

THE SIERRA LEONE CIVIL AVIATION REGULATIONS



PART 11 – AIR TRAFFIC SERVICES

FEBRUARY 2024

PREAMBLE

WHEREAS, The Director-General shall have power to perform such acts, including the conduct of investigations, to issue and amend orders, rules, regulations and procedures pursuant to and in accordance with the Civil Aviation Act, 2023.

WHEREAS, the Director- General shall have power to publish all reports, orders, decisions, rules, and regulations issued under Civil Aviation Act, 2023 in such form and manner as may be best adapted for public information and use;

NOW THEREBY, The Director General under the powers given by Article 17(1) and 17(2)(a) of the Civil Aviation Act, 2023 issue the following regulations which supersedes previous regulations on Air Traffic Services.

1. SHORT TITLE

This regulation may be cited as Sierra Leone Civil Aviation Regulation “SLCAR Part 11 Air Traffic Services”

2. EFFECTIVE DATE

This Regulation shall come into force as of the 5th day of February 2024.



Ms Musayeroh Barrie
Director General



TABLE OF CONTENTS

GENERAL	5
1. APPLICABILITY AND DEFINITIONS	5
1.1 Applicability	5
1.2 Definitions	5
2. GENERAL.....	16
2.1 Establishment of Authority	16
2.2 Objectives of the Air Traffic Services.....	16
2.3 Divisions of the Air Traffic Services	16
2.4 Determination of the need for air traffic services	17
2.5 Designation of the portions of the airspace and controlled aerodromes where air traffic services will be provided	17
2.6 Classification of airspaces	17
2.7 Performance-Based Navigation (PBN) Operations	18
2.8 Performance-Based Communication (PBC) Operations	18
2.9 Performance-based surveillance (PBS) Operations	18
2.10 Establishment and designation of the units providing air traffic services	19
2.11 Specifications for flight information regions, control areas and control zones	19
2.12 Identification of Air Traffic Services Units and Airspaces	20
2.13 Establishment and Identification of ATS Routes	20
2.14 Establishment of change-over points	21
2.15 Establishment and identification of significant points	21
2.16 Establishment and Identification of Standard Routes for Taxiing Aircraft	21
2.17 Coordination between the Operator and Air Traffic Services	21
2.18 Coordination between Military Authorities and Air Traffic Services	22
2.19 Coordination of Activities Potentially Hazardous to Civil Aircraft	22
2.20 Aeronautical Data.....	23
2.21 Coordination between Meteorological and Air Traffic Services Authorities	23
2.22 Coordination between Aeronautical Information Services and Air Traffic Services Authorities	24
2.23 Minimum Flight Altitudes.....	24
2.24 Service to Aircraft in the Event of an Emergency	24
2.25 In-flight Contingencies.....	25

2.26	Time in Air Traffic Services	27
2.27	Establishment of Requirements for Carriage and Operation of Pressure-Altitude Reporting Transponders	27
2.28	Fatigue Management	27
2.29	Safety Management	28
2.30	Common reference systems	29
2.31	Language Proficiency.....	30
2.32	Contingency Arrangements	30
2.33	Identification and Delineation of Prohibited, Restricted and Danger Areas	30
2.34	Instrument Flight Procedure Design Service	31
3.	AIR TRAFFIC CONTROL SERVICE	31
3.1	Application	31
3.2	Provision of Air Traffic Control Service.....	31
3.3	Operation of Air Traffic Control Service	32
3.4	Separation Minima	33
3.5	Responsibility for Control	33
3.6	Transfer of Responsibility for Control	34
3.7	Air Traffic Control Clearances	35
3.8	Control of Persons and Vehicles at Aerodromes	38
3.9	Provision of Radar and ADS-B	38
3.10	Use of Surface Movement Radar (SMR)	39
4.	FLIGHT INFORMATION SERVICE	39
4.1	Application	39
4.2	Scope of Flight Information Service	39
4.3	Operational Flight Information Service Broadcasts	40
5.	ALERTING SERVICE	44
5.1	Application	44
5.2	Notification of Rescue Coordination Centres	45
5.3	Use of Communication Facilities	46
5.4	Plotting Aircraft in a State of Emergency	46
5.5	Information to the Operator	46
5.6	Information to Aircraft Operating in the Vicinity of an Aircraft in a State of Emergency	46
6.	AIR TRAFFIC SERVICES REQUIREMENTS FOR COMMUNICATIONS	47
6.1	Aeronautical Mobile Service (Air-Ground Communications)	47
6.2	Aeronautical Fixed Service (Ground-Ground Communications)	47

6.3	Surface Movement Control Service	50
6.4	Aeronautical Radio Navigation Service	50
	7.AIR TRAFFIC SERVICES REQUIREMENTS FOR INFORMATION	51
7.1	Meteorological Information	51
7.2	Information on Aerodrome Conditions and the Operational Status of Associated Facilities	52
7.3	Information on the Operational status of Navigation Services	53
7.4	Information on Unmanned Free Balloons	53
7.5	Information Concerning Volcanic Activity	53
7.6	Information Concerning Radioactive Materials and Toxic Chemical “Clouds”	53
8.	ADMINISTRATIVE REQUIREMENTS	53
8.1	Personnel Requirement and Training	53
8.2	Operations Manual	54
	8.3.Documentation	54
8.4	Records	54
8.5	Facility Requirements	55
8.6	Shift Administration	55
8.7	Denial of an ATC Clearance	55

The ATS Section shall continue to provide normal ATC service for any aircraft entering the manoeuvring area without an ATC clearance.IS: 2.13.4 PRINCIPLES

GOVERNING THE IDENTIFICATION OF NAVIGATION SPECIFICATIONS AND THE IDENTIFICATION OF ATS ROUTES OTHER THAN STANDARD DEPARTURE AND ARRIVAL ROUTES 55

IS: 2.15.3 PRINCIPLES GOVERNING THE ESTABLISHMENT AND IDENTIFICATION OF SIGNIFICANT POINTS

S: 2.13.5 PRINCIPLES GOVERNING THE IDENTIFICATION OF STANDARD DEPARTURE AND ARRIVAL ROUTES AND ASSOCIATED PROCEDURES

IS: 2.6.3 ATS AIRSPACE CLASSES — SERVICES PROVIDED AND FLIGHT REQUIREMENTS .. 65

IS: 2.28.1 PRESCRIPTIVE FATIGUE MANAGEMENT REGULATIONS

IS: 2.34 RESPONSIBILITIES CONCERNING AN INSTRUMENT FLIGHT PROCEDURE DESIGN SERVICE

GENERAL

In transposing ICAO Annex 11 to develop these regulations, Amendments 1-52 have been considered.

1. APPLICABILITY AND DEFINITIONS

1.1 Applicability

These Regulations shall apply to a person providing air traffic services within designated air spaces and at an aerodrome.

1.2 Definitions

Accepting unit. Air traffic control unit next to take control of an aircraft.

Accident. An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of 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:

- a) a person is fatally or seriously injured as a result of:
 - i) being in the aircraft, or
 - ii) direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - iii) direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
- b) the aircraft sustains damage or structural failure which:
 - i) adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - ii) 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, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windcreens, the aircraft skin (such as small dents or puncture holes), or for 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
- c) the aircraft is missing or is completely inaccessible.

Accuracy. A degree of conformance between the estimated or measured value and the true value.

ADS-C agreement. A reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to using ADS-C in the provision of air traffic services).

Advisory airspace. An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.

Advisory route. A designated route along which air traffic advisory service is available.

Aerodrome. 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. Air traffic control service for aerodrome traffic.

Aerodrome control tower. A unit established to provide air traffic control service to aerodrome traffic.

Aerodrome traffic. All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.

Aeronautical fixed service (AFS). 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). 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 (RR S1.32). A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, 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 telecommunication station. A station in the aeronautical telecommunication service.

Airborne collision avoidance system (ACAS). 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 aircraft that are equipped with SSR transponders.

Aircraft. 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. Two-way communication between aircraft and stations or locations on the surface of the earth.

AIRMET information. 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-taxiing. Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).

Air traffic. All aircraft in flight or operating on the manoeuvring area of an aerodrome.

Air traffic advisory service. A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.

Air traffic control clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Air traffic controller schedule. 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. A service provided for the purpose of:

a) preventing collisions:

1) between aircraft, and

2) on the manoeuvring area between aircraft and obstructions; and

b) expediting and maintaining an orderly flow of air traffic.

Air traffic control unit. A generic term meaning variously, area control centre, approach control unit or aerodrome control tower.

Air traffic flow management (ATFM). A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.

Air traffic service. 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 airspaces. Airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.

Air traffic services reporting office. A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.

Air traffic services unit. A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

Airway. A control area or portion thereof established in the form of a corridor.

ALERFA. The code word used to designate an alert phase.

Alerting service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Alert phase. A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

Alternate aerodrome. 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. Alternate aerodromes include the following:

Take-off alternate. An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate. An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route.

Destination alternate. An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing.

Altitude. The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

Approach control service. Air traffic control service for arriving or departing controlled flights.

Approach control unit. A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

Appropriate ATS authority. The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.

Apron. A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Apron management service. A service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

Area control centre. A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Area control service. Air traffic control service for controlled flights in control areas.

Area navigation (RNAV). 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. An ATS route established for the use of aircraft capable of employing area navigation.

ATS route. 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). A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/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). A means by which the terms of an ADS-C agreement will be 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). The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof: Data link-automatic terminal information service (D-ATIS). The provision of ATIS via data link. Voice-automatic terminal information service (Voice-ATIS). The provision of ATIS by means of continuous and repetitive voice broadcasts.

Base turn. A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.

Calendar. Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).

Change-over point. The point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency Omni-directional 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. The point to which an aircraft is granted an air traffic control clearance.

Conference communications. Communication facilities whereby direct speech conversation may be conducted between three or more locations simultaneously.

Control area. A controlled airspace extending upwards from a specified limit above the earth.

Controlled aerodrome. An aerodrome at which air traffic control service is provided to aerodrome traffic.

Controlled airspace. An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

Controlled flight. Any flight which is subject to an air traffic control clearance. **Controller-pilot data link communications (CPDLC).** A means of communication between controller and pilot, using data link for ATC communications.

Control zone. A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

Cruising level. A level maintained during a significant portion of a flight.

Cyclic redundancy check (CRC). A mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.

Danger area. An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

Data integrity (Assurance level). A degree of assurance that an aeronautical data and its value has not been lost or altered since the origination or authorized amendments.

Data link communications. A form of communication intended for the exchange of messages via a data link.

Data quality. A degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity.

Datum. Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities.

Declared capacity. A measure of the ability of the ATC system or any of its subsystems or operating positions to provide service to aircraft during normal activities. It is expressed as the number of aircraft entering a specified portion of airspace in a given period of time, taking due account of weather, ATC unit configuration, staff and equipment available, and any other factors that may affect the workload of the controller responsible for the airspace.

DETRESFA. The code word used to designate a distress phase.

Distress phase. A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

Downstream clearance. A clearance issued to an aircraft by an air traffic control unit that is not the current controlling authority of that aircraft.

Duty. Any task that air traffic controller is required by an air traffic services provider to perform. These tasks include those performed during time-in-position, administrative work and training.

Duty period. A period which starts when an air traffic controller is required by an air traffic services provider to report for or to commence a duty and ends when that person is free from all duties.

Emergency phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

Fatigue. A physiological state or reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and /or workload (mental and/or physical activity) that can impair a person's alertness and ability to perform safety-related operational duties.

Fatigue risk management system (FRMS). 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. 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 ends at a point in the vicinity of an aerodrome from which:
 - 1) a landing can be made; or
 - 2) a missed approach procedure is initiated.

Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Flight information centre. A unit established to provide flight information service and alerting service.

Flight information region. An airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight level. 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. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

Forecast. A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

Geodetic datum. A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

Gregorian calendar. Calendar in general use; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108*).

Height. The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

Human Factors principles. 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. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

IFR. The symbol used to designate the instrument flight rules.

IFR flight. A flight conducted in accordance with the instrument flight rules.

IMC. The symbol used to designate instrument meteorological conditions.

INCERFA. The code word used to designate an uncertainty phase.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Instrument flight procedure design service. 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 meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

Integrity (aeronautical data). A degree of assurance that an aeronautical data and its value has not been lost nor altered since the data origination or authorized amendment.

Integrity classification (aeronautical data). Classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data is 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. An office designated by a State for the exchange of NOTAM internationally.

Level. A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

Manoeuvring area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Meteorological office. An office designated to provide meteorological service for international air navigation.

Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

Navigation specification. 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:

Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

Area navigation (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

NOTAM. 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.

Non-duty period. A continuous and defined period of time, subsequent to and/or prior to duty periods, during which the air traffic controller is free of all duties.

Obstacle. All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

- a) are located on an area intended for the surface movement of aircraft; or
- b) extend above a defined surface intended to protect aircraft in flight; or
- c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Performance-based communication (PBC). Communication based on performance specifications applied to the provision of air traffic services

Performance -based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Performance-based surveillance (PBS). Surveillance based on performance specifications applied to the provision of air traffic services.

Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Printed communications. Communications which automatically provide a permanent printed record at each terminal of a circuit of all messages which pass over such circuit.

Prohibited area. An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

Radio navigation service. A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio navigation aids.

Radiotelephony. A form of radio communication primarily intended for the exchange of information in the form of speech.

Reporting point. A specified geographical location in relation to which the position of an aircraft can be reported.

Required communication performance (RCP) specification. 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. 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. A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

Restricted area. An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

Runway. A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway visual range (RVR). The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

SIGMET information. 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. 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. A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

Station declination. An alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

Taxiing. Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

Terminal control area. A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

Time – in position. The period of time when an air traffic controller is exercising the privileges of the air traffic controller's license at an operational position.

Track. 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. Advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision.

Traffic information. 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. 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 unit. 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. A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

VFR. The symbol used to designate the visual flight rules.

VFR flight. A flight conducted in accordance with the visual flight rules.

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

VMC. The symbol used to designate visual meteorological conditions.

Waypoint. A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either:

Fly-by waypoint. A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or

Flyover waypoint. A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.

2. GENERAL

2.1 Establishment of Authority

- 2.1.1 The Authority shall determine the Air Traffic Services to be provided in accordance with the provisions of this regulation. These services shall be provided in accordance with the airspace classification established by the Authority and at the aerodromes designated as controlled aerodromes.
- 2.1.2 The provision of air traffic services for those portions of the airspace or over the high seas or in airspace of undetermined sovereignty shall be on the basis of regional air navigational agreement . The provision of these services shall be in accordance with this regulation.
- 2.1.3 Sierra Leone has responsibility for the designation and provision of Air Traffic Services within its territory.
- 2.1.4 The Authority shall publish Information as necessary to permit the utilization of air traffic services.

2.2 Objectives of the Air Traffic Services

- 2.2.1 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;
 - e) Notify appropriate organizations regarding aircraft in need of search and aid, and assist such organizations as required.

2.3 Divisions of the Air Traffic Services

The air traffic services shall comprise three services identified as follows:

- 2.3.1 The air traffic control service, to accomplish objectives a), b) and c) of 2.2; this service being divided in three parts as follows:
 - a) Area control service: the provision of air traffic control service for controlled flights, except for those parts of such flights described in 2.3.1 b) and c), in order to accomplish objectives a) and c) of 2.2;
 - b) Approach control service: the provision of air traffic control service for those parts of controlled flights associated with arrival or departure, in order to accomplish objectives a) and c) of 2.2;
 - c) Aerodrome control service: the provision of air traffic control service for aerodrome traffic, except for those parts of flights described in 2.3.1 b), in order to accomplish objectives a), b) and c) of 2.2.
- 2.3.2 The flight information service, to accomplish objective d) of 2.2.
- 2.3.3 The alerting service, to accomplish objective e) of 2.2.

2.4 Determination of the need for air traffic services

2.4.1 The need for the provision of air traffic services shall be determined by consideration of the following factors:

- a) the types of air traffic involved;
- b) the density of air traffic;
- c) the meteorological conditions;
- d) such other factors as may be relevant.

2.4.2 The carriage of airborne collision avoidance systems (ACAS) by aircraft in a given area shall not be a factor in determining the need for air traffic services in that area.

2.5 Designation of the portions of the airspace and controlled aerodromes where air traffic services will be provided

2.5.1 The designation for the particular portion of the airspace or at a particular aerodrome shall conform to the air traffic services to be provided.

2.5.2 The designation of the particular portions of the airspace or the particular aerodromes shall be as follows:

- a) Flight information regions: Those portion 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: Those portions of the airspace where it is determined that air traffic control service will be provided to IFR flights shall be designated as control areas or control zones.

2.5.2.1 Flight information regions. Those portion of the airspace where it is determined that flight information service and alerting service will be provided shall be designated as flight information regions.

2.5.2.2 Control areas and control zones

- a) Those portions of the airspace where it is determined that air traffic control service will be provided to IF flights shall be designated as control areas or control zones.
 - i) Those portions of controlled airspace wherein it is determined that air traffic control service will also be provided to VFR flights shall be designated as Classes B, C, or D airspace.
- b) Where designated within a flight information region, control areas and control zones shall form part of that flight information region.

2.5.2.3 Controlled aerodromes. Those aerodromes where it is determined that air traffic control service will be provided to aerodrome traffic shall be designated as controlled aerodromes.

2.6 Classification of airspaces

2.6.1 ATS airspaces shall be classified and designated in accordance with the following:

- a) Class A. IFR flights only are permitted, all flights are provided with air traffic control service and are separated from each other.

- b) Class B. IFR and VFR flights are permitted; all flights are provided with air traffic control service and are separated from each other.
- c) Class C. IFR and VFR flights are permitted, all flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights.
- d) Class D. IFR and VFR flights are permitted and all flights are provided with air traffic control service, IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights, VFR flights receive traffic information in respect of all other flights.
- e) Class E. IFR and VFR flights are permitted, IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic information as far as is practical. Class E Shall Not Be Used For Control Zones.
- f) Class F. Ifr And Vfr Flights Are Permitted, All Participating Ifr Flights Receive An Air Traffic Advisory Service And All Flights Receive Flight Information Service If Requested.
- g) Class G. IFR And VFR Flights Are Permitted And Receive Flight Information Service If Requested.

2.6.2 The Authority shall select airspace classes appropriate to the needs of the State.

2.6.3 The requirements for flights within each class of airspace shall be as shown in the table in IS: 2.6.3 of this Regulation.

2.7 Performance-Based Navigation (PBN) Operations

2.7.1 The Authority shall prescribe navigation specification for performance-based navigation. When applicable, the navigation specification(s) for designated areas, tracks or ATS routes shall be prescribed on the basis of regional air navigation agreements. In designating a navigation specification, limitations may apply as a result of navigation infrastructure constraints or specific navigation functionality requirements.

2.7.2 Performance-based navigation operations shall be implemented as soon as practicable.

2.7.3 The prescribed navigation specification shall be appropriate to the level of communications, navigation and air traffic services provided in the airspace concerned.

2.8 Performance-Based Communication (PBC) Operations

2.8.1 The Authority shall prescribe RCP specification for performance-based Communication (PBC). When applicable, the RCP specification(s) shall be prescribed on the basis of regional air navigation agreements.

2.8.2 The prescribed RCP specification shall be appropriate to the air traffic services provided.

2.9 Performance-based surveillance (PBS) Operations

2.9.1 The Authority shall prescribe RSP specification for performance-based Surveillance (PBS). When applicable, the RSP specification(s) shall be prescribed on the basis of regional air navigation agreements.

2.9.2 The prescribed RSP specification shall be appropriate to the air traffic services provided.

2.9.3 Air Traffic Service units shall be provided with equipment capable of performance consistent with the prescribed RSP specification(s) where applicable.

2.10 Establishment and designation of the units providing air traffic services

The air traffic services shall be provided by units established and designated as follows:

2.10.1 Flight information centres shall be 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.

2.10.2 Air traffic control units shall be established to provide air traffic control service, flight information service and alerting service within control areas, control zones and at controlled aerodromes.

2.11 Specifications for flight information regions, control areas and control zones

2.11.1 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.

2.11.2 Flight information regions

2.11.2.1 Flight information regions shall be delineated to cover the whole of the air route structure to be served by such regions.

2.11.2.2 A flight information region shall include all airspace within its lateral limits, except as limited by an upper flight information region.

2.11.2.3 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 in Sierra Leone Civil Aviation (Rules of the Air) regulations IS: 4.7.

2.11.3 Control areas

2.11.3.1 Control areas including, inter alia, airways and terminal control areas shall be delineated so as to encompass sufficient airspace to contain the flight paths of those 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.

2.11.3.2 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).

2.11.3.2.1 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 2.11.3.2

2.11.3.2.2 When the lower limit of a control area is above 900 m (3 000 ft) MSL it shall coincide with a VFR cruising level of the tables in Sierra Leone Civil Aviation (Rules of the Air) regulations IS: 4.7.

2.11.3.3 An upper limit of a control area shall be established when either:

- a) air traffic control service will not be 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. When established, such upper limit shall coincide with a VFR cruising level of the tables in Sierra Leone Civil Aviation (Rules of the Air) regulations IS: 4.7.

2.11.4 Where it is desirable to limit the number of flight information regions or control areas through which 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.

2.11.5 Control zones

2.11.5.1 The lateral limits of control zones shall encompass at least those 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.

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

2.11.5.3 If a control zone is located within the lateral limits of a control area, it shall extend upwards from the surface of the earth to at least the lower limit of the control area.

2.11.5.4 If a control zone is located outside of the lateral limits of a control area, an upper limit shall be established.

2.11.5.5 If 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 if the control zone is located outside of the lateral limits of a control area, its upper limit shall be established at a level which can easily be identified by pilots. When this limit is above 900 m (3 000 ft) MSL it shall coincide with a VFR cruising level of the tables in Sierra Leone Civil Aviation (Rules of the Air) regulations IS: 4.7.

2.12 Identification of Air Traffic Services Units and Airspaces

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

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

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

2.13 Establishment and Identification of ATS Routes

2.13.1 When ATS routes are established, a protected airspace along each ATS route and a safe spacing between adjacent ATS routes shall be provided.

2.13.2 When warranted by density, complexity or nature of the traffic, special routes shall be established for use by low-level traffic, including helicopters operating to and from helidecks

on the high seas. When determining the lateral spacing between such routes, account shall be taken of the navigational means available and the navigation equipment carried on board helicopters

2.13.3 ATS routes shall be identified by designators.

2.13.4 Designators for ATS routes other than standard departure and arrival routes shall be selected in accordance with the principles set forth in IS: 2.13.4.

2.13.5 Standard departure and arrival routes and associated procedures shall be identified in accordance with the principles set forth in IS: 2.13.5.

2.14 Establishment of change-over points

2.14.1 Change-over points shall be established on ATS route segments defined by reference to very high frequency omnidirectional radio ranges where this will assist accurate navigation along the route segments. 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.

2.14.2 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.

2.15 Establishment and identification of significant points

2.15.1 Significant points shall be established for the purpose of defining an ATS route or instrument approach procedure and/or in relation to the requirements of air traffic services for information regarding the progress of aircraft in flight.

2.15.2 Significant points shall be identified by designators.

2.15.3 Significant points shall be established and identified in accordance with the principles set forth in IS: 2.15.3.

2.16 Establishment and Identification of Standard Routes for Taxiing Aircraft

2.16.1 Where necessary, standard routes for taxiing aircraft shall be established on an aerodrome between runways, aprons and maintenance areas. Such routes shall be direct, simple and where practicable, designed to avoid traffic conflicts.

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

2.17 Coordination between the Operator and Air Traffic Services

2.17.1 Air traffic services units, in carrying out their objectives, shall have due regard for the requirements of the operators consequent on their obligations as specified in SLCAR Part 6, and, if so required by the operators, shall make available to them or their designated representatives such information as may be available to enable them or their designated representatives to carry out their responsibilities.

2.17.2 When so requested by an operator, messages (including position reports) received by air traffic services units and relating to the operation of the aircraft for which operational control service is provided by that operator shall, so far as practicable, be made available immediately to the operator or a designated representative in accordance with locally agreed procedures.

2.18 Coordination between Military Authorities and Air Traffic Services

2.18.1 Air traffic service providers shall establish and maintain close cooperation with military authorities responsible for activities that may affect flights of civil aircraft.

2.18.2 Coordination of activities potentially hazardous to civil aircraft shall be effected in accordance with 2.19.

2.18.3 Arrangements 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.

2.18.3.1 Air traffic services units shall, either routinely or on request, in accordance with locally agreed procedures, provide appropriate military units with pertinent flight plan and other data concerning flights of civil aircraft. In order to eliminate or reduce the need for interceptions, air traffic service provider shall designate any areas or routes where the requirements of Sierra Leone Civil Aviation Regulations Part 2 concerning flight plans, two-way communications and position reporting apply to all flights to ensure that all pertinent data is available in appropriate air traffic services units specifically for the purpose of facilitating identification of civil aircraft.

2.18.3.2 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;
- 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.

2.19 Coordination of Activities Potentially Hazardous to Civil Aircraft

2.19.1 The arrangements for activities potentially hazardous to civil aircraft, whether over the territory of Sierra Leone or over the high seas, shall be coordinated with the air traffic service provider. The coordination shall be effected early enough to permit timely promulgation of information regarding the activities in accordance with the provisions of Sierra Leone Civil Aviation Regulation Part 15.

2.19.2 The objective of the coordination shall be to achieve the best arrangements which will avoid hazards to civil aircraft and minimize interference with the normal operations of such aircraft.

2.19.2.1 In determining these arrangements the following shall be applied:

- a) the locations or areas, times and durations for the activities shall be selected 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;

- c) direct communication between the air traffic service provider or air traffic services unit and the organization 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.

2.19.3 The air traffic service provider shall ensure that a safety risk assessment is conducted, as soon practicable, for activities potentially hazardous to civil aircraft and that appropriate risk mitigation measures are implemented.

2.19.3.1 The air traffic service provider in coordination and collaboration with military authorities shall establish procedures to enable the unit conducting or identifying activities potentially hazardous to civil aircraft to contribute to the safety risk assessment in order to facilitate consideration of all significant factors.

2.19.4 The air traffic service provider shall be responsible for initiating the promulgation of information regarding the activities.

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

2.19.6 The air traffic service provider together with the military authorities, through the civil/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. The procedures shall permit all airspace users to have safe access to such reserved airspace.

2.20 Aeronautical Data

2.20.1 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 as specified in Sierra Leone Civil Aviation Regulations Part 15.

2.20.2 Digital data error detection techniques shall be used during the transmission and/or storage of aeronautical data and digital data sets.

2.21 Coordination between Meteorological and Air Traffic Services Authorities

2.21.1 To ensure that aircraft receive the most up-to-date meteorological information for aircraft operations, arrangements shall be made, where necessary, between meteorological and air traffic services authorities for air traffic services personnel:

- a) in addition to using indicating instruments, to report, if observed by air traffic services personnel or communicated by aircraft, such other meteorological elements as may be agreed upon;
- b) to 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;
- c) to 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. In addition, area control centers and flight information centres shall

report the information to the associated meteorological watch office and volcanic ash advisory centres (VAACs).

2.21.2 Close coordination shall be maintained between area control centres, flight information centres and associated meteorological watch offices to ensure that information on volcanic ash included in NOTAM and SIGMET messages is consistent.

2.22 Coordination between Aeronautical Information Services and Air Traffic Services Authorities

2.22.1 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 in-flight information, arrangements shall be made between aeronautical information services and air traffic services authorities responsible for air traffic services to report to the responsible aeronautical information services unit, with a minimum of delay:

- a) information on aerodrome conditions;
- 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.

2.22.2 Before introducing changes to the air navigation system, due account shall be taken by the services responsible for such changes of the time needed by the aeronautical information service for the preparation, production and issuance of relevant material for promulgation. To ensure timely provision of the information to the aeronautical information service, close coordination between those services concerned is therefore required.

2.22.3 The predetermined internationally agreed AIRAC effective dates shall be observed by the air traffic services provider when submitting the raw information/data to aeronautical information services.

2.22.4 The air traffic services provider responsible for the provision of raw aeronautical information/data to the aeronautical information services shall do so while taking into account accuracy and integrity necessary to meet the needs of the end-user of aeronautical data.

2.23 Minimum Flight Altitudes

The air traffic services provider shall determine and promulgate minimum flight altitudes for each ATS route and control area. The minimum flight altitudes determined shall provide a minimum clearance above the controlling obstacle located within the areas concerned.

2.24 Service to Aircraft in the Event of an Emergency

2.24.1 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.

- a) on Mode A, Code 7700; or

- b) on Mode A, Code 7500, to indicate specifically that it is being subjected to unlawful interference; and/or
- c) activate the appropriate emergency and/or urgency capability of ADS-B or ADS-C; and/or
- d) transmit the appropriate emergency message via CPDLC.

2.24.1.1 Human Factors principles shall be observed in communications between ATS units and aircraft in the event of an emergency.

2.24.2 When an occurrence of unlawful interference with an aircraft takes place or is suspected, ATS units shall attend promptly to requests by the aircraft. Information pertinent to the safe conduct of the flight shall continue to be transmitted and necessary action shall be taken to expedite the conduct of all phases of the flight, especially the safe landing of the aircraft.

2.24.3 When an occurrence of unlawful interference with an aircraft takes place or is suspected, ATS units shall, in accordance with locally agreed procedures, immediately inform the appropriate authority designated by the State and exchange necessary information with the operator or its designated representative.

2.25 In-flight Contingencies

2.25.1 Strayed or unidentified aircraft

- a) Strayed aircraft: An aircraft which has deviated significantly from its intended track or which reports that it is lost.
- b) Unidentified aircraft: An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established.

2.25.1.1 As soon as an air traffic services unit becomes aware of a strayed aircraft it shall take all necessary steps as outlined in 2.25.1.1.1 and 2.25.1.1.2 to assist the aircraft and to safeguard its flight.

2.25.1.1.1 If the aircraft's position is not known, the air traffic services unit shall:

- a) attempt to establish two-way communication with the aircraft, unless such communication already exists;
- b) use all available means to determine its position;
- c) inform other air traffic service units into whose area the aircraft may have strayed or may stray, taking into account all the factors which may have affected the navigation of the aircraft in the circumstances;
- d) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning strayed aircraft;
- e) request from the units referred to in c) and d) and from other aircraft in flight every assistance in establishing

2.25.1.1.2 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 air traffic services units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.

2.25.1.2 As soon as an air traffic services unit becomes aware of an unidentified aircraft in its area, it shall endeavor to establish the identity of the aircraft whenever this is necessary for the

provision of air traffic services or required by the appropriate military authorities in accordance with locally agreed procedures. To this end, the air traffic services unit shall take such of the following steps as are appropriate in the circumstances:

- a) attempt to establish 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 air traffic services units serving the adjacent flight information regions about the flight and request their assistance in establishing two-way communication with the aircraft;
- d) attempt to obtain information from other aircraft in the area.

2.25.1.2.1 The air traffic services unit shall, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established.

2.25.1.3 The appropriate State agency shall immediately be informed, in accordance with locally agreed procedures when the air traffic services unit considers that a strayed or unidentified aircraft may be the subject of unlawful interference.

2.25.2 Interception of civil aircraft

2.25.2.1 As soon as an air traffic services unit learns that an aircraft is being intercepted in its area of responsibility, it shall take such of 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;
- a) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft;
- b) inform air traffic services units serving adjacent flight information regions if it appears that the aircraft has strayed from such adjacent flight information regions.

2.25.2.2 As soon as an air traffic services unit learns that an aircraft is being intercepted outside its area of responsibility, it shall take such of the following steps as are appropriate in the circumstances:

- a) inform the air traffic services 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 2.25.2.1;
- b) relay messages between the intercepted aircraft and the air traffic services unit, the intercept control unit or the intercepting aircraft.

2.26 Time in Air Traffic Services

- 2.26.1 Air traffic services units shall use Coordinated Universal Time (UTC) and shall express the time in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.
- 2.26.2 Air traffic services units shall be equipped with clocks indicating the time in hours, minutes and seconds, clearly visible from each operating position in the unit concerned.
- 2.26.3 Air traffic services 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. Wherever data link communications are utilized 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.
- 2.26.4 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.
- 2.26.5 Aerodrome control towers 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. Air traffic services units shall, in addition, provide aircraft with the correct time on request. Time checks shall be given to the nearest half minute.

2.27 Establishment of Requirements for Carriage and Operation of Pressure-Altitude Reporting Transponders

All aircraft shall be required to comply with the requirement for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace in accordance with Sierra Leone Civil Aviation Regulation Part 25.

2.28 Fatigue Management

- 2.28.1 The air traffic service provider shall develop procedures for the purpose of managing fatigue in the provision of air traffic services in accordance with the regulations in IS: 2.28.1. These procedures shall be based upon scientific principles, knowledge and operational experience, with the aim of ensuring that air traffic controllers perform at an adequate level of alertness.
- 2.28.2 For the purposes of managing its fatigue-related safety risks, the air traffic services provider, shall establish air traffic controller schedules commensurate with the service(s) provided and in compliance with the prescriptive limitation regulations in IS: 2.28.1
- 2.28.3 The air traffic service provider shall—
- a) provide evidence that the limitations are not exceeded and that non-duty period requirements are met;
 - b) ensure that its personnel are familiar with the principles of fatigue management and its policies with regard to fatigue management;
 - c) establish a process to allow variations from the prescriptive limitation regulations to address any additional risks associated with sudden, unforeseen operational circumstances; and
- 2.28.4 The Authority may approve variations to these prescriptive fatigue management regulations in order to address strategic operational needs in exceptional circumstances, based on the air

traffic services provider demonstrating that any associated risk is being managed to a level of safety equivalent to, or better than that achieved through the prescriptive fatigue management regulations.

- 2.28.5 The air traffic services provider shall subject to 2.28.4 be required to provide the following for approval of variations from the prescriptive limitation—
- a) The reason for the need to deviate;
 - b) The extent of the deviation;
 - c) The date and time of enactment of the deviation; and
 - d) A safety case, outlining mitigations, to support the deviation.

2.29 Safety Management

- 2.29.1 The air traffic services provider shall establish a safety management in accordance with Sierra Leone Civil Aviation Regulation Part 19.
- 2.29.2 All activities undertaken in an Air Traffic Services SMS shall be fully documented. All documentation shall be retained for such period of time as is specified by the Authority.
- 2.29.3 Any significant safety-related change to the air traffic service 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. The air traffic service provider shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.
- 2.29.4 Safety-related reports concerning the operation of air traffic services, including air traffic incident reports, shall be systematically reviewed by the air traffic service provider in order to detect any adverse trend in the number and types of incidents which occur.
- 2.29.5 Reports concerning the serviceability of air traffic service facilities and systems, such as failures and degradations of communications, surveillance and other safety significant systems and equipment, shall be systematically reviewed by the air traffic service provider in order to detect any trend in the operation of such systems which may have an adverse effect on safety.
- 2.29.6 Safety reviews of air traffic services units shall be conducted on a regular and systematic basis by personnel qualified through training, experience and expertise and having a full understanding of relevant Sierra Leone Civil Aviation Regulations, safe operating practices and Human Factors principles.
- 2.29.7 A safety assessment shall be carried out in respect of proposals for significant airspace reorganizations, for significant changes in the provision of air traffic service procedures applicable to an airspace or an aerodrome, and for the introduction of new equipment, systems or facilities, such as:
- a) a reduced separation minimum to be applied within an airspace or at an aerodrome;
 - b) a new operating procedure, including departure and arrival procedures, to be applied within an airspace or at an aerodrome;
 - c) a reorganization of the ATS route structure;
 - d) a resectorization of an airspace;
 - e) physical changes to the layout of runways and/or taxiways at an aerodrome; and

- f) implementation of new communications, surveillance or other safety-significant systems and equipment, including those providing new functionality and/or capabilities.

2.29.8 Proposals shall be implemented only when the assessment has shown that an acceptable level of safety will be met.

2.29.9 The safety assessment shall consider relevant all factors determined to be safety-significant, including:

- a) types of aircraft and their performance characteristics, including aircraft navigation capabilities and navigation performance;
- b) traffic density and distribution;
- c) airspace complexity, ATS route structure and classification of the airspace;
- d) aerodrome layout, including runway configurations, runway lengths and taxiway configurations;
- e) type of air-ground communications and time parameters for communication dialogues, including controller intervention capability;
- f) type and capabilities of surveillance system, and the availability of systems providing controller support and alert functions. Where ADS-B implementation envisages reliance upon a common source for surveillance and/or navigation, the safety assessment shall take account of adequate contingency measures to mitigate the risk of either degradation or loss of this common source (i.e. common mode failure); and
- g) any significant local or regional weather phenomena.

2.29.10 The air traffic service provider shall assess and classify for its risk acceptability any actual or potential hazard related to the provision of air traffic services within an airspace or at an aerodrome, whether identified through an ATS safety management activity or by any other means.

2.29.11 The air traffic services provider shall, as a matter of priority and as far as practicable, implement appropriate measures to eliminate the risk or reduce the risk to a level that is acceptable except when the risk can be classified as acceptable.

2.29.12 The air traffic service provider shall as a matter of priority and as far as practicable, implement appropriate remedial measures if it becomes apparent that the level of safety applicable to an airspace or an aerodrome is not, or may not be achieved,.

2.29.13 Implementation of any remedial measure shall be followed by an evaluation of the effectiveness of the measure in eliminating or mitigating a risk.

2.29.14 An air traffic incident report shall be submitted, to the Authority, for incidents specifically related to the provision of air traffic services involving such occurrences as aircraft proximity (AIRPROX), or other serious difficulty resulting in a hazard to aircraft, caused by, among others, faulty procedures, non-compliance with procedures, or failure of ground facilities.

2.30 Common reference systems

2.30.1 Horizontal reference system

World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for air navigation. Reported aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

2.30.2 Vertical reference system

Mean sea level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, shall be used as the vertical reference system for air navigation.

2.30.3 Temporal reference system

2.30.3.1 The Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system for air navigation.

2.30.3.2 When a different temporal reference system is used, this shall be indicated in GEN 2.1.2 of the Aeronautical Information Publication (AIP).

2.31 Language Proficiency

2.31.1 An air traffic services provider shall ensure that air traffic controllers speak and understand the language(s) used for radiotelephony communications as specified in Sierra Leone Civil Aviation Regulation Part 1A.

2.31.2 English language shall be used as means of communications between air traffic control units.

2.32 Contingency Arrangements

2.32.1 Air traffic services authorities 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. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.

2.32.2 The Air traffic services provider shall ensure that ATC contingency procedures are developed and implemented for:

- a) radio communications contingencies.
- b) emergency separation, and
- c) if applicable, for
 - i) short-term conflict alert (STCA);
 - ii) minimum safe altitude warning (MSAW);
 - iii) aircraft equipped with ACAS; and
 - iv) autonomous runway incursion warning system (ARIWS).

2.33 Identification and Delineation of Prohibited, Restricted and Danger Areas

2.33.1 Each prohibited area, restricted area, or danger area established by the State shall, upon initial establishment, be given identification and full details shall be promulgated.

- 2.33.2 The identification so assigned shall be used to identify the area in all subsequent notifications pertaining to that area.
- 2.33.3 The identification shall be composed of a group of letters and figures as follows:
- a) nationality letters for location indicators assigned to the State or territory which has established the airspace;
 - b) a letter P for prohibited area, R for restricted area and D for danger area as appropriate; and
 - c) a number, unduplicated within the State or its territory.
- 2.33.4 To avoid confusion, identification numbers shall not be reused for a period of at least one year after cancellation of the area to which they refer.
- 2.33.5 When 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.

2.34 Instrument Flight Procedure Design Service

The Authority shall ensure that instrument flight procedure design is in place in accordance with Sierra Leone Civil Aviation Regulation Part 24.

3. AIR TRAFFIC CONTROL SERVICE

3.1 Application

Air traffic control service shall be provided:

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

3.2 Provision of Air Traffic Control Service

The parts of air traffic control service described in 2.3.1 shall be provided by the various units as follows:

- a) Area control service:
 - i) by an area control centre; or
 - ii) by 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.
- b) Approach control service:
 - i) by 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;
 - ii) by an approach control unit when it is necessary or desirable to establish a separate unit.
- c) Aerodrome control service: by an aerodrome control tower.

3.3 Operation of Air Traffic Control Service

- 3.3.1 In order to provide air traffic control service, an air traffic control unit shall:
- a) be provided with information on the intended movement of each aircraft, or variations therefrom, and with current information on the actual progress of each aircraft;
 - b) determine from the information received, the relative positions of known aircraft to each other;
 - c) issue clearances and information for the purpose of preventing collision between aircraft under its control and of expediting and maintaining an orderly flow of traffic;
 - 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;
 - ii) before transferring control of an aircraft to such other units.
- 3.3.2 Information on aircraft movements, 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 aircraft.
- 3.3.3 Clearances issued by air traffic control units shall provide separation:
- a) between all flights in airspace Classes A and B;
 - b) between IFR flights in airspace Classes C, D and E;
 - c) between IFR flights and VFR flights in airspace Class C;
 - d) between IFR flights and special VFR flights;
 - e) between special VFR flights when so prescribed by the air traffic service provider, except that, when requested by an aircraft and if so prescribed by the air traffic service provider for the cases listed under b) above in airspace Classes D and E, a flight may be cleared without separation being so provided in respect of a specific portion of the flight conducted in visual meteorological conditions.
- 3.3.4 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 in IS: 4.7 of Sierra Leone Civil Aviation Regulation Part 2, or
 - ii) a modified table of cruising levels, when so prescribed in accordance with IS: 4.7 of Sierra Leone Civil Aviation Regulation Part 2 for flight above FL 410, except that the correlation of levels to track as prescribed 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 aircraft 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;
 - c) composite separation, consisting of a combination of vertical separation and one of the other forms of separation contained in b) above, 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. Composite separation shall only be applied on the basis of regional air navigation agreements.

- 3.3.4.1 For all airspace where a reduced vertical separation minimum of 300 m (1 000 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 aircraft operating at these levels, in order to ensure that the continued application of this vertical separation minimum meets the safety objectives. The scope of regional monitoring programmes shall be adequate to conduct analyses of aircraft group performance and evaluate the stability of altimetry system error.
- 3.3.4.2 Where RCP/RSP specifications are applied, programmes shall be instituted for monitoring the performance of the infrastructure and the participating aircraft against the appropriate RCP and/or RSP specifications, to ensure that operations in the applicable airspace continue to meet safety objectives. The scope of monitoring programmes shall be adequate to evaluate communication and/or surveillance performance, as applicable.

3.4 Separation Minima

- 3.4.1 The selection of separation minima for application within a given portion of airspace shall be as follows:
- a) the separation minima shall be selected from those prescribed by the provisions of the PANS ATM (ICAO Doc 4444) 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 the PANS ATM, other separation minima shall be established as necessary by:
 - i) the air traffic service provider, following consultation with operators, for routes or portions of routes contained within the sovereign airspace of a State;
 - ii) regional air navigation agreements for routes or portions of routes contained within airspace over the high seas or over areas of undetermined sovereignty.
 - b) the selection of separation minima shall be made in consultation between the air traffic service provider responsible for the provision of air traffic services in neighbouring airspace when:
 - i) traffic will pass from one into the other of the neighbouring airspaces;
 - ii) routes are closer to the common boundary of the neighbouring airspaces than the separation minima applicable in the circumstances.
- 3.4.2 Details of the selected separation minima and of their areas of application shall be notified:
- a) to the air traffic control 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.

3.5 Responsibility for Control

- 3.5.1 Responsibility for control of individual flights

A controlled flight shall be under the control of only one air traffic control unit at any given time.

3.5.2 Responsibility for control within a given block of airspace

Responsibility for the control of all aircraft operating within a given block of airspace shall be vested in a single air traffic control unit. However, control of an aircraft or groups of aircraft may be delegated to other air traffic control units provided that coordination between all air traffic control units concerned is assured.

3.6 Transfer of Responsibility for Control

3.6.1 Place or time of transfer

The responsibility for the control of an aircraft shall be transferred from one air traffic control unit to another as follows:

3.6.1.1 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 area control centre having control of the aircraft or at such other point or time as has been agreed between the two units.

3.6.1.2 Between a unit providing area control service and a unit providing approach control service: The responsibility for the control of an aircraft shall be transferred from a unit providing area control service to a unit providing approach control service, and vice versa, at a point or time agreed between the two units.

3.6.1.3 Between a unit providing approach control service and an aerodrome control tower

3.6.1.3.1 Arriving aircraft. The responsibility for the control of an arriving aircraft shall be transferred from the unit providing approach control service to the aerodrome control tower, when the aircraft:

- a) is in the vicinity of the aerodrome, and:
 - i) it is considered that approach and landing will be completed in visual reference to the ground, or
 - ii) it has reached uninterrupted visual meteorological conditions, or
- b) is at a prescribed point or level, as specified in letters of agreement or air traffic services unit instructions; or
- c) has landed.

3.6.1.3.2 Departing aircraft. The responsibility for control of a departing aircraft shall be transferred from the aerodrome control tower 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, or
 - ii) prior to the aircraft entering instrument meteorological conditions, or
 - iii) at a prescribed point or level,as specified in letters of agreement or air traffic service unit instructions;
- b) when instrument meteorological conditions prevail at the aerodrome:
 - i) immediately after the aircraft is airborne, or

- ii) at a prescribed point or level,
as specified in letters of agreement or air traffic control unit instructions.

3.6.1.4 Between control sectors/positions within the same air traffic control unit

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

3.6.2 Coordination of transfer

3.6.2.1 Responsibility for control of an aircraft shall not be transferred from one air traffic control unit to another without the consent of the accepting control unit, which shall be obtained in accordance with 3.6.2.2, 3.6.2.2.1, 3.6.2.2.2 and 3.6.2.3.

3.6.2.2 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.

3.6.2.2.1 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, if required, the track and speed of the aircraft, as observed by radar or ADS-B immediately prior to the transfer.

3.6.2.2.2 Where 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.

3.6.2.3 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, the absence of any such indication is 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 it requires the aircraft to have at the time of transfer.

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

3.6.2.5 Applicable coordination procedures, including transfer of control points, shall be specified in letters of agreement and air traffic services unit instructions as appropriate.

3.7 Air Traffic Control Clearances

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

3.7.1 Contents of clearances

3.7.1.1 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(s) of flight for the entire route or part thereof and changes of levels if required;
- e) any necessary instructions or information on other matters such as approach or departure manoeuvres, communications and the time of expiry of the clearance.

3.7.1.2 Standard departure and arrival routes and associated procedures shall be established when necessary to facilitate:

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

3.7.2 Clearances for transonic flight

3.7.2.1 The air traffic control clearance relating to the transonic acceleration phase of a supersonic flight shall extend at least to the end of that phase.

3.7.2.2 The 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.

3.7.3 Read-back of clearances and safety-related information

3.7.3.1 The flight crew shall read back to the air traffic controller safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back:

- 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.

3.7.3.1.1 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 will be complied with.

3.7.3.1.2 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.

3.7.3.2 Unless specified by the air traffic service provider, voice read-back of CPDLC messages shall not be required.

3.7.3.3 Vehicle drivers operating or intending to operate on the manoeuvring area shall read back to the air traffic controller safety-related parts of instructions which are transmitted by voice, e.g, instructions to enter, hold short of, cross and operate on any operational runway or taxiway.

3.7.3.4 The controller shall listen to the read – back to ascertain that the instructions has been correctly acknowledged by the vehicle driver and shall take immediate action to correct any discrepancies revealed by the read-back.

3.7.4 Coordination of clearances

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 thereof as follows.

- 3.7.4.1 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.
- 3.7.4.2 When coordination as in 3.7.4.1 has not been achieved or is not anticipated, the aircraft shall be cleared only to that point where coordination is reasonably assured; prior to reaching such point, or at such point, the aircraft shall receive further clearance, holding instructions being issued as appropriate.
- 3.7.4.2.1 When prescribed by the air traffic service provider, aircraft shall contact a downstream air traffic control unit, for the purpose of receiving a downstream clearance prior to the transfer of control point.
- 3.7.4.2.1.1 Aircraft shall maintain the necessary two-way communication with the current air traffic control unit whilst obtaining a downstream clearance.
- 3.7.4.2.1.2 A clearance issued as a downstream clearance shall be clearly identifiable as such to the pilot.
- 3.7.4.2.1.3 Unless coordinated, downstream clearances 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.
- 3.7.4.3 When an aircraft intends to depart from an aerodrome within a control area to enter another control area within a period of thirty 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.
- 3.7.4.4 When an aircraft intends to leave a control area for flight outside controlled airspace, and will subsequently reenter the same or another control area, a clearance from point of departure to the aerodrome of first intended landing may be issued. Such clearance or revisions thereto shall apply only to those portions of the flight conducted within controlled airspace.

3.7.5 Air traffic flow management

- 3.7.5.1 Air traffic flow management (ATFM) 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.
- 3.7.5.2 When it becomes apparent to an air traffic control unit that traffic additional to that already accepted cannot be accommodated within a given period of time at a particular location or in a particular area, or can only be accommodated at a given rate, that unit shall so advise the ATFM unit, when such is established, as well as, when appropriate, air traffic services units concerned. Flight crews of 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.

3.7.6 ATS system capacity

- 3.7.6.1 The number of aircraft provided with an air traffic control service shall not exceed that which can be safely handled by the air traffic control unit concerned under the prevailing circumstances.

- 3.7.6.2 The air traffic service provider shall assess and declare the air traffic control capacity for control areas, for control sectors within a control area and for aerodromes in order to define the maximum number of flights which can be safely accommodated.
- 3.7.6.3 In case of particular events which have a negative impact on the declared capacity of an airspace or aerodrome, the capacity of the airspace or aerodrome concerned shall be reduced accordingly for the required time period.
- 3.7.6.4 To ensure that safety is not compromised whenever the traffic demand in an airspace or at an aerodrome is forecast to exceed the available air traffic control capacity, measures shall be implemented to regulate traffic volumes accordingly

3.8 Control of Persons and Vehicles at Aerodromes

- 3.8.1 The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome shall be controlled by the aerodrome control tower as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off.
- 3.8.2 In conditions where low visibility procedures are in operation:
- a) persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS/MLS sensitive area(s) when Category II or Category III precision instrument operations are in progress;
 - b) subject to the provisions in 3.8.3, the minimum separation between vehicles and taxiing aircraft shall be as prescribed by the air traffic service provider taking into account the aids available;
 - c) when mixed ILS and MLS Category II or Category III precision instrument operations are taking place to the same runway continuously, the more restrictive ILS or MLS critical and sensitive areas shall be protected.
- 3.8.3 Emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic.
- 3.8.4 Subject to the provisions in 3.8.3, vehicles on the manoeuvring area shall be required to comply with the following rules:
- a) vehicles and vehicles towing aircraft shall give way to aircraft which are landing, taking off or taxiing;
 - b) vehicles shall give way to other vehicles towing aircraft;
 - c) vehicles shall give way to other vehicles in accordance with air traffic services unit instructions;
 - d) notwithstanding the provisions of a), b) and c), vehicles and vehicles towing aircraft shall comply with instructions issued by the aerodrome control tower.

3.9 Provision of Radar and ADS-B

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.

3.10 Use of Surface Movement Radar (SMR)

In the absence of visual observation of all or part of the manoeuvring area or to supplement visual observation, surface movement radar (SMR) provided in accordance with the provisions of Sierra Leone Civil Aviation Regulation Part 14A, or other suitable surveillance equipment, shall be utilized to:

- a) monitor the movement of aircraft and vehicles on the manoeuvring 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 aircraft and vehicles on the manoeuvring area.

4. FLIGHT INFORMATION SERVICE

4.1 Application

- 4.1.1 Flight information service shall be provided to all aircraft which are likely to be affected by the information and which are:
 - a) provided with air traffic control service; or
 - b) otherwise known to the relevant air traffic services units.
- 4.1.2 Where air traffic services units provide 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.

4.2 Scope of Flight Information Service

- 4.2.1 Flight information service shall include the provision of pertinent:
 - 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 aerodromes and associated facilities, including information on the state of the aerodrome movement areas when they are affected by snow, ice or significant depth of water;
 - f) information on unmanned free balloons;
 - g) and of any other information likely to affect safety.
- 4.2.2 Flight information service provided to flights shall include, in addition to that outlined in 4.2.1, the provision of information concerning:
 - a) weather conditions reported or forecast at departure, destination and alternate aerodromes;
 - b) collision hazards, to aircraft operating in airspace Classes C, D, E, F and G;
 - c) for flight over water areas, in so far as practicable and when requested by a pilot, any available information such as radio call sign, position, true track, speed, etc., of surface vessels in the area.

- 4.2.3 Air traffic services units shall transmit, as soon as practicable, special air-reports to other aircraft concerned, to the associated meteorological office, and to other air traffic services units concerned. Transmissions to aircraft shall be continued for a period to be determined by agreement between the meteorological and air traffic services authorities concerned.
- 4.2.4 Flight information service provided to VFR flights shall include, in addition to that outlined in 4.2.1, 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.

4.3 Operational Flight Information Service Broadcasts

4.3.1 Application

- 4.3.1.1 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.
- 4.3.1.2 Where integrated operational flight information messages are to be transmitted to aircraft, they shall be transmitted with the content and, where specified, in the sequence indicated, for the various phases of flight.
- 4.3.1.3 Operational flight information service broadcasts, when provided, shall consist of messages containing integrated information regarding selected operational and meteorological elements appropriate to the various phases of flight. These broadcasts shall be of three major types, i.e. HF, VHF and ATIS.
- 4.3.1.4 The applicable OFIS message(s) shall be transmitted by the appropriate air traffic services unit when requested by the pilot.

4.3.2 Voice-automatic terminal information service (Voice-ATIS) broadcasts

- 4.3.2.1 Voice-automatic terminal information service (Voice-ATIS) broadcasts shall be provided at aerodromes where there is a requirement to reduce the communication load on the ATS VHF air-ground communication channels. When provided, they shall comprise:
- a) one broadcast serving arriving aircraft; or
 - b) one broadcast serving departing aircraft; or
 - c) one broadcast serving both arriving and departing aircraft; or
 - d) two broadcasts serving arriving and departing aircraft respectively at those aerodromes where the length of a broadcast serving both arriving and departing aircraft would be excessively long.
- 4.3.2.2 A discrete VHF frequency shall, whenever practicable, be used for Voice-ATIS broadcasts. If a discrete frequency is not available, the transmission may be made on the voice channel(s) of the most appropriate terminal navigation aid(s), preferably a VOR, 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.
- 4.3.2.3 Voice-ATIS broadcasts shall not be transmitted on the voice channel of an ILS.
- 4.3.2.4 Whenever Voice-ATIS is provided, the broadcast shall be continuous and repetitive.
- 4.3.2.5 The information contained in the current broadcast shall immediately be made known to the air traffic services unit(s) concerned with the provision to aircraft of information relating to

approach, landing and takeoff, whenever the message has not been prepared by that (those) unit(s).

4.3.2.6 Voice-ATIS broadcasts provided at designated aerodromes for use by international air services shall be available in the English language as a minimum.

4.3.2.7 The Voice-ATIS broadcast message shall, whenever practicable, not exceed 30 seconds, care being taken that the readability of the ATIS message is not impaired by the speed of the transmission or by the identification signal of a navigation aid used for transmission of ATIS. The ATIS broadcast message shall take into consideration human performance.

4.3.3 Data link-automatic terminal information service (D-ATIS)

4.3.3.1 Where a D-ATIS supplements the existing availability of Voice-ATIS, the information shall be identical in both content and format to the applicable Voice-ATIS broadcast.

4.3.3.1.1 Where real-time meteorological information is included but the data remains within the parameters of the significant change criteria, the content, for the purpose of maintaining the same designator, shall be considered identical.

4.3.3.2 Where a D-ATIS supplements the existing availability of Voice-ATIS and the ATIS requires updating, Voice-ATIS and D-ATIS shall be updated simultaneously.

4.3.4 Automatic terminal information service (voice and/or data link)

4.3.4.1 Whenever Voice-ATIS and/or D-ATIS is provided:

- 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 ATIS message shall be the responsibility of the air traffic services;
- d) individual ATIS messages shall be identified by a designator in the form of a letter of the ICAO spelling alphabet. Designators assigned to consecutive ATIS 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 air traffic services unit shall, when replying to the message in e) above or, in the case of arriving aircraft, at such other time as may be prescribed by the air traffic service provider, provide the aircraft with the current altimeter setting; and
- g) the meteorological information shall be extracted from the local meteorological routine or special report.

4.3.4.2 When rapidly changing meteorological conditions make it inadvisable to include a weather report in the ATIS, the ATIS messages shall indicate that the relevant weather information will be given on initial contact with the appropriate ATS unit.

4.3.4.3 Information contained in a current ATIS, 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 4.3.4.1 f).

4.3.4.4 If an aircraft acknowledges receipt of an ATIS that is no longer current, any element of information that needs updating shall be transmitted to the aircraft without delay.

4.3.4.5 Contents of ATIS shall be kept as brief as possible. Information additional to that specified in 4.3.5 to 4.3.7, shall only be included when justified in exceptional circumstances.

4.3.5 ATIS for arriving and departing aircraft

ATIS messages containing both arrival and departure information shall contain the following elements of information in the order listed:

- a) name of aerodrome;
- b) arrival and/or departure indicator;
- c) contract type, if communication is via D-ATIS;
- d) designator;
- e) time of observation, if appropriate;
- f) type of approach(es) to be expected;
- g) the runway(s) in use; 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 (in degrees magnetic) and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) 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, when applicable, RVR and, if visibility/RVR sensors related specifically to the sections of runway(s) 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;
- n) present weather;
- o) 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;
- p) air temperature;
- q) dew point temperature;
- r) altimeter setting(s);
- s) any available information on significant meteorological phenomena in the approach and climbout areas including wind shear, and information on recent weather of operational significance;
- t) trend forecast, when available; and
- u) specific ATIS instructions.

4.3.6 ATIS for arriving aircraft

ATIS messages 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 D-ATIS;
- d) designator;

- e) time of observation, if appropriate;
- f) type of approach(es) to be expected;
- g) main landing runway(s); 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 (in degrees magnetic) and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) 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, when applicable, RVR and, if visibility/RVR sensors related specifically to the sections of runway(s) 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;
- n) present weather;
- o) 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;
- p) air temperature;
- q) dew point temperature;
- r) altimeter setting(s);
- s) any available information on significant meteorological phenomena in the approach area including wind shear, and information on recent weather of operational significance;
- t) trend forecast, when available; and
- u) specific ATIS instructions.

4.3.7 ATIS for departing aircraft

ATIS messages containing departure information only shall contain the following elements of information in the order listed:

- a) name of aerodrome;
- b) departure indicator;
- c) contract type, if communication is via D-ATIS;
- d) designator;
- e) time of observation, if appropriate;
- f) runway(s) to be used for takeoff; status of arresting system constituting a potential hazard, if any;
- g) significant surface conditions of runway(s) to be used for takeoff and, if appropriate, braking action;
- h) departure delay, if appropriate;
- i) transition level, if applicable;
- j) other essential operational information;

- k) surface wind direction (in degrees magnetic) and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) 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, RVR and, if visibility/RVR sensors related specifically to the sections of runway(s) 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) present weather;
- n) 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;
- o) air temperature;
- p) dew point temperature;
- q) altimeter setting(s);
- r) any available information on significant meteorological phenomena in the climbout area including wind shear;
- s) trend forecast, when available; and
- t) specific ATIS instructions.

5. ALERTING SERVICE

5.1 Application

- 5.1.1 Alerting service shall be provided:
 - a) for all aircraft provided with air traffic control service;
 - b) in so far as practicable, to all other aircraft 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.
- 5.1.2 Flight information centres or area control centres shall serve as the central point for collecting all information relevant to a state of emergency of an aircraft operating within the flight information region or control area concerned and for forwarding such information to the appropriate rescue coordination centre.
- 5.1.3 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, except that notification of the area control centre, flight information centre, or rescue coordination centre shall not be required when the nature of the emergency is such that the notification would be superfluous.
- 5.1.3.1 Nevertheless, whenever 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 organizations which can give the immediate assistance required.

5.2 Notification of Rescue Coordination Centres

5.2.1 Without prejudice to any other circumstances that may render such notification advisable, air traffic services units shall, except as prescribed in 5.5.1, 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 thirty minutes after the time a communication shall have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or when
 - ii) an aircraft fails to arrive within thirty 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, or when
 - 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 when
 - 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 when
 - iv) an aircraft is known or believed to be the subject of unlawful interference.
- c) Distress phase when:
 - i) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or when
 - ii) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or when
 - iii) 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 when
 - iv) 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.

5.2.2 The notification shall contain such of 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.

5.2.3 Further to the notification in 5.2.1, the air traffic control unit shall furnish the rescue coordination centre without delay 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.

5.3 Use of Communication Facilities

Air traffic services units shall, as necessary, use all available communication facilities to endeavour to establish and maintain communication with an aircraft in a state of emergency, and to request news of the aircraft.

5.4 Plotting Aircraft in a State of Emergency

When 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. 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.

5.5 Information to the Operator

5.5.1 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.

5.5.2 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.

5.6 Information to Aircraft Operating in the Vicinity of an Aircraft in a State of Emergency

5.6.1 When it has been established by an air traffic services unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved shall, except as provided in 5.6.2, be informed of the nature of the emergency as soon as practicable.

5.6.2 When an air traffic services 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 it has first been referred to in communications from the aircraft involved and it is certain that such reference will not aggravate the situation.

6. AIR TRAFFIC SERVICES REQUIREMENTS FOR COMMUNICATIONS

6.1 Aeronautical Mobile Service (Air-Ground Communications)

6.1.1 General

- 6.1.1.1 Radiotelephony and/or data link shall be used in air-ground communications for air traffic services purposes.
- 6.1.1.2 Where an RCP specification has been prescribed by the Authority for performance-based communication, air traffic services units shall, in addition to the requirements specified in 6.1.1.1, be provided with communication equipment which will enable them to provide air traffic service in accordance with the prescribed RCP specification(s).
- 6.1.1.3 When direct pilot-controller two-way radiotelephony or data link communications are used for the provision of air traffic control service, recording facilities shall be provided on all such air-ground communication channels.
- 6.1.1.4 Recordings of communications channels as required in paragraph 6.1.1.3 shall be retained for a period of at least thirty days.

6.1.2 For flight information service

- 6.1.2.1 Air-ground communication facilities shall enable two-way communications to take place between a unit providing flight information service and appropriately equipped aircraft flying anywhere within the flight information region.

6.1.3 For area control service

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

6.1.4 For approach control service

- 6.1.4.1 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 appropriately equipped aircraft under its control.
- 6.1.4.2 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.

6.1.5 For aerodrome control service

- 6.1.5.1 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.

6.2 Aeronautical Fixed Service (Ground-Ground Communications)

6.2.1 General

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

6.2.2 Communications within a flight information region

6.2.2.1 Communications between air traffic services units

- 6.2.2.1.1 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;
 - c) aerodrome control towers.
- 6.2.2.1.2 An area control centre, in addition to being connected to the flight information centre as prescribed in 6.2.2.1.1, 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;
 - c) air traffic services reporting offices, when separately established
- 6.2.2.1.3 An approach control unit, in addition to being connected to the flight information centre and the area control centre as prescribed in 6.2.2.1.1 and 6.2.2.1.2, shall have facilities for communications with the associated aerodrome control tower(s) and, when separately established, the associated air traffic services reporting office(s).
- 6.2.2.1.4 An aerodrome control tower, in addition to being connected to the flight information centre, the area control centre and the approach control unit as prescribed in 6.2.2.1.1, 6.2.2.1.2 and 6.2.2.1.3, shall have facilities for communications with the associated air traffic services reporting office, when separately established.
- 6.2.2.2 Communications between air traffic services units and other units**
- 6.2.2.2.1 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;
 - f) the international NOTAM office serving the centre.
- 6.2.2.2.2 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, fire, etc.);
 - c) the meteorological office serving the unit concerned;
 - d) the aeronautical telecommunications station serving the unit concerned;
 - e) the unit providing apron management service, when separately established.
- 6.2.2.2.3 The communication facilities required under 6.2.2.2.1 a) and 6.2.2.2.2 a) shall include provisions for rapid and reliable communications between the air traffic services unit concerned and the military unit(s) responsible for control of interception operations within the area of responsibility of the air traffic services unit.

6.2.2.3 Description of communication facilities

- 6.2.2.3.1 The communication facilities required under 6.2.2.1, 6.2.2.2.1 a) and 6.2.2.2.2 a), b) and c) 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 ADS-B, the communications can be established instantaneously and for other purposes the communications can normally be established within fifteen seconds; and
 - b) printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes.
- 6.2.2.3.2 In all cases not covered by 6.2.2.3.1, the communication facilities 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 fifteen seconds; and
 - b) printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes.
- 6.2.2.3.3 In all cases where automatic transfer of data to and/or from air traffic services computers is required, suitable facilities for automatic recording shall be provided.
- 6.2.2.3.4 The communication facilities required in accordance with 6.2.2.1 and 6.2.2.2 shall be supplemented, as and where necessary, by facilities for other forms of visual or audio communications.
- 6.2.2.3.5 The communication facilities required under 6.2.2.2.2 a), b) and c) shall include provisions for communications by direct speech arranged for conference communications.
- 6.2.2.3.6 All facilities for direct-speech or data link communications between air traffic services units and between air traffic services units and other units described under 6.2.2.2.1 and 6.2.2.2.2 shall be provided with automatic recording.
- 6.2.2.3.7 Recordings of data and communications as required in 6.2.2.3.3 and 6.2.2.3.7 shall be retained for a period of at least thirty days

6.2.3 Communications between flight information regions

- 6.2.3.1 Flight information centres and area control centres shall have facilities for communications with all adjacent flight information centres and area control centres.
- 6.2.3.1.1 These communication facilities 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.
- 6.2.3.1.2 Unless otherwise prescribed on the basis of regional air navigation agreements, facilities for communications between area control centres serving contiguous control areas shall, in addition, include provisions for direct speech and, where applicable, data link communications, with automatic recording, whereby for the purpose of transfer of control using radar, ADS-B or ADS-C data, the communications can be established instantaneously and for other purposes the communications can normally be established within fifteen seconds.

- 6.2.3.1.3 When so required by agreement between Sierra Leone and another concerned state/s 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 in 6.2.3.1.2 shall include provisions for direct speech alone, or in combination with data link communications. The communication facilities shall be provided with automatic recording.
- 6.2.3.2 Adjacent air traffic services units shall be connected in all cases where special circumstances exist.
- 6.2.3.3 Wherever local conditions are such that it is necessary to clear aircraft into an adjacent control area prior to departure, an approach control unit and/or aerodrome control tower shall be connected with the area control centre serving the adjacent area.
- 6.2.3.4 The communication facilities in 6.2.3.2 and 6.2.3.3 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, ADS-B or ADS-C data, the communications can be established instantaneously and for other purposes the communications can normally be established within fifteen seconds.
- 6.2.3.5 In all cases where automatic exchange of data between air traffic services computers is required, suitable facilities for automatic recording shall be provided.
- 6.2.3.6 Recordings of data and communications as required in 6.2.3.5 shall be retained for a period of at least thirty days.

6.3 Surface Movement Control Service

- 6.3.1 Communications for the control of vehicles other than aircraft on manoeuvring areas at controlled aerodromes
 - 6.3.1.1 Two-way radiotelephony communication facilities shall be provided for aerodrome control service for the control of vehicles on the manoeuvring area, except where communication by a system of visual signals is deemed to be adequate.
 - 6.3.1.2 Where conditions warrant, separate communication channels shall be provided for the control of vehicles on the manoeuvring area. Automatic recording facilities shall be provided on all such channels.
 - 6.3.1.3 Recordings of communications as required in 6.3.1.2 shall be retained for a period of at least thirty days

6.4 Aeronautical Radio Navigation Service

6.4.1 Automatic recording of surveillance data

- 6.4.1.1 Surveillance data from primary and secondary radar equipment or other systems (e.g. ADS-B, ADS-C), used as an aid to air traffic services, shall be automatically recorded for use in accident and incident investigations, search and rescue, air traffic control and surveillance systems evaluation and training.
- 6.4.1.2 Automatic recordings shall be retained for a period of at least thirty days. When the recordings are pertinent to accident and incident investigations, they shall be retained for longer periods until it is evident that they will no longer be required.

7. AIR TRAFFIC SERVICES REQUIREMENTS FOR INFORMATION

7.1 Meteorological Information

7.1.1 General

7.1.1.1 Air traffic services units shall be supplied with up-to-date information on existing and forecast meteorological conditions as necessary for the performance of their respective functions. The information shall be supplied in such a form as to require a minimum of interpretation on the part of air traffic services personnel and with a frequency which satisfies the requirements of the air traffic services units concerned.

7.1.2 Flight information centres and area control centres

7.1.2.1 Flight information centres and area control centres shall be supplied with meteorological information as described in Sierra Leone Civil Aviation Regulation Part 3, **IS:10, 1.3**, particular emphasis being given to the occurrence or expected occurrence of weather deterioration as soon as this can be determined. These reports and forecasts shall cover the flight information region or control area and such other areas as may be determined on the basis of regional air navigation agreements.

7.1.2.2 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.

7.1.3 Units providing approach control service

7.1.3.1 Units providing approach control service shall be supplied with meteorological information as described in Sierra Leone Civil Aviation Regulation Part 3, **IS:10, 1.2** for the airspace and the aerodromes with which they are concerned. Special reports and amendments to forecasts shall be communicated to the units providing approach control service as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast. 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.

7.1.3.2 Units providing approach control service shall be provided with current pressure data for setting altimeters, for locations specified by the unit providing approach control service.

7.1.3.3 Units providing approach control service for final approach, landing and take-off shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the aerodrome control tower and in the meteorological station, where such a station exists.

7.1.3.4 Units providing approach control service for final approach, landing and takeoff at aerodromes where runway visual range values are assessed by instrumental means shall be equipped with display(s) permitting read-out of the current runway visual range value(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding displays in the aerodrome control tower and in the meteorological station, where such a station exists.

7.1.3.5 Units providing approach control service for final approach, landing and take-off at aerodromes where the height of cloud base is assessed by instrumental means shall be equipped with display(s) permitting read-out of the current value(s) of the height of cloud base. The displays

shall be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the aerodrome control tower and in the meteorological station, where such a station exists.

7.1.3.6 Units providing approach control service 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.

7.1.4 Aerodrome control towers

7.1.4.1 Aerodrome control towers shall be supplied with meteorological information as described in Sierra Leone Civil Aviation Regulation Part 3, IS:10, 1.1 for the aerodrome with which they are concerned. Special reports and amendments to forecasts shall be communicated to the aerodrome control towers as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast.

7.1.4.2 Aerodrome control towers shall be provided with current pressure data for setting altimeters for the aerodrome concerned.

7.1.4.3 Aerodrome control towers shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists. Where multiple sensor(s) are used, the displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

7.1.4.4 Aerodrome control towers at aerodromes where runway visual range values are measured by instrumental means shall be equipped with display(s) permitting read-out of the current runway visual range value(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

7.1.4.5 Aerodrome control towers at aerodromes where the height of cloud base is assessed by instrumental means shall be equipped with display(s) permitting read-out of the current value(s) of the height of cloud base. The displays shall be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

7.1.4.6 Aerodrome control towers shall be supplied with information on wind shear which could adversely affect aircraft on the approach or take-off paths or during circling approach and aircraft on the runway during the landing roll or take-off run.

7.1.5 Communication stations

Where necessary for flight information purposes, current meteorological reports and forecasts shall be supplied to communication stations. A copy of such information shall be forwarded to the flight information centre or the area control centre.

7.2 Information on Aerodrome Conditions and the Operational Status of Associated Facilities

Aerodrome control towers and units providing approach control service 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 aerodrome(s) with which they are concerned.

7.3 Information on the Operational status of Navigation Services

- 7.3.1 Air traffic services units 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 their area of responsibility and those radio navigation services and visual aids essential for surface movement.
- 7.3.2 Information on the operational status, and any changes thereto, of radio navigation services and visual aids as referred to in 7.3.1 shall be received by the air traffic services unit(s) on a timely basis consistent with the use of the service(s) and aid(s) involved.

7.4 Information on Unmanned Free Balloons

Operators of unmanned free balloons shall keep the appropriate air traffic services units informed of details of flights of unmanned free balloons in accordance with the provisions contained in Sierra Leone Civil Aviation Regulation Part 2.

7.5 Information Concerning Volcanic Activity

- 7.5.1 Air traffic services units shall be informed, in accordance with local agreement, of pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud which could affect airspace used by flights within their area of responsibility.
- 7.5.2 Area control centres and flight information centres shall be provided with volcanic ash advisory information issued by the associated VAAC.

7.6 Information Concerning Radioactive Materials and Toxic Chemical “Clouds”

Air traffic services units shall be informed, in accordance with local agreement, of the release into the atmosphere of radioactive materials or toxic chemicals which could affect airspace used by flights within their area of responsibility.

8. ADMINISTRATIVE REQUIREMENTS

8.1 Personnel Requirement and Training

- 8.1.1 The ATS provider shall develop and implement policies and procedures to enable recruitment and retention of qualified and experienced ATS personnel
- 8.1.2 An air traffic services provider shall establish training programmes and procedures to assess and ensure the initial and continuing competence of operational personnel including continued competence in using new equipment, procedures and updated communications.
- 8.1.3 The programmes and procedures in 8.1.2 shall ensure that operational personnel are trained, given regular recurrent training in normal and emergency procedures and are assessed on such.
- 8.1.4 The air traffic services provider shall ensure that personnel giving instruction in an operational environment hold an appropriate current on-the- Job Training (OJT) Instructor endorsement issued in accordance with the requirements of the Authority.
- 8.1.5 The air traffic services provider shall submit the training programmes to the Authority for approval.
- 8.1.6 The air traffic services provider shall maintain individual training records for each of its staff.

8.2 Operations Manual

8.2.1 The air traffic service provider shall develop and maintain operations manual which shall serve to demonstrate how the service provider will comply with the requirements set out in this regulation.

8.2.2 The contents of the operations manual shall include but not be limited to the following:

- a) the information required of the air traffic service provider as mentioned in this regulation; and
- b) a description of the air traffic services office that shows the role, responsibilities and job functions of the air traffic service provider, office personnel who are responsible for ensuring the compliance with the requirements in sub-paragraph a).

8.2.3 The air traffic service provider shall:

- a) keep the operations manual in a readily accessible form;
- b) ensure that the Air Traffic Controllers have ready access to the operations manual; and
- c) amend the operations manual whenever necessary to keep its content up to date.

8.2.4 The air traffic service provider shall submit a copy of the most current operations manual to the Authority for approval.

8.3. Documentation

8.3.1 The air traffic service provider shall maintain all documents which are necessary for the operation and maintenance of the service. Copies of these documents shall also be made available to personnel where needed.

8.3.2 The air traffic service provider shall establish a process for the authorization and amendment of these documents to ensure that they are constantly updated. The process shall ensure that:

- a) the currency of the documentation can be readily determined;
- b) amendments to the documentation are controlled in accordance with established quality management principles; and
- c) only current versions of documents are available.

8.3.3 The air traffic service provider shall ensure that where documents are held as computer based records and where paper copies of computer based records are made, they are subjected to the same control as paper documents.

8.4 Records

8.4.1 The air traffic service provider shall establish a system of record-keeping that allows adequate storage of the records and reliable traceability of all its activities

8.4.2 The format and the retention period of the records referred to in 8.4.1 shall be specified in the service provider's management system procedures.

8.4.3 Records shall be stored in a manner that ensures protection against damage, alteration and theft.

8.5 Facility Requirements

The air traffic service provider shall ensure that there are adequate and appropriate facilities and equipment to perform and manage all tasks and activities in accordance with the applicable regulations.

8.6 Shift Administration

The ATS Section shall establish a procedure to ensure that:

- a) Adequate time is provided at the beginning and end of each shift for the performance of those duties required:
 - i) before providing an air traffic service including ATC briefing;
 - ii) after ceasing to provide an air traffic service; and
- b) Adequate time is provided for each transfer of position responsibility at an operational ATS position through mandatory use of a position relief procedure that includes the current status of position related equipment and operational conditions or procedures. This information on related equipment and operational conditions or procedures shall be clearly written in the control position log book at all times.

8.7 Denial of an ATC Clearance

- 1) The ATS Section in respect of an aerodrome control service shall not deny the pilot of an aircraft an ATC clearance on the basis of non-payment of charges owed unless:
 - a) The aircraft is on the ground; and
 - b) That clearance is for entry onto the manoeuvring area.

The ATS Section shall continue to provide normal ATC service for any aircraft entering the manoeuvring area without an ATC clearance.**IS: 2.13.4 PRINCIPLES GOVERNING THE IDENTIFICATION OF NAVIGATION SPECIFICATIONS AND THE IDENTIFICATION OF ATS ROUTES OTHER THAN STANDARD DEPARTURE AND ARRIVAL ROUTES**

1. Designators for ATS routes and navigation specifications

- 1.1 The purpose of a system of route designators and navigation specification(s) applicable to 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.
- 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, if 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 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;
 - 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;
 - c) S to indicate a route established exclusively for use by supersonic aircraft during acceleration, deceleration and while in supersonic flight.
- 2.4 When prescribed by the appropriate ATS authority 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;
 - b) the letter G to indicate that on the route or portion thereof flight information service only is provided.
- 3. Assignment of basic designators**
- 3.1 Basic ATS route designators 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.
- 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 States' requirements for designators shall be notified to the Regional Offices of ICAO for coordination.

4. Use of designators in communications

- 4.1 In printed communications, the 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 in 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 “F” or “G” specified in 2.4 are used, the flight crew should not be required to use them in voice communications.

IS: 2.15.3 PRINCIPLES GOVERNING THE ESTABLISHMENT AND IDENTIFICATION OF SIGNIFICANT POINTS

1. Establishment of significant points

- 1.1 Significant points should, 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 In 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 recognizable 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 should, if possible, consist of at least six letters and form two syllables and preferably not more than three;
 - 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, if possible, as to facilitate association with the name of the point in plain language.
- 2.2.2 Coded designators shall not be duplicated within 1 100 km (600 NM) of the location of the radio navigation aid concerned, except as noted hereunder.
- 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.

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

Examples: ADOLA, KODAP

3.3 The name-code designator shall be easily recognizable 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 states’ 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 and/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. If 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 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 aircraft are 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 method(s) 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;
 - 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 should not necessarily determine its designation as a compulsory reporting point;
 - c) compulsory reporting points should 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 should 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 should not be required to make routine position reports over all reporting points established as compulsory for low-speed, low-flying aircraft;
 - b) 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.

S: 2.13.5 PRINCIPLES GOVERNING THE IDENTIFICATION OF STANDARD DEPARTURE AND ARRIVAL ROUTES AND ASSOCIATED PROCEDURES

1. Designators for standard departure and arrival routes 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:
 - departure routes and arrival routes;
 - departure or arrival routes and other ATS routes;
 - routes 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;
- 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 designators shall, in voice communications, be easily recognizable 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 basic indicator shall be the name or name-code of the significant point where a standard departure route terminates or a standard arrival route begins.

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

2.1.4 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.

3. Assignment of designators

- 3.1 Each route shall be assigned a separate designator.
- 3.2 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 2.1.4 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 designator: BRECON ONE DEPARTURE
- b) 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 2.1.4 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 designator: KODAP TWO ALPHA ARRIVAL
- b) 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 IS: 2.15.3. 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 (A) 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:

- a) Plain language designator: ADOLA FIVE BRAVO DEPARTURE VISUAL
- b) Coded designator: ADOLA 5 B

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 (B) identifies one of several routes established with reference to ADOLA.

6. Composition of designators for MLS/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 indicator 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 Annex 14, Volume I, 5.2.2.
- 6.2 Coded designator
 - 6.2.1 The coded designator of an MLS/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/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/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 designator: MLS HAPPY ONE ALPHA APPROACH RUNWAY
ONE EIGHT LEFT
 - b) Coded designator: MLS HAPPY 1 A 18L
 - 6.4.2 Meaning: The designator identifies an MLS/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 IS: 2.15.3. 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 (9) 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.

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 and/or arrival route/approach procedure, including the plain language designator and the coded designator, shall be displayed at the working positions at which the routes/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/procedures shall also be displayed.

IS: 2.6.3 ATS AIRSPACE CLASSES — SERVICES PROVIDED AND FLIGHT REQUIREMENTS

Class	Type of flight	Separation provided	Service provided	Speed limitation*	Radio communication requirement	Subject to an ATC clearance
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 VFR flights (and traffic avoidance advice on request)	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	250 kt IAS	No	No

			far as practical	below 3 050 m (10 000 ft) AMSL		
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 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No
G	IFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No

* When the height of the transition altitude is lower than 3 050 m (10 000 ft) AMSL, FL 100 should be used in lieu of 10 000 ft.

IS: 2.28.1 PRESCRIPTIVE FATIGUE MANAGEMENT REGULATIONS

1. Definitions

“**Duty period**” means a period which starts when an air traffic controller is required by an air traffic services provider to report for or to commence a duty and ends when that person is free from all duties.

“**Fatigue**” means a physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and/or workload (mental and/or physical activity) that can impair a person’s alertness and ability to perform safety-related operational duties.

“Rest period” means a continuous and defined period of time, subsequent to and/or prior to duty, during which an air traffic controller is free of all duties.

2. The Air Traffic Services Provider’s responsibility

- a) Duty rosters shall be prepared and published sufficiently in advance to provide ATCOs the opportunity to plan adequate rest. Consideration shall 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 shall cover a period of at least 30 days.
- b) 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.
- c) 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.
- d) 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.
- e) To provide evidence of compliance with prescriptive limits, records will be kept for 6 months of the duties performed and non-duty periods achieved so as to facilitate inspection by the service’s authorized personnel and audit by the Authority.

3. Air Traffic Controllers’ Responsibility

- a) 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.
- b) 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.

4. Duty Limitation Parameters

4.1 Duty period

- a) The duty period may not exceed 12 hours
- b) The aggregate of duty period hours may not exceed 200 hours within a defined period of 720 consecutive hours or 30 consecutive days
- c) There must be at least 12 hours between the end of one duty period and the beginning of the next
- d) No more than 6 consecutive days of duty shall be worked
- e) If 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

4.2 Operational duty

- a) No period of operational duty shall exceed 2 hours
- b) No operational duty shall exceed 2 hours without there being a break taken during or at the end of that period
- c) A break shall total not less than 30 minutes

4.3 Night duties

- a) A period of night duty shall be defined as starting at 0130 local and ending at 0529 local
- b) A duty which covers all or part of the period of night duty shall not exceed 10 hours
- c) No more than 3 consecutive duties shall be worked which cover all or part of the period of night duty.
- d) 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

4.4 On call duties

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

5 Watch Rosters

- a) The Air Traffic Services Provider shall meet the rostering limitations specified in 4.
- b) The Air Traffic Services Providers shall notify the Authority of formal rostering arrangements on monthly basis.
- c) The Air Traffic Services Provider shall not require controllers to carry out ancillary tasks while they are providing operational air traffic control services unless this can be accomplished without negative effects on safety. An ancillary task is any task in an operational control room, which is not directly associated with the provision of an air traffic control service.
- d) The Air Traffic Services Provider shall make available adequate support staff to enable controllers to carry out their duties in accordance with the Sierra Leone Civil Aviation (ANS) Regulations and PANS ATM. The number and disposition of support staff will depend on the complexity of the unit. The ATS Section shall arrange appropriate training and shall be responsible for the continued competency of such staff. The Authority may require to be given details of the training support staff has received.
- e) Exceptionally, where such ancillary duties are unavoidable, the Air Traffic Services Provider must satisfy the Authority that controllers will not be distracted from their primary function or placed under undue pressure. These duties and the person responsible for discharging them shall be clearly identified in the unit's Operations Manual.

IS: 2.34 RESPONSIBILITIES CONCERNING AN INSTRUMENT FLIGHT PROCEDURE DESIGN SERVICE

1. The Authority shall designate an agency to provide an instrument flight procedure design service
2. The Authority shall approve and remain responsible for all instrument flight procedures for aerodromes and airspace under its authority.
3. Instrument flight procedures shall be designed in accordance with design criteria in SLCAR Part 24.
4. The designated instrument flight procedure design service provider intending to design an instrument flight procedure for aerodromes or airspace under its authority meets the requirements contained in SLCAR Part 24.
5. The designated instrument flight procedure design service provider shall utilize a quality management system at each stage of the instrument flight procedure design process.
6. The designated instrument flight procedure design service provider shall ensure that maintenance and periodic review of instrument flight procedures for aerodromes and airspace under the control of the Authority are conducted.
7. The designated instrument flight procedure design service provider shall undertake a periodic review of instrument flight procedures at interval not exceeding five years.

