred under subregulation (3) shall be continued for a period to be determined by agreement between the meteorological and air traffic services authorities concerned.

(5) Flight information service provided to VFR flights shall include, in addition to that outlined under subregulation (1), the provision of available information concerning traffic and weather conditions along the route of flight that are likely to make operation under the visual flight rules impracticable.

62. (1) The meteorological information and operational information concerning radio navigation services and aerodromes included in the flight information service shall, whenever available, be provided in an operationally integrated form.

Application of operational flight information service broadcasts

(2) Where integrated operational flight information messages are to be transmitted to an aircraft, the messages shall be transmitted with the content and where specified, in the sequence indicated, for the various phases of the flight.

(3) Operational flight information service broadcasts, where provided, shall consist of messages containing integrated information regarding selected operational and meteorological elements appropriate to the various phases of flight.

(4) The broadcasts referred to under subregulation (3) are —

- (a) High Frequency;
- (b) Very High Frequency; and
- (c) Automatic Terminal Information Service.

(5) Applicable operational flight information service messages shall be transmitted by the appropriate ATS unit when requested by the pilot.

High Frequency
operational flight
information
service
broadcasts

63. (1) High Frequency operational flight information service broadcasts shall be provided when it has been determined by regional air navigation agreements that a requirement exists.

(2) Whenever such High Frequency operational flight information service broadcasts are provided —

- (a) the information shall be in accordance with subregulation (3) as applicable, subject to regional air navigation agreements;
- (b) the aerodromes for which reports and forecasts are to be included shall be as determined by regional air navigation agreements;
- (c) the time-sequencing of stations participating in the broadcast shall be as determined by regional air navigation agreements;
- (d) the high frequency operational flight information service broadcast message shall take into consideration human performance;
- (e) the broadcast message shall not exceed the length of time allocated for it by regional air navigation agreements, care being taken that the readability is not impaired by the speed of the transmission;
- (f) each aerodrome message shall be identified by the name of the aerodrome to which the information applies;
- (g) where information has not been received in time for a broadcast, the latest available information shall be included together with the time of that observation;
- (h) the full broadcast message shall be repeated when this is feasible within the remainder of the time allotted to the broadcasting station;
- (i) the broadcast information shall be updated immediately a significant change occurs; and
- (j) the High Frequency operational flight information service message shall be prepared and disseminated by the most appropriate unit as designated by the Authority.

(3) High Frequency operational flight information service broadcast messages shall contain the following information in the sequence indicated or as determined by regional air navigation agreements —

- (a) en-route weather information on significant phenomena shall be in the form of available Significant Meteorological Information as set out in the Civil Aviation (Meteorological Services for Air Navigation) Regulations; and
- (b) aerodrome information including —
 - (i) name of aerodrome,
 - (ii) time of observation,
 - (iii) essential operational information,
 - (iv) surface wind direction and speed, if appropriate, maximum windspeed,

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- (v) visibility and where applicable, the RVR,
- (vi) present weather,
- (vii) cloud below 1 500 m (5 000 ft.) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available, and
- (viii) aerodrome forecast.

64. (1) Very High Frequency operational flight information service broadcasts shall be provided as determined by regional air navigation agreements.

Very High Frequency
operational flight information
service
broadcasts

(2) Whenever Very High Frequency operational flight information service broadcasts are provided —

- (a) the aerodromes for which reports and forecasts are to be included shall be as determined by regional air navigation agreements;
- (b) each aerodrome message shall be identified by the name of the aerodrome to which the information applies;
- (c) where information has not been received in time for a broadcast, the latest available information shall be included together with the time of that observation;
- (d) the broadcasts shall be continuous and repetitive;
- (e) the Very High Frequency operational flight information service broadcast message shall take into consideration human performance;
- (f) the broadcast message shall, whenever practicable, not exceed five minutes, care being taken that the readability is not impaired by the speed of the transmission;
- (g) the broadcast message shall be updated on a scheduled basis as determined by regional air navigation agreements and shall be updated immediately a significant change occurs; and
- (h) the Very High Frequency operational flight information service message shall be prepared and disseminated by the most appropriate unit as designated by the Authority.

(3) Very High Frequency operational flight information service broadcast messages shall contain the following information in the sequence indicated —

- (a) name of aerodrome;
- (b) time of observation;
- (c) landing runway;
- (d) significant runway surface conditions and, where appropriate, braking action;
- (e) changes in the operational state of the radio navigation services, where appropriate;
- (f) holding delay, where appropriate;
- (g) surface wind direction and speed; if appropriate, maximum wind speed;
- (h) visibility and, where applicable, the RVR;
- (i) present weather;
- (j) cloud below 1 500 m (5 000 ft.) or below the highest minimum sector altitude, whichever is greater; cumulonimbus, where the sky is obscured, vertical visibility, when available;
- (k) air temperature;
- (l) dew point temperature;
- (m) QNH altimeter setting;
- (n) supplementary information on recent weather of operational significance and, where necessary, wind shear;

Voice-automatic terminal information service broadcasts

(o) trend forecast, when available; and

(p) notice of current Significant Meteorological Information messages.

65. (1) Voice-automatic terminal information service broadcasts shall be provided at an aerodrome where there is a requirement to reduce the communication load on the Air Traffic Service Very High Frequency air-ground communication channels.

(2) Where provided, Voice-automatic terminal information service broadcast shall comprise —

(a) one broadcast serving an arriving aircraft;

(b) one broadcast serving a departing aircraft;

(c) one broadcast serving both the arriving and departing aircraft; or

(d) two broadcasts serving the arriving and departing aircrafts respectively at an aerodrome where the length of a broadcast serving both arriving and departing aircraft would be excessively long.

(3) A discrete Very High Frequency shall, whenever practicable, be used for Voice-ATIS broadcasts.

(4) Where a discrete frequency is not available, the transmission may be made on the voice channel of the most appropriate terminal navigation aid, preferably a Very High Frequency Omni-directional Radio Range provided the range and readability are adequate and the identification of the navigation aid is sequenced with the broadcast so that the latter is not obliterated.

(5) Voice-automatic terminal information service broadcasts shall not be transmitted on the voice channel of an Instrument Landing System.

(6) Whenever a Voice-automatic terminal information service is provided, the broadcast shall be continuous and repetitive.

(7) The information contained in the current broadcast shall immediately be made known to the ATS unit concerned with the provision to an aircraft of information relating to approach, landing and take-off, whenever the message has not been prepared by that unit.

(8) The Voice-automatic terminal information service broadcasts provided at designated aerodromes for use by international air services shall be available in the English language as a minimum and where Voice-automatic terminal information service broadcasts are available in more than one language, a discrete channel shall be used for each language.

(9) The Voice-automatic terminal information service broadcast message shall, whenever practicable, not exceed 30 seconds, care being taken that the readability of the automatic terminal information service message is not impaired by the speed of the transmission or by the identification signal of a navigation aid used for transmission of automatic terminal information service and the broadcast message shall take into consideration human performance.

Data link-automatic terminal information service

66. (1) Information shall be identical in both content and format to the applicable Voice-automatic terminal information service broadcast where a Data link-automatic terminal information service supplements the existing availability of Voice-automatic terminal information service.

(2) The content, for the purpose of maintaining the same designator, shall be considered identical where real-time meteorological information is included but the data remains within the parameters of the significant change criteria

(3) Voice-automatic terminal information service and Data link-automatic terminal information service shall be updated simultaneously where a Data link-automatic terminal information service supplements the existing availability of Voice-automatic terminal information service and the automatic terminal information service requires updating.

67. (1) Whenever Voice-automatic terminal information service or Data link-automatic terminal information service is provided —

Automatic terminal information service (voice or data link)

- (a) the information communicated shall relate to a single aerodrome;
- (b) the information communicated shall be updated immediately a significant change occurs;
- (c) the preparation and dissemination of the automatic terminal information service message shall be the responsibility of the air traffic services;
- (d) individual automatic terminal information service messages shall be identified by a designator in the form of a letter of the International Civil Aviation Organization spelling alphabet and designators assigned to consecutive automatic terminal information service messages shall be in alphabetical order;
- (e) aircraft shall acknowledge receipt of the information upon establishing communication with the Air Traffic Services unit providing approach control service or the aerodrome control tower, as appropriate;
- (f) the appropriate ATS unit shall, when replying to the message under paragraph (e) or, in the case of an arriving aircraft, at such other time as may be determined by the appropriate ATS authority, provide the aircraft with the current altimeter setting; and
- (g) the meteorological information shall be extracted from the local meteorological routine or special report.

(2) The automatic terminal information service messages shall indicate that the relevant weather information shall be given on initial contact with the appropriate Air Traffic Services unit, when rapidly changing meteorological conditions make it inadvisable to include a weather report in the automatic terminal information service.

(3) Information contained in a current automatic terminal information service, the receipt of which has been acknowledged by the aircraft concerned, need not be included in a directed transmission to the aircraft, with the exception of the altimeter setting, which shall be provided in accordance with subregulation (1) (f).

(4) Where an aircraft acknowledges receipt of an automatic terminal information service that is no longer current, any element of information that needs updating shall be transmitted to the aircraft without delay.

(5) Contents of automatic terminal information service shall be kept as brief as possible and information additional to that specified under regulations 67, 68 and 69 shall only be included when justified in exceptional circumstances.

68. Automatic terminal information service messages containing both arrival and departure information shall contain the following elements of information in the order listed —

Automatic terminal information service for arriving and departing aircraft

- (a) name of aerodrome;
- (b) arrival or departure indicator;
- (c) contract type, if communication is via Data link- automatic terminal information service;
- (d) designator;
- (e) time of observation, if appropriate;
- (f) type of approach to be expected;
- (g) the runway in use and the status of arresting system constituting a potential hazard, if any;
- (h) significant runway surface conditions and, if appropriate, braking action;

- (i) holding delay, if appropriate;
- (j) transition level, if applicable;
- (k) other essential operational information;
- (l) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of the runway in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;
- (m) visibility and, where applicable, the RVR;
- (n) present weather;
- (o) cloud below 1 500m (5 000ft.) or below the highest minimum sector altitude, whichever is greater, cumulonimbus, if the sky is obscured, vertical visibility when available;
- (p) air temperature;
- (q) dew point temperature;
- (r) altimeter setting;
- (s) any available information on significant meteorological phenomena in the approach and climb-out areas including wind shear, and information on recent weather of operational significance;
- (t) trend forecast, when available; and
- (u) specific automatic terminal information service instructions.

Automatic
terminal
information
service for
arriving aircraft

69. An automatic terminal information service message containing arrival information only shall contain the following elements of information in the order listed —

- (a) name of aerodrome;
- (b) arrival indicator;
- (c) contract type, if communication is via Data link-automatic terminal information service;
- (d) designator;
- (e) time of observation, if appropriate;
- (f) type of approach to be expected;
- (g) main landing runway and the status of the arresting system constituting a potential hazard, if any;
- (h) significant runway surface conditions and, if appropriate, braking action;
- (i) holding delay, if appropriate; transition level, where applicable;
- (j) other essential operational information;
- (k) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runways in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;
- (l) visibility and, when applicable, the RVR;
- (m) present weather;
- (n) cloud below 1 500m (5 000ft.) or below the highest minimum sector altitude, whichever is greater, cumulonimbus, where the sky is obscured, vertical visibility when available;
- (o) air temperature;
- (p) dew point temperature;
- (q) altimeter settings;
- (r) any available information on significant meteorological phenomena in the approach area including wind shear, and information on recent weather of operational significance;

- (s) trend forecast, when available; and
- (t) specific automatic terminal information service instructions.

70. An automatic terminal information service messages containing departure information only shall contain the following elements of information in the order listed —

Automatic terminal information service for departing aircraft

- (a) name of aerodrome;
- (b) departure indicator;
- (c) contract type, if communication is via Data link-automatic terminal information service;
- (d) designator;
- (e) time of observation, if appropriate;
- (f) runway to be used for take-off and the status of arresting system constituting a potential hazard, if any;
- (g) significant surface conditions of a runway to be used for take-off and, where appropriate, braking action;
- (h) departure delay, if appropriate;
- (i) transition level, if applicable;
- (j) other essential operational information;
- (k) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of a runway in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;
- (l) visibility and, where applicable, the RVR;
- (m) present weather;
- (n) cloud below 1 500 m (5 000 ft.) or below the highest minimum sector altitude, whichever is greater, cumulonimbus, where the sky is obscured, vertical visibility when available;
- (o) air temperature;
- (p) dew point temperature;
- (q) altimeter settings;
- (r) any available information on significant meteorological phenomena in the climb-out area including wind shear;
- (s) trend forecast, when available; and
- (t) specific automatic terminal information service instructions.

71. (1) High Frequency or Very High Frequency VOLMET broadcasts or D-VOLMET service shall be provided when it has been determined by regional air navigation agreements that a requirement exists.

VOLMET broadcasts and D-VOLMET service

- (2) VOLMET broadcasts shall use standard radiotelephony phraseologies.

PART V — Alerting Service

72. (1) An ATS unit shall provide an alerting service —

Application of alerting service

- (a) for all aircrafts provided with air traffic control service;
- (b) in so far as practicable, to all other aircrafts having filed a flight plan or otherwise known to the air traffic services; and
- (c) to any aircraft known or believed to be the subject of unlawful interference.

(2) A flight information centre or area control centre shall serve as the central point for collecting all information relevant to a state of emergency of an aircraft operating within the Gaborone flight information region or control area concerned and for forwarding such information to the rescue coordination centre.

Notification
of rescue
coordination
centre

(3) In the event of a state of emergency arising to an aircraft while it is under the control of an aerodrome control tower or approach control unit, such unit shall notify immediately the flight information centre or area control centre responsible which shall in turn notify the rescue coordination centre.

(4) The notification referred to under subregulation (3) shall not be required when the nature of the emergency is such that the notification would be unnecessary.

(5) Where the urgency of the situation so requires, the aerodrome control tower or approach control unit responsible shall first alert and take other necessary steps to set in motion all appropriate local rescue and emergency organisations which can give the immediate assistance required.

73. (1) Without prejudice to any other circumstances that may render such notification advisable, an ATS unit shall, except as set out in regulation 75 (1), notify rescue coordination centres immediately an aircraft is considered to be in a state of emergency in accordance with the following —

(a) uncertainty phase when —

- (i) no communication has been received from an aircraft within a period of 30 minutes after the time a communication shall have been received,
- (ii) from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or
- (iii) an aircraft fails to arrive within 30 minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later, except when no doubt exists as to the safety of the aircraft and its occupants.

(b) alert phase when —

- (i) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft,
- (ii) an aircraft has been cleared to land and fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or
- (iii) information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely, except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or
- (iv) an aircraft is known or believed to be the subject of unlawful interference; and

(c) distress phase when —

- (i) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful,
- (ii) inquiries point to the probability that the aircraft is in distress,
- (iii) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or when
- (iv) information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or
- (v) information is received, or it is reasonably certain that the aircraft is about to make or has made a forced landing,

except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance.

(2) The notification under subregulation (1) shall contain the following information as is available in the order listed —

- (a) INCERFA, ALERFA or DETRESFA, as appropriate to the phase of the emergency;
- (b) agency and person calling;
- (c) nature of the emergency;
- (d) significant information from the flight plan;
- (e) unit which made last contact, time and means used;
- (f) last position report and how determined;
- (g) colour and distinctive marks of aircraft;
- (h) dangerous goods carried as cargo;
- (i) any action taken by reporting office; and
- (j) other pertinent remarks.

(3) The information specified under subregulation (2), which is not available at the time the notification is made to a rescue coordination centre, shall be sought by an ATS unit prior to the declaration of a distress phase, if there is reasonable certainty that this phase will eventuate.

(4) Further to the notification under subregulation (1), the rescue coordination centre shall, without delay, be furnished with —

- (a) any useful additional information, especially on the development of the state of emergency through subsequent phases; or
- (b) information that the emergency situation no longer exists.

74. An ATS unit shall use all available communication facilities to establish and maintain communication with an aircraft in a state of emergency, and to request news of the aircraft.

Use of communication facilities

75. (1) Where a state of emergency is considered to exist, the flight of the aircraft involved shall be plotted on a chart in order to determine the probable future position of the aircraft and its maximum range of action from its last known position.

Plotting aircraft in state of emergency

(2) The flights of other aircraft known to be operating in the vicinity of the aircraft involved shall also be plotted in order to determine their probable future positions and maximum endurance.

76. (1) When an area control or a flight information centre decides that an aircraft is in the uncertainty or the alert phase, it shall, when practicable, advise the operator prior to notifying the rescue coordination centre.

Information to operator

(2) All information notified to the rescue coordination centre by an area control or flight information centre shall, whenever practicable, also be communicated, without delay, to the operator.

77. (1) Where an ATS has established that an aircraft is in a state of emergency, other aircrafts known to be in the vicinity of the aircraft involved shall, except as provided under subregulation (2) be informed of the nature of the emergency as soon as practicable.

Information to aircraft operating in vicinity of aircraft in state of emergency

(2) Where the ATS unit knows or believes that an aircraft is being subjected to unlawful interference, no reference shall be made in ATS air-ground communications to the nature of the emergency unless the unlawful interference has first been referred to in communications from the aircraft involved and there is certainty that such reference will not aggravate the situation.

PART VI — *Air Traffic Services Requirements For Communications*

Aeronautical
mobile service
(air-ground
communications)

78. (1) Radiotelephony or data link shall be used in air-ground communications for air traffic services purposes.

(2) Where an RCP specification has been determined by the Authority for performance-based communication, ATS units shall, in addition to the requirements specified under subregulation (1), have communication equipment which will enable them to provide ATS in accordance with the determined Required Communication Performance specifications.

(3) Where direct pilot-controller two-way radiotelephony or data link communications are used for the provision of air traffic control services, the recording facilities shall be provided on all such air-ground communication channels

(4) Recordings of communications channels as required under subregulation (3) shall be retained for a period of at least 30 days.

(5) Air-ground communication facilities shall enable two-way communications to take place between a unit providing flight information service and an appropriately equipped aircraft flying anywhere within the Gaborone Flight Information region.

(6) Air-ground communication facilities for flight information services shall permit direct, rapid, continuous and static-free two-way communications whenever practicable.

(7) Air-ground communication facilities shall enable two-way communications to take place between a unit providing area control service and an appropriately equipped aircraft flying anywhere within the control area.

(8) Air-ground communication facilities for an area control service shall permit direct, rapid, continuous and static-free two-way communications whenever practicable.

(9) Where air-ground voice communication channels are used for the area control service, and are worked by air-ground communicators, suitable arrangements shall be made to permit direct pilot-controller voice communications, as and when required.

(10) Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between the unit providing approach control service and the appropriately equipped aircraft under its control.

(11) Where the unit providing approach control service functions as a separate unit, air-ground communications shall be conducted over communication channels provided for its exclusive use.

(12) Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between an aerodrome control tower and appropriately equipped aircraft operating at any distance within 45 km (25 NM) of the aerodrome concerned.

(13) Separate communication channels shall be provided for the control of traffic operating on the maneuvering area where conditions warrant.

General
application
of aeronautical
fixed service
(ground-ground
communication)

79. Direct-speech or data link communications shall be used in ground-ground communications for air traffic services purposes.

80. (1) A flight information centre shall have facilities for communications with the following units providing a service within its area of responsibility —

- (a) the area control centre, unless collocated;
- (b) approach control units; and
- (c) aerodrome control towers.

(2) An area control centre, in addition to being connected to the flight information centre as determined under subregulation (1), shall have facilities for communications with the following units providing a service within its area of responsibility —

- (a) approach control units;
- (b) aerodrome control towers; and
- (c) air traffic services reporting offices, when separately established.

(3) An approach control unit, in addition to being connected to the flight information centre and the area control centre as prescribed in subregulations (1) and (2) shall have facilities for communications with the associated aerodrome control towers and, when separately established, the associated air traffic services reporting offices.

(4) An aerodrome control tower, in addition to being connected to the flight information centre, the area control centre and the approach control unit under subregulations (1), (2) and (3) shall have facilities for communications with the associated air traffic services reporting office, when separately established.

81. (1) A flight information centre and an area control centre shall have facilities for communications with the following units providing a service within their respective area of responsibility —

- (a) appropriate military units;
- (b) the meteorological office serving the centre;
- (c) the aeronautical telecommunications station serving the centre;
- (d) appropriate operator's offices;
- (e) the rescue coordination centre or, in the absence of such centre, any other appropriate emergency service; and
- (f) the international NOTAM office serving the centre.

(2) An approach control unit and an aerodrome control tower shall have facilities for communications with the following units providing a service within their respective area of responsibility —

- (a) appropriate military units;
- (b) rescue and emergency services (including ambulance and fire);
- (c) the meteorological office serving the unit concerned;
- (d) the aeronautical telecommunications station serving the unit concerned; and
- (e) the unit providing apron management service, when separately established.

(3) The communication facilities required under subregulation (1) (a) and (2) (a) shall include provisions for rapid and reliable communications between the air traffic services unit concerned and the military unit responsible for control of interception operations within the area of responsibility of the air traffic services unit.

82. (1) The communication facilities required under regulations 79, 80 (1) (a) and 80 (2) shall include provisions for —

- (a) communications by direct speech alone, or in combination with data link communications, whereby for the purpose of transfer of control using radar or Automatic Dependent Surveillance-Broadcast, the communications may be established instantaneously and for other purposes the communications can normally be established within 15 seconds; and

Communications between air traffic services units

Communications between air traffic services units and other units

Description of communication facilities

- (b) printed communications, where a written record is required, the message transit time for such communications being no longer than five minutes.
- (2) The communication facilities in all cases not covered under subregulation (1), shall include provisions for —
 - (a) communications by direct speech alone, or in combination with data link communications, whereby the communications can normally be established within 15 seconds; and
 - (b) printed communications, where a written record is required, the message transit time for such communications being no longer than five minutes.
- (3) An ATS units shall provide suitable facilities for automatic recording in all cases where automatic transfer of data to or from air traffic services computers is required.
- (4) The communication facilities required under regulations 79 and 80 shall be supplemented, as and where necessary, by facilities for other forms of visual or audio communications.
- (5) The communication facilities required under regulation 80 (2) shall include provisions for communications by direct speech arranged for conference communications.
- (6) The communication facilities required under regulation 81 (2) (d) shall include provisions for communications by direct speech arranged for conference communications, whereby the communications can normally be established within 15 seconds.
- (7) A facility for direct-speech or data link communications between air traffic services units and between air traffic services units and other units described under regulations 82 (1) and (2) shall be provided with automatic recording.
- (8) Recordings of data and communications as required under subregulations (3) and (7) shall be retained for a period of at least 30 days.

Communications
between flight
information
regions

83. (1) The Flight Information Centre and area control centre shall have facilities for communications with all adjacent flight information centres and area control centres.

(2) The communication facilities referred to under subregulation (1) shall in all cases include provisions for messages in a form suitable for retention as a permanent record, and delivery in accordance with transit times specified by regional air navigation agreements.

(3) Unless otherwise determined on the basis of regional air navigation agreements, facilities for communications between area control centres serving contiguous control areas shall, include provisions for direct speech and, where applicable, data link communications, with automatic recording, whereby for the purpose of transfer of control using radar, Automatic Dependent Surveillance-Broadcast or Automatic Dependent Surveillance-Contract data, the communications can be established instantaneously and for other purposes the communications can normally be established within 15 seconds.

(4) When so required by agreement between the Authorities concerned in order to eliminate or reduce the need for interceptions in the event of deviations from assigned track, facilities for communications between adjacent flight information centres or area control centres other than those mentioned under subregulation (3) shall include provisions for direct speech alone, or in combination with data link communications.

(5) The communication facilities referred to under subregulation (4) shall be provided with automatic recording.

(6) The communication facilities under subregulation (4) shall permit communications to be established normally within 15 seconds.

(7) Wherever local conditions are such that it is necessary to clear an aircraft into an adjacent control area prior to departure, an approach control unit or aerodrome control tower shall be connected with the area control centre serving the adjacent area.

(8) The communication facilities under subregulation (7) shall include provisions for communications by direct speech alone, or in combination with data link communications, with automatic recording, whereby for the purpose of transfer of control using radar, Automatic Dependent Surveillance-Broadcast or Automatic Dependent Surveillance-Contract data, the communications may be established instantaneously and for other purposes the communications may normally be established within 15 seconds.

(9) Suitable facilities for automatic recording shall be provided in all cases where automatic exchange of data between air traffic services computers is required.

(10) Recordings of data and communications as required under subregulation (9) shall be retained for a period of at least 30 days.

84. Appropriate procedures for direct speech communications shall be developed to permit immediate connections to be made for very urgent calls concerning the safety of an aircraft, and the interruption, if necessary, of less urgent calls in progress at the time.

Procedures for direct-speech communications

85. (1) An ATS shall provide an aerodrome control service with two-way radiotelephony communication facilities for the control of vehicles on the maneuvering area, except where communication by a system of visual signals is deemed to be adequate.

Communications for control of vehicles other than aircraft on maneuvering areas at controlled aerodromes

(2) Separate communication channels shall be provided for the control of vehicles on the maneuvering area where conditions warrant.

(3) Automatic recording facilities shall be provided on all separate communication channels provided for the control of vehicles on the maneuvering area.

(4) Recordings of communications as required in subregulation (3) shall be retained for a period of at least 30 days.

86. (1) Surveillance data from primary and secondary radar equipment or other systems used as an aid to air traffic services, in addition to other aeronautical data, shall automatically or through other appropriate means be recorded and stored for use in accident and incident investigations, search and rescue, air traffic control and surveillance systems evaluation and training.

Recording and storage of aeronautical data

(2) Subject to subregulation (1), stored aeronautical data and automatic surveillance recordings shall be retained for a period of at least 30 days.

(3) Aeronautical data or recordings pertinent to an accident and incident investigations, shall be retained for a longer period until it is evident that the data or recordings will no longer be required.

PART VII — *Air Traffic Services Requirements For Information*

87. (1) An ATS unit shall be supplied with up-to-date information on existing and forecast meteorological conditions as necessary for the performance of its respective functions.

General meteorological information

(2) The information referred to under subregulation (1) shall be supplied in such a form as to require a minimum of interpretation on the part of ATS personnel and with a frequency which satisfies the requirements of the air traffic services unit concerned.

(3) The ATS unit shall be supplied with available detailed information on the location, vertical extent, direction and rate of movement of meteorological phenomena in the vicinity of the aerodrome, and particularly in the climb-out and approach areas, which could be hazardous to aircraft operations.

(4) Where computer-processed upper air data is made available to an ATS unit in digital form for use by ATS computers, the contents, format and transmission arrangements shall be as agreed between the Meteorological Department and the appropriate ATS authority.

Flight
information
centres and
area control
centres
Cap. 71:01
(Sub. Leg.)

88. (1) Flight information centres and area control centres shall be supplied with meteorological information as set out in Schedule 9 of the Civil Aviation (Meteorology Services for Air Navigation) Regulations, with particular emphasis being given to the occurrence or expected occurrence of weather deterioration as soon as this can be determined.

(2) The reports and forecasts referred to under subregulation (1) shall cover the flight information region or control area and such other area as may be determined on the basis of regional air navigation agreements.

(3) Flight information centres and area control centres shall be provided at suitable intervals, with current pressure data for setting altimeters, for locations specified by the flight information centre or area control centre concerned.

Units providing
approach
control
services

89. (1) A unit providing approach control services shall be supplied with meteorological information as set out in Schedule 9 of the Civil Aviation (Meteorology Services for Air Navigation) Regulations, for the airspace and the aerodromes with which the unit is concerned.

(2) A special report and amendments to forecasts shall be communicated to the unit providing approach control services as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast.

(3) Where multiple anemometers are used, the indicators to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each anemometer.

(4) The unit providing approach control services shall be provided with current pressure data for setting altimeters, for locations specified by the unit providing approach control service.

(5) The unit providing approach control services for final approach, landing and take-off shall be equipped with surface wind displays.

(6) The displays referred to under subregulation (5) shall be related to the same locations of observation and be fed from the same sensors as the corresponding displays in the aerodrome control tower and in the meteorological station, where such a station exists.

(7) The unit providing approach control services for final approach, landing and take-off at aerodromes where runway visual range values are assessed by instrumental means shall be equipped with displays permitting read-out of the current runway visual range values.

(8) The displays referred to under subregulation (7) shall be related to the same locations of observation and be fed from the same sensors as the corresponding displays in the aerodrome control tower and in the meteorological station, where such a station exists.

(9) The unit providing approach control services for final approach, landing and take-off at aerodromes where the height of cloud base is assessed by instrumental means shall be equipped with displays permitting read-out of the current values of the height of cloud base.

(10) The displays referred to under subregulation (9) shall be related to the same locations of observations and be fed from the same sensors as the corresponding displays in the aerodrome control tower and in the meteorological station, where such a station exists.

(11) The unit providing approach control services for final approach, landing and take-off shall be supplied with information on wind shear which could adversely affect aircraft on the approach or take-off paths or during circling approach.

90. (1) A meteorological service provider shall supply an aerodrome control tower with meteorological information as set out in Schedule 9 of the Civil Aviation (Meteorology Services for Air Navigation) Regulations, for the aerodrome with which the aerodrome control tower is concerned.

Aerodrome
control towers

(2) The meteorological service provider shall communicate special reports and amendments to forecasts to the aerodrome control towers as soon as the reports and amendments are necessary in accordance with established criteria, without waiting for the next routine report or forecast.

(3) The meteorological service provider shall provide an aerodrome control towers with current pressure data for setting altimeters for the aerodrome concerned.

(4) An aerodrome control tower shall be equipped with surface wind displays.

(5) The surface wind displays shall be related to the same locations of observation and be fed from the same sensors as the corresponding displays in the meteorological station, where such a station exists.

(6) Where multiple sensors are used, the surface wind displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

(7) The aerodrome control tower at an aerodrome where runway visual range values are measured by instrumental means shall be equipped with displays permitting read-out of the current runway visual range values.

(8) The displays referred to under subregulation (7) shall be related to the same locations of observation and be fed from the same sensors as the corresponding displays in the meteorological station, where such a station exists.

(9) The aerodrome control towers at an aerodrome where the height of the cloud base is assessed by instrumental means, shall be equipped with displays permitting read-out of the current values of the height of cloud base.

(10) The displays shall be related to the same locations of observations and be fed from the same sensors as the corresponding displays in the meteorological station, where such a station exists.

(11) The aerodrome control towers shall be supplied with information on wind shear which could adversely affect an aircraft on the approach or take-off paths or during circling approach and an aircraft on the runway during the landing roll or take-off run.

(12) Aerodrome control towers or other appropriate units shall be supplied with aerodrome warnings.

91. Current meteorological reports and forecasts shall be supplied to communication stations for flight information purposes and a copy of such information shall be forwarded to the flight information centre or the area control centre.

Communication
stations

Information on aerodrome conditions and operational status of associated facilities	<p>92. An aerodrome control tower and units providing approach control services shall be kept currently informed of the operationally significant conditions of the movement area, including the existence of temporary hazards, and the operational status of any associated facilities at the aerodromes with which they are concerned.</p>
Information on operational status of navigation services	<p>93. (1) An ATS unit shall be kept currently informed of the operational status of radio navigation services and visual aids essential for take-off, departure, approach and landing procedures within the ATS unit's area of responsibility and those radio navigation services and visual aids essential for surface movement.</p> <p>(2) Information on the operational status, and any changes thereto, of radio navigation services and visual aids as referred to under subregulation (1) shall be received by the appropriate ATS units on a timely basis consistent with the use of the services and aids involved.</p>
Information on unmanned free balloons	<p>94. An operator of an unmanned free balloon shall keep the appropriate air traffic services units informed of details of flights of unmanned free balloons in accordance with the provisions contained in the Civil Aviation (Rules of the Air) Regulations.</p>
Information concerning volcanic activity	<p>95. (1) An ATS unit shall be informed of pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud which could affect airspace used by flights within their area of responsibility.</p> <p>(2) Area control centres and flight information centres shall be provided with volcanic ash advisory information issued by the associated Volcanic Ash Advisory Centres.</p>
Information concerning radioactive materials and toxic chemical "clouds"	<p>96. An ATS unit shall be informed of the release into the atmosphere of any radioactive material or toxic chemicals which could affect airspace used by flights within the ATS unit's area of responsibility.</p>
Requirements for application for exemption	<p>97. (1) A person may apply to the Authority for an exemption from any provision of these Regulations.</p> <p>(2) Unless in case of emergency, a person requiring exemptions from any of these regulations shall make an application to the Authority at least 60 days prior to the proposed effective date, giving the following information —</p> <ul style="list-style-type: none"> (a) name and contact address including electronic mail and facsimile if any; (b) telephone number; (c) a citation of the specific requirement from which the applicant seeks exemption; (d) justification for the exemption; (e) a description of the type of operations to be conducted under the proposed exemption; (f) the proposed duration of the exemption; (g) an explanation of how the exemption would be in the public interest; (h) a detailed description of the alternative means by which the applicant shall ensure a level of safety equivalent to that established by the regulation in question; (i) a safety risk assessment carried out in respect of the exemption applied for, whether the applicant handles international operations and seeks to operate under the proposed exemption, an indication whether the exemption would contravene any provision of the standards and recommended practices of the International Civil Aviation Organization; and

(j) any other information that the Authority may require.

(3) Where the applicant seeks emergency processing of an application for exemption, the application shall contain supporting facts and reasons for not filing the application within the time specified under subregulation (2) and satisfactory reason for deeming the application an emergency.

(4) The Authority may in writing, refuse an application made under subregulation (3), where in the opinion of the Authority, the reasons given for emergency processing are not satisfactory.

(5) The application for exemption shall be accompanied by a fee determined by the Authority.

98. (1) The Authority shall review the application for exemption made under regulation 97 for accuracy and compliance, and if the application is satisfactory, the Authority shall publish a detailed summary of the application for comments, within a set time, in either —

Review and publication

- (a) the *Gazette*;
- (b) aeronautical information circular; or
- (c) a daily newspaper with national circulation.

(2) Where the application requirements have not been fully complied with, the Authority shall request the applicant in writing, to comply prior to publication or making a decision under regulation 97(3).

99. (1) Where the application requirements have been satisfied, the Authority shall conduct an evaluation of the request to include —

Evaluation of request

- (a) determination of whether an exemption would be in the public interest;
- (b) a determination, after a technical evaluation of whether the applicant's proposal would provide a level of safety equivalent to that established by the regulation, although where the Authority decides that a technical evaluation of the request would impose a significant burden on the Authority's technical resources, the Authority may deny the exemption on that basis;
- (c) a determination of whether a grant of the exemption would contravene these Regulations; 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 in writing, the decision to grant or deny the request, and publish a detailed summary of the Authority's evaluation and decision.

(3) The summary referred to under subregulation (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.

(4) Where the request is for an emergency relief, the Authority shall publish its decision after processing the application.

(5) Where the exemption affects a significant population of the aviation community of the State, the Authority shall publish the summary in aeronautical information circular.

PART IX · · *Miscellaneous Provisions*

100. The Authority may suspend or revoke a licence, certificate, approval, authorisation, exemption or other document of a person who contravenes any provision of these Regulations.

Contravention of Regulations

Appeals to
Appeals Tribunal
Offences

101. A person aggrieved with the decision of the Authority under these Regulations may within 14 days of such decision appeal to the Appeals Tribunal.

102. (1) A person who contravenes any provision of these Regulations commits an offence and is liable to a fine not exceeding P100 000 or to imprisonment for a term not exceeding six months, or to both.

(2) Where it is proved that an act or omission of any person, which would otherwise have been a contravention by that person of a provision of these Regulations, orders, notices or proclamations made there under was due to any cause not avoidable by the exercise of reasonable care by that person, the act or omission shall be deemed not to be a contravention by that person of that provision.

Transitional

103. A licence, certificate, approval or any other document issued to an operator or person prior to the commencement of these Regulations shall continue in force as if it was issued under these Regulations until it expires, is varied or cancelled by the Authority.

SCHEDULES

SCHEDULE 1

Classification of airspaces
(Regulations 10(1) and (3) and 61(2)(b))

Class	Type of flight	Separation provided	Service provided	Speed limitation	Radio communication requirement	Subject to an ATC
A	IFR only	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
B	IFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
C	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	1) Air traffic control service for separation from IFR; 2) VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft.) AMSL	Continuous two-way	Yes
D	IFR	IFR from IFR	Air traffic control service, traffic information about	250 kt IAS below 3 050 m (10 000 ft.) AMSL	Continuous two-way	Yes
	VFR	Nil	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft.) AMSL	Continuous two-way	Yes
E	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights	250 kt IAS below 3 050 m (10 000 ft.) AMSL	Continuous two-way	Yes
	VFR	Nil	Traffic information as far as practical	250 kt IAS below 3 050 m (10 000 ft.) AMSL	No	No

F	IFR	IFR from IFR as far as practical	Air traffic advisory service, flight information service	250 kt IAS below 3 050 m (10 000 0 ft.) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 0 ft.) AMSL	No	No
G	IFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 0 ft.) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 0 ft.) AMSL	No	No
<ul style="list-style-type: none"> • When the height of the transition altitude is lower than 30 50m (10 000ft) AMSL, FL 100 should be used in lieu of 10 000ft. 						

SCHEDULE 2

Principles governing the identification of navigation specifications and identification of ATS routes other than standard departure and arrival routes
(Regulation 19 (5))

1. Designators for ATS routes and navigation specifications

- 1.1 The purpose of a system of route designators and navigation specifications applicable to a specified ATS route segment(s), route(s) or area is to allow both pilots and ATS, taking into account automation requirements —
- (a) to make unambiguous reference to any ATS route without the need to resort to the use of geographical coordinates or other means in order to describe it;
 - (b) to relate an ATS route to a specific vertical structure of the airspace, as applicable;
 - (c) to indicate a required level of navigation performance accuracy, when operating along an ATS route or within a specified area; and
 - (d) to indicate that a route is used primarily or exclusively by certain types of aircraft.

Note 1 – Specifications governing the publication of navigation specifications are given in the Civil Aviation (Aeronautical Charts) Regulations and the Civil Aviation (Aeronautical Information Services) Regulations.

Note 2 – In relation to this part and for flight planning purposes, a prescribed navigation specification is not considered an integral part of the ATS route designator.

- 1.2 In order to meet this purpose, the designation system shall —
- (a) permit the identification of any ATS route in a simple and unique manner;
 - (b) avoid redundancy;
 - (c) be usable by both ground and airborne automation systems;
 - (d) permit utmost brevity in operational use; and
 - (e) provide sufficient possibility of extension to cater for any future requirements without the need for fundamental changes.
- 1.3 Controlled, advisory and uncontrolled ATS routes, with the exception of standard arrival and departure routes, shall therefore be identified as specified hereafter.

2. Composition of designator

- 2.1 The ATS route designator shall consist of a basic designator supplemented, where necessary, by —
- (a) one prefix as prescribed in 2.3; and
 - (b) one additional letter as prescribed in 2.4.
- 2.1.1 The number of characters required to compose the designator shall not exceed six characters.
- 2.1.2 The number of characters required to compose the designator should, whenever possible, be kept to a maximum of five characters.
- 2.2 The basic designator shall consist of one letter of the alphabet followed by a number from 1 to 999.
- 2.2.1 A selection of the letter shall be made from those listed hereunder —
- (a) A, B, G, R for routes which form part of the regional networks of ATS routes and are not area navigation routes;

- (b) L, M, N, P for area navigation routes which form part of the regional networks of ATS routes;
- (c) H, J, V, W for routes which do not form part of the regional networks of ATS routes and are not area navigation routes; and
- (d) Q, T, Y, Z for area navigation routes which do not form part of the regional networks of ATS routes.

2.3 Where applicable, one supplementary letter shall be added as a prefix to the basic designator in accordance with the following —

- (a) K to indicate a low-level route established for use primarily by helicopters;
- (b) U to indicate that the route or portion thereof is established in the upper airspace; and
- (c) S to indicate a route established exclusively for use by supersonic aircraft during acceleration, deceleration and while in supersonic flight.

2.4 Where prescribed by the appropriate ANSP or on the basis of regional air navigation agreements, a supplementary letter may be added after the basic designator of the ATS route in question in order to indicate the type of service provided in accordance with the following —

- (a) the letter F to indicate that on the route or portion thereof advisory service only is provided; or
- (b) the letter G to indicate that on the route or portion thereof flight information service only is provided.

Note 1 – Due to limitations in the display equipment on board aircraft, the supplementary letters “F” or “G” may not be displayed to the pilot.

Note 2 – Implementation of a route or a portion thereof as controlled route, advisory route or flight information route is indicated in aeronautical charts and aeronautical information publications in accordance with the provisions in these Regulations.

3. Assignment of basic designators

3.1 A basic ATS route designator shall be assigned in accordance with the following principles —

3.1.1 The same basic designator shall be assigned to a main trunk route throughout its entire length, irrespective of terminal control areas, States or regions traversed.

Note 1 – This is of particular importance where automated ATS data processing and computerised airborne navigation equipment is used.

3.1.2 Where two or more trunk routes have a common segment, the segment in question shall be assigned each of the designators of the routes concerned, except where this would present difficulties in the provision of air traffic service in which case, by common agreement, one designator only shall be assigned.

3.1.3 A basic designator assigned to one route shall not be assigned to any other route.

3.1.4 A States' requirement for a designator shall be notified to the Regional Offices of ICAO for coordination.

4. Use of designators in communications

4.1 In printed communications, a designator shall be expressed at all times by not less than two and not more than six characters.

4.2 In voice communications, the basic letter of a designator shall be spoken in accordance with the ICAO spelling alphabet.

4.3 Where the prefixes K, U or S specified under paragraph 2.3 are used, they shall, in voice communications, be spoken as follows —

K – KOPTER U – UPPER

S – SUPERSONIC

The word “kopter” shall be pronounced as in the word “helicopter” and the words “upper” and “supersonic” as in the English language.

4.4 Where the letters “I” or “G” specified under paragraph 2.4 are used, the flight crew shall not be required to use them in voice communications.

SCHEDULE 3

Principles governing the identification of standard departure and arrival routes and associated procedures (Regulation 19 (6))

Note – Material relating to the establishment of standard departure and arrival routes and associated procedures is contained in the Air Traffic Services Planning Manual (Doc 9426).

1. Designators for standard departure and arrival routes and associated procedures

Note – In the following text the term “route” is used in the meaning of “route and associated procedures”.

- 1.1 The system of designators shall -
 - (a) permit the identification of each route in a simple and unambiguous manner;
 - (b) make a clear distinction between –
 - (i) a departure route and arrival route;
 - (ii) a departure or arrival route and other ATS routes;
 - (iii) a route requiring navigation by reference to ground based radio aids or self contained airborne aids, and routes requiring navigation by visual reference to the ground;
 - (c) be compatible with ATS and aircraft data processing and display requirements;
 - (d) be of utmost brevity in its operational application;
 - (e) avoid redundancy; and
 - (f) provide sufficient possibility for extension to cater for any future requirements without the need for fundamental changes.
- 1.2 Each route shall be identified by a plain language designator and a corresponding coded designator.
- 1.3 The designator shall, in voice communications, be easily recognisable as relating to a standard departure or arrival route and shall not create any difficulties in pronunciation for pilots and ATS personnel.

2. Composition of designators

- 2.1 Plain language designator
 - 2.1.1 The plain language designator of a standard departure or arrival route shall consist of –
 - (a) a basic indicator; followed by
 - (b) a validity indicator; followed by
 - (c) a route indicator, where required; followed by
 - (d) the word “departure” or “arrival”; followed by
 - (e) the word “visual”, if the route has been established for use by aircraft operating in accordance with the visual flight rules (VFR).
 - 2.1.2 The validity indicator shall be a number from 1 to 9.
 - 2.1.3 The route indicator shall be one letter of the alphabet. The letters “I” and “O” shall not be used.

2.2 Coded designator

The coded designator of a standard departure or arrival route, instrument or visual, shall consist of —

- (a) the coded designator or name-code of the significant point described in 2.1.1 (a); followed by
- (b) the validity indicator in 2.1.1(b); followed by
- (c) the route indicator in 2.1.1 (c), where required.

Note – Limitations in the display equipment on board an aircraft may require shortening of the basic indicator, if that indicator is a five-letter name-code, e.g. KODAP. The manner in which such an indicator is shortened is left to the discretion of operators.

3. Assignment of designators

3.1 Each route shall be assigned a separate designator.

3.2 In order to distinguish between two or more routes which relate to the same significant point (and therefore are assigned the same basic indicator), a separate route indicator as described in 2.1.3 shall be assigned to each route.

4. Assignment of validity indicators

4.1 A validity indicator shall be assigned to each route to identify the route which is currently in effect.

4.2 The first validity indicator to be assigned shall be the number “1”.

4.3 Whenever a route is amended, a new validity indicator, consisting of the next higher number, shall be assigned. The number “9” shall be followed by the number “1”.

5. Examples of plain language and coded designators

5.1 Example 1: Standard departure route – instrument —

- (a) Plain language BRECON ONE;
- (b) designator: DEPARTURE; and
- (c) Coded designator: BCN 1.

5.1.1 Meaning: The designator identifies a standard instrument departure route which terminates at the significant point BRECON (basic indicator). BRECON is a radio navigation facility with the identification BCN (basic indicator of the coded designator). The validity indicator ONE (1 in the coded designator) signifies either that the original version of the route is still in effect or that a change has been made from the previous version NINE (9) to the now effective version ONE (1) (see 4.3). The absence of a route indicator (see 2.1.3 and 3.2) signifies that only one route, in this case a departure route, has been established with reference to BRECON.

5.2 Example 2: Standard arrival route – instrument:

- (a) Plain language: KODAP TWO ALPHA;
- (b) designator: ARRIVAL; and
- (c) Coded designator: KODAP 2 A.

5.2.1 Meaning: This designator identifies a standard instrument arrival route which begins at the significant point KODAP (basic indicator). KODAP is a significant point not marked by the site of a radio navigation facility and therefore assigned a five-letter name-code in accordance with Appendix 2. The validity indicator TWO (2) signifies that a change has been made from the previous version ONE (1) to the now effective version TWO (2). The route indicator ALPHA identifies one of several routes established with reference to KODAP and is a specific character assigned to this route.

5.3 Example 3: Standard departure route – visual:

5.3.1 Meaning: This designator identifies a standard departure route for controlled VFR flights which terminates at ADOLA, a significant point not marked by the site of a radio navigation facility. The validity indicator FIVE (5) signifies that a change has been made from the previous version FOUR (4) to the now effective version FIVE (5). The route indicator BRAVO (A) identifies one of several routes established with reference to ADOLA.

6. Composition of designators for MLS or RNAV approach procedures

6.1 Plain language designator

6.1.1 The plain language designator of an MLS/RNAV approach procedure shall consist of —

- (a) MLS”; followed by
- (b) a basic indicator; followed by
- (c) a validity indicator; followed by
- (d) a route indicator; followed by
- (e) the word “approach”; followed by
- (f) the designator of the runway for which the procedure is designed.

6.1.2 The basic shall be the name or name-code of the significant point where the approach procedure begins.

6.1.3 The validity indicator shall be a number from 1 to 9.

6.1.4 The route indicator shall be one letter of the alphabet. The letters “I” and “O” shall not be used.

6.1.5 The designator of the runway shall be in accordance with the Civil Aviation (Aerodromes Designs and Operations) Regulations.

6.2 Coded designator

6.2.1 The coded designator of an MLS or RNAV approach procedure shall consist of:

- (a) MLS”; followed by
- (b) the coded designator or name-code of the significant point described in 6.1.1 (b); followed by
- (c) the validity indicator in 6.1.1 (c); followed by
- (d) the route indicator in 6.1.1 (d); followed by
- (e) the runway designator in 6.1.1 (f).

6.3 Assignment of designators

6.3.1 The assignment of designators for MLS or RNAV approach procedures shall be in accordance with paragraph 3. Procedures having identical tracks but different flight profiles shall be assigned separate route indicators.

6.3.2 The route indicator letter for MLS or RNAV approach procedures shall be assigned uniquely to all approaches at an airport until all the letters have been used. Only then shall the route indicator letter be repeated. The use of the same route indicator for two routes using the same MLS ground facility shall not be permitted.

6.3.3 The assignment of validity indicator for approach procedures shall be in accordance with paragraph 4.

6.4 Example of plain language and coded designators

6.4.1 Example ---

- (a) Plain language MLS HAPPY ONE ALPHA
designator: APPROACH RUNWAY
ONE EIGHT LEFT
- (b) Coded designator: MLS HAPPY 1 A 18L

Meaning: The designator identifies an MLS or RNAV approach procedure which begins at the significant point HAPPY (basic indicator). HAPPY is a significant point not marked by the site of a radio navigation facility and therefore assigned a five-letter name-code in accordance with Appendix 2. The validity indicator ONE (1) signifies that either the original version of the route is still in effect or a change has been made from the previous version NINE to the now effective version ONE (1). The route indicator ALPHA (A) identifies one of several routes established with reference to HAPPY and is a specific character assigned to this route.

7. Use of designators in communications

7.1 In voice communications, only the plain language designator shall be used.

Note – For the purpose of identification of routes, the words “departure”, “arrival” and “visual” described in 2.1.1 (d) and 2.1.1 (e) are considered to be an integral element of the plain language designator.

7.2 In printed or coded communications, only the coded designator shall be used.

8. Display of routes and procedures to air traffic control

8.1 A detailed description of each currently effective standard departure or arrival route or approach procedure, including the plain language designator and the coded designator, shall be displayed at the working positions at which the routes or procedures are assigned to aircraft as part of an ATC clearance, or are otherwise of relevance in the provision of air traffic control services.

8.2 Whenever possible, a graphic portrayal of the routes or procedures shall also be displayed.

SCHEDULE 4

Principles governing the establishment and identification of significant points (Regulation 21 (2) (b))

1. Establishment of significant points

- 1.1 Significant points shall, whenever possible, be established with reference to ground-based or space-based radio navigation aids, preferably VHF or higher frequency aids.
- 1.2 Where such ground-based or space-based radio navigation aids do not exist, significant points shall be established at locations which can be determined by self-contained airborne navigation aids, or, where navigation by visual reference to the ground is to be effected, by visual observation. Specific points may be designated as “transfer of control” points by agreement between adjacent air traffic control units or control positions concerned.

2. Designators for significant points marked by the site of a radio navigation aid

- 2.1 Plain language name for significant points marked by the site of a radio navigation aid
 - 2.1.1 Whenever practicable, significant points shall be named with reference to an identifiable and preferably prominent geographical location.
 - 2.1.2 When selecting a name for the significant point, care shall be taken to ensure that the following conditions are met —
 - (a) the name shall not create difficulties in pronunciation for pilots or ATS personnel when speaking in the language used in ATS communications. Where the name of a geographical location in the national language selected for designating a significant point gives rise to difficulties in pronunciation, an abbreviated or contracted version of this name, which retains as much of its geographical significance as possible, shall be selected;

Example: FUERSTENFELDBRUCK = FURSTY

- (b) the name shall be easily recognisable in voice communications and shall be free of ambiguity with those of other significant points in the same general area. In addition, the name shall not create confusion with respect to other communications exchanged between air traffic services and pilots;
 - (c) the name shall, where possible, consist of at least six letters and form two syllables and preferably not more than three; and
 - (d) the selected name shall be the same for both the significant point and the radio navigation aid marking it.
- 2.2 Composition of coded designators for significant points marked by the site of a radio navigation aid
 - 2.2.1 The coded designator shall be the same as the radio identification of the radio navigation aid. It shall be so composed, where possible, as to facilitate association with the name of the point in plain language.
 - 2.2.2 Coded designators shall not be duplicated within 1100km (600 NM) of the location of the radio navigation aid concerned, except as noted hereunder.

Note – When two radio navigation aids operating in different bands of the frequency spectrum are situated at the same location, their radio identifications are normally the same.

2.3 States' requirements for coded designators shall be notified to the Regional Offices of ICAO for coordination.

3. Designators for significant points not marked by the site of a radio navigation aid

3.1 Where a significant point is required at a position not marked by the site of a radio navigation aid, and is used for ATC purposes, it shall be designated by a unique five letter pronounceable "name-code" This name-code designator then serves as the name as well as the coded designator of the significant point.

Note – The principles governing the use of alphanumeric name-codes in support of RNAV SIDs, STARs and instrument approach procedures are detailed in the Civil Aviation (Construction of Visual and instrument Flight Procedures) Regulations.

3.2 The name-code designator shall be selected so as to avoid any difficulties in pronunciation by pilots or ATIS personnel when speaking in the language used in ATIS communications.

Examples: ADOLA, KODAP

3.3 The name-code designator shall be easily recognisable in voice communications and shall be free of ambiguity with those used for other significant points in the same general area.

3.4 The unique five-letter pronounceable name-code designator assigned to a significant point shall not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator shall be chosen. In cases when a State wishes to keep the allocation of specific name-codes for reuse at a different location, such name-codes shall not be used until after a period of at least six months.

3.5 Requirements for unique five-letter pronounceable name-code designators shall be notified to the Regional Offices of ICAO for coordination.

3.6 In areas where no system of fixed routes is established, or where the routes followed by aircraft vary depending on operational considerations, significant points shall be determined and reported in terms of World Geodetic System – 1984 (WGS-84) geographical coordinates except that permanently established significant points serving as exit or entry points into such areas shall be designated in accordance with the applicable provisions in 2 or 3.

4. Use of designators in communications

4.1 Normally the name selected in accordance with 2 or 3 shall be used to refer to the significant point in voice communications. Where the plain language name for a significant point marked by the site of a radio navigation aid selected in accordance with 2.1 is not used, it shall be replaced by the coded designator which, in voice communications, shall be spoken in accordance with the ICAO spelling alphabet.

4.2 In printed and coded communications, only the coded designator or the selected name-code shall be used to refer to a significant point.

5. Significant points used for reporting purposes

- 5.1 In order to permit an ATS to obtain information regarding the progress of aircraft in flight, selected significant points may need to be designated as reporting points.
- 5.2 In establishing such points, consideration shall be given to the following factors —
- (a) the type of air traffic services provided;
 - (b) the amount of traffic normally encountered;
 - (c) the accuracy with which an aircraft is capable of adhering to the current flight plan;
 - (d) the speed of the aircraft;
 - (e) the separation minima applied;
 - (f) the complexity of the airspace structure;
 - (g) the control methods employed;
 - (h) the start or end of significant phases of a flight (climb, descent, change of direction, etc.);
 - (i) transfer of control procedures;
 - (j) safety and search and rescue aspects; and
 - (k) the cockpit and air-ground communication workload.
- 5.3 Reporting points shall be established either as “compulsory” or as “on-request”.
- 5.4 In establishing “compulsory” reporting points the following principles shall apply —
- (a) compulsory reporting points shall be limited to the minimum necessary for the routine provision of information to air traffic services units on the progress of aircraft in flight, bearing in mind the need to keep cockpit and controller workload and air-ground communications load to a minimum;
 - (b) the availability of a radio navigation aid at a location shall not necessarily determine its designation as a compulsory reporting point; and
 - (c) compulsory reporting points shall not necessarily be established at flight information region or control area boundaries.
- 5.5 “On-request” reporting points may be established in relation to the requirements of air traffic services for additional position reports when traffic conditions so demand.
- 5.6 The designation of compulsory and on-request reporting points shall be reviewed regularly with a view to keeping the requirements for routine position reporting to the minimum necessary to ensure efficient air traffic services.
- 5.7 Routine reporting over compulsory reporting points shall not systematically be made mandatory for all flights in all circumstances. In applying this principle, particular attention shall be given to the following —
- (a) high-speed, high-flying aircraft shall not be required to make routine position reports over all reporting points established as compulsory for low-speed, low-flying aircraft; and
 - (b) an aircraft transiting through a terminal control area should not be required to make routine position reports as frequently as arriving and departing aircraft.
- 5.8 In areas where the above principles regarding the establishment of reporting points would not be practicable, a reporting system with reference to meridians of longitude or parallels of latitude expressed in whole degrees may be established.

SCHEDULE 5

Prescriptive Fatigue Management (Regulation 36 (3))

Note – Guidance on the development and implementation of prescriptive fatigue management is contained in the Manual for the Oversight of Fatigue Management Approaches (ICAO Doc 9966).

Fatigue Management

1. Rest and duty limitations for air traffic controllers

- (a) The service provider's responsibilities
 - (i) Duty rosters shall be prepared and published sufficiently in advance to provide ATCOs the opportunity to plan adequate rest. Consideration should be given to the cumulative effects of undertaking long duty hours interspersed with minimum non-work periods, and of avoiding rosters that result in the serious disruption of an established pattern of working and sleeping. Rosters should cover a period of at least 30 days.
 - (ii) Minimum non-work periods need to provide adequate rest such that the ATCO can achieve a suitable sleep period, as well as allowing for consideration of other physiological requirements and any associated travelling or commuting time.
 - (iii) In order to avoid any detriment to an ATCO's performance, opportunities to consume a meal must be arranged when the duty period exceeds 8 hours.
 - (iv) The Service Provider shall not require an ATCO to undertake any safety related task if it is known or suspected that the ATCO is fatigued to the extent that safety may be adversely affected.
 - (v) To provide evidence of compliance with prescriptive limits, records will be kept for 12 months of the duties performed and non-duty periods achieved so as to facilitate inspection by the service's authorised personnel and audit by the ASSO
- (b) Air traffic controllers' responsibilities
 - (i) An ATCO shall not perform any safety relevant tasks when he or she knows that he or she is fatigued or feels unfit to the extent that safety may be adversely affected.
 - (ii) ATCOs shall make best use of the facilities and opportunities that are provided for rest and for the consumption of meals. They shall plan and use rest periods to ensure that they are fully rested.
- (c) Duty Limitation Parameters
 - (i) Duty period
 - (1) The duty period may not exceed 12 hours.
 - (2) The aggregate of duty period hours may not exceed 200 hours within a defined period of 720 consecutive hours or 30 consecutive days.
 - (3) There must be at least 12 hours between the end of one duty period and the beginning of the next.
 - (4) No more than 6 consecutive days of duty shall be worked.
 - (5) Were the maximum number of consecutive days of duty is rostered, there shall be a minimum interval of 60 hours between the end of one consecutive period of duty days and the next.
- (d) Operational duty
 - (i) A period of operational duty shall not exceed 2 hours.
 - (ii) An operational duty shall not exceed 2 hours without there being a break taken during or at the end of that period.
 - (iii) A break shall total not less than 30 minutes.

(e) Night duties

- (i) A period of night duty shall be defined as starting at 2200 local and ending at 0600 local
- (ii) A duty which covers all or part of the period of night duty shall not exceed 10 hours.
- (iii) No more than 3 consecutive duties shall be worked which cover all or part of the period of night duty.
- (iv) A minimum period of 54 hours shall occur between the end of duties which cover all or part of the period of night duty and the commencement of the next period of duty

(f) On-call duties

- (i) No more than 3 on-call duties shall be worked in a 7 day period.
- (ii) The maximum length of an on call period of duty where the ATCO does not attend the place of work shall be 20 hours.

SCHEDULE 6

Transfer of Control (Regulation 49)

1. Division of responsibility for control between air traffic control units

1.1.1 General

The appropriate ATS authority shall designate the area of responsibility for each air traffic control (ATC) unit and, when applicable, for individual control sectors within an ATC unit. Where there is more than one ATC working position within a unit or sector, the duties and responsibilities of the individual working positions shall be defined.

1.1.2 Between a unit providing aerodrome control service and a unit providing approach control service

1.1.2.1 Except for flights which are provided aerodrome control service only, the control of arriving and departing controlled flights shall be divided between units providing aerodrome control service and units providing approach control service as follows —

1.1.2.1.1 **Arriving aircraft.** Control of an arriving aircraft shall be transferred from the unit providing approach control service to the unit providing aerodrome control service when the aircraft —

- (a) is in the vicinity of the aerodrome, and it is considered that approach and landing will be completed in visual reference to the ground, or has reached uninterrupted visual meteorological conditions;
- (b) is at a prescribed point or level; or
- (c) has landed,

as specified in letters of agreement or ATS unit instructions.

1.1.2.1.2 Transfer of communications to the aerodrome controller shall be effected at such a point, level or time that clearance to land or alternative instructions, as well as information on essential local traffic, can be issued in a timely manner.

Note — Even though there is an approach control unit, control of certain flights may be transferred directly from an ACC to an aerodrome control tower and vice versa, by prior arrangement between the units concerned for the relevant part of approach control service to be provided by the ACC or the aerodrome control tower, as applicable.

1.1.2.1.3 **Departing aircraft.** Control of a departing aircraft shall be transferred from the unit providing aerodrome control service to the unit providing approach control service —

- (a) when visual meteorological conditions prevail in the vicinity of the aerodrome —
 - (i) prior to the time the aircraft leaves the vicinity of the aerodrome,
 - (ii) prior to the aircraft entering instrument meteorological conditions, or
 - (iii) when the aircraft is at a prescribed point or level, as specified in letters of agreement or ATS unit instructions;
- (b) when instrument meteorological conditions prevail at the aerodrome —

- (i) immediately after the aircraft is airborne, or
- (ii) when the aircraft is at a prescribed point or level, as specified in letters of agreement or local instructions.

Note – See Note following 1.1.2.1.2.

1.1.3 Between a unit providing approach control service and a unit providing area control service

1.1.3.1 When area control services and approach control services are not provided by the same air traffic control unit, responsibility for controlled flights shall rest with the unit providing area control service except that a unit providing approach control service shall be responsible for the control of —

- (a) an arriving aircraft that has been released to the unit providing approach control service by the ACC; and
- (b) departing aircraft until such aircraft is released to the ACC.

1.1.3.2 A unit providing approach control service shall assume control of an arriving aircraft, provided that such aircraft has been released to it, upon arrival of the aircraft at the point, level or time agreed for transfer of control, and shall maintain control during approach to the aerodrome.

1.1.4 Between two units providing area control service

The responsibility for the control of an aircraft shall be transferred from a unit providing area control service in a control area to the unit providing area control service in an adjacent control area at the time of crossing the common control area boundary as estimated by the ACC having control of the aircraft, or at such other point, level or time as has been agreed between the two units.

1.1.5 Between control sectors or positions within the same air traffic control unit

The responsibility for the control of an aircraft shall be transferred from one control sector or position to another control sector or position within the same ATC unit at a point, level or time, as specified in local instructions.

1.1.6 Transfer of control where an ATS surveillance service is being provided

1.1.6.1 Where an ATS surveillance service is being provided, transfer of control shall be effected, whenever practicable, so as to enable the uninterrupted provision of the ATS surveillance service.

1.1.6.2 Where SSR or ADS-B or MLAT is used and the display of position indications with associated labels is provided for, transfer of control of aircraft between adjacent control positions or between adjacent ATC units may be effected without prior coordination, provided that —

- (a) updated flight plan information on the aircraft about to be transferred, including the discrete assigned SSR code or, with respect to Mode S and ADS-B, the aircraft identification, is provided to the accepting controller prior to transfer;
- (b) the ATS surveillance system coverage provided to the accepting controller is such that the aircraft concerned is presented on the situation display before the transfer is effected and is identified on, but preferably before, receipt of the initial call;

- (c) when the controllers are not physically adjacent, two-way direct speech facilities, which permit communications to be established instantaneously, are available between them at all times;

Note. — “Instantaneous” refers to communications which effectively provide for immediate access between controllers.

- (d) the transfer points and all other conditions of application, such as direction of flight, specified levels, transfer of communication points, and especially an agreed minimum separation between aircraft, including that applicable to succeeding aircraft on the same route, about to be transferred as observed on the situation display, have been made the subject of specific instructions (for intra-unit transfer or of a specific letter of agreement between two adjacent ATC units;
- (e) the instructions or letter of agreement specify explicitly that the application of this type of transfer of control may be terminated at any time by the accepting controller, normally with an agreed advance notice; and
- (f) the accepting controller is informed of any level, speed or vectoring instructions given to the aircraft prior to its transfer and which modify its anticipated flight progress at the point of transfer.

1.1.6.3 The minimum agreed separation between an aircraft about to be transferred (1.1.6.2 (d) refers) and the advance notice (1.1.6.2 (e) refers) shall be determined taking into account all relevant technical, operational and other circumstances.

Where circumstances arise in which these agreed conditions can no longer be satisfied, controllers shall revert to the procedure in 1.1.6.4 until the situation is resolved.

1.1.6.4 Where primary radar is being used, and where another type of ATS surveillance system is employed but the provisions of 1.1.6.2 are not applied, the transfer of control of aircraft between adjacent control positions or between two adjacent ATS units may be effected, provided that —

- (a) identification has been transferred to or has been established directly by the accepting controller;
- (b) when the controllers are not physically adjacent, two-way direct-speech facilities between them are at all times available which permit communications to be established instantaneously;
- (c) separation from other controlled flights conforms to the minima authorised for use during transfer of control between the sectors or units concerned;
- (d) the accepting controller is informed of any level, speed or vectoring instructions applicable to the aircraft at the point of transfer; and
- (e) radio communication with the aircraft is retained by the transferring controller until the accepting controller has agreed to assume responsibility for providing the ATS surveillance service to the aircraft. Thereafter, the aircraft should be instructed to change over to the appropriate channel and from that point is the responsibility of the accepting controller.

MADE this 27th day of May, 2022.

ERIC MOTHIBI MOLALE,
Minister of Transport and Public Works.