

SCHEDULE 1

PART A

(Regulation 4)

General

The following are the standards required to be met by the Authority in respect of the organization, designation of airspace and air traffic service safety management programmes:

Objectives of the air traffic services

1. The objectives of the ATS shall be to—

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

Divisions of the air traffic services

2. Air traffic services shall comprise three services identified as follows:

- (a) an air traffic control service: to accomplish the objectives required at paragraphs 1(a), (b) and (c) divided in three parts as follows:
 - (i) Area control service: the provision of air traffic control service for controlled flights, except for those parts of such flights described in subparagraphs (ii) and (iii), in order to accomplish the objectives in paragraph 1(a) and (c);
 - (ii) 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 the objectives in paragraphs 1(a) and (c);
 - (iii) Aerodrome control service: the provision of air traffic control service for aerodrome traffic, except for those parts of flights described in paragraph 2, in order to accomplish the objectives in paragraphs 1(a), (b), and (c);
- (b) a flight information service: to accomplish the objective in paragraph 1(d); and
- (c) an alerting service to accomplish objective in paragraph 1(e).

Determination of the need for air traffic services

3. (1) The need for the provision of ATS shall be determined by considering the following requirements:

- (a) the types of air traffic involved;
- (b) the density of air traffic;

- (c) the meteorological conditions; and
- (d) such other factors as may be relevant.

(2) The carriage of ACAS by aircraft in a given area shall not be a factor in determining the need for ATS in that area.

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

4. (1) Where it has been determined that ATS will be provided in a particular portion of an airspace or at a particular aerodrome, then that portion of the airspace or that aerodrome shall be designated in relation to the ATS that are to be provided.

(2) The designation of a particular portion of an airspace or a particular aerodrome shall be as follows:

- (a) flight information regions: those portions of the airspace where it is determined that flight information service and alerting service will be provided shall be designated as flight information regions;
- (b) control areas and control zones:
 - (i) that portions of an 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;
 - (ii) that portions of controlled airspace where 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; and
 - (iii) where designated within a flight information region, control areas and control zones shall form part of that flight information region; and

Note: The distinction between control areas and control zones is made in clause 8.

- (c) controlled aerodromes: those aerodromes where it is determined that air traffic control services will be provided to aerodrome traffic shall be designated as controlled aerodromes.

Classification of airspaces

5. (1) ATS airspaces shall be classified and designated as appropriate to the needs of Trinidad and Tobago and the airspace for which the Authority is responsible in accordance with the following as applicable:

- (a) Class A: only IFR flights are permitted, and all flights are provided with air traffic control service and are separated from each other;
- (b) Class B: IFR and VFR flights are permitted, and all flights are provided with air traffic control service and are separated from each other;
- (c) Class C:
 - (i) IFR and VFR flights are permitted, and all flights are provided with air traffic control service;
 - (ii) IFR flights are separated from other IFR flights and from VFR flights; and
 - (iii) VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights;

- (d) Class D: (i) IFR and VFR flights are permitted and all flights are provided with air traffic control service;
- (ii) IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights; and
- (iii) VFR flights receive traffic information in respect of all other flights;
- (e) Class E: (i) Class E shall not be used for control zones;
- (ii) IFR and VFR flights are permitted and IFR flights are provided with air traffic control service and are separated from other IFR flights; and
- (iii) All flights receive traffic information as far as is practical;
- (f) Class F: (i) IFR and VFR flights are permitted and all participating IFR flights receive an air traffic advisory service; and
- (ii) all flights receive flight information service if requested;
- (g) Class G: IFR and VFR flights are permitted and receive flight information service if requested; and
- (h) the requirements for flights within each class of airspace shall be as shown in the table in Appendix 4.

Note: When the ATS airspaces adjoin vertically, one above the other, flights at a common level would comply with requirements of, and be given services applicable to, the less restrictive class of airspace. In applying these criteria, Class B airspace is therefore considered less restrictive than Class A airspace and Class C airspace less restrictive than Class B airspace and so on.

Required communication performance

5A. (1) Required communication performance shall be prescribed by the Authority on the basis of regional air navigation agreements.

(2) The required communication performance type prescribed by the Authority shall be appropriate to the ATS provided in the airspace concerned.

Note: Applicable RCP types and associated procedures are published in the Manual of Required Communication Performance.

Establishment and designation of the units providing air traffic services

6. Units shall be established and designated to provide air traffic services as follows:

- (a) flight information centres 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; and
- (b) air traffic control units to provide air traffic control service, flight information service and alerting service within control areas, control zones and at controlled aerodromes.

Specifications for flight information regions, control areas and control zones

7. (1) Specification for flight information regions shall be as follows:

- (a) flight information regions shall be delineated to cover the whole of the air route structure to be served by such regions;
- (b) a flight information region shall include all airspace within its lateral limits, except as limited by an upper flight information region; and
- (c) 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 coincide with a VFR cruising level provided in the tables in Schedule 7 of Civil Aviation [(No. 2) Operations] Regulation, 2004.

(2) Specification for control areas shall be as follows:

- (a) control areas including airways and terminal control areas shall be delineated so as to encompass sufficient airspace to contain the flight paths of IFR flights or portions thereof to which it is desired to provide the applicable parts of the air traffic control service, taking into account the capabilities of the navigation aids normally used in that area;
- (b) a lower limit of a control area shall be established at a height above the ground or water of not less than 200 metres or 700 feet;
- (c) an upper limit of a control area shall be established where either—
 - (i) air traffic control service will not be provided above such upper limit; or
 - (ii) 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; and
- (d) the upper limit at subparagraph (c)(ii), shall coincide with a VFR cruising level provided in the tables in Schedule 7 of Civil Aviation [(No. 2) Operations] Regulations, 2004;

(3) Specification for control zones shall be as follows:

- (a) 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 IMC;
- (b) lateral limits of a control zone shall extend to at least 9.3 kilometres or 5 nautical miles from the centre of the aerodrome concerned in the directions from which approaches may be made; and
- (c) where a control zone is located within the lateral limits of a control area, the control shall extend upwards from the surface of the earth to at least the lower limit of the control zone area.

Establishment and identification of air traffic services routes

8. (1) Where ATS routes are established, a protected airspace along each air traffic services route and a safe spacing between adjacent air traffic services routes shall be provided.

(2) ATS routes shall be identified by designators.

(3) Designators for ATS routes other than standard departure and arrival routes shall be selected in accordance with the principles prescribed in Appendix 1.

(4) Standard departure and arrival routes and associated procedures shall be identified in accordance with the principles prescribed in Appendix 3.

Establishment and identification of significant points

9. (1) Significant points shall be established for the purpose of defining an ATS route and in relation to the requirements of ATS for information regarding the progress of aircraft in flight.

(2) Significant points shall be identified by designators.

(3) Significant points shall be established and identified in accordance with the principles prescribed in Appendix 2.

Coordination between the operator and air traffic services

10. (1) ATS units, in carrying out their objectives, shall have due regard to the requirements of the operators consequent on their obligations as prescribed in Civil Aviation [(No. 2) Operations] Regulations, 2004 and the Civil Aviation [(No. 3) Air Operator Certification and Administration] Regulations, 2004, and where required by the operators, make available to them or their designated representatives such information as may be available to enable the operators or their designated representatives to carry out their responsibilities.

(2) Where so requested by an operator, messages including position reports received by ATS units and relating to the operation of an 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 agreed procedures.

Coordination between military authorities and air traffic services

11. (1) ATS authorities shall establish and maintain close cooperation with military authorities responsible for activities that may affect flights of civil aircraft.

(2) Coordination of activities potentially hazardous to civil aircraft shall be effected in accordance with clause 13.

(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 ATS units and appropriate military units.

(4) ATS units shall, either routinely or on request, in accordance with agreed procedures, provide appropriate military units with pertinent flight plan and other data concerning flights of civil aircraft.

(5) In order to eliminate or reduce the need for interceptions, ATS authorities shall designate any areas or routes where the requirements of Civil Aviation [(No. 2) Operations] Regulations, 2004, concerning flight plans, two-way communications and position reporting apply to all flights to ensure that all pertinent data is available in appropriate ATS units specifically for the purpose of facilitating identification of civil aircraft.

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

- (a) ATS units are notified where a military unit observes that an aircraft which is or might be a civil aircraft is approaching, or has entered any area in which interception might become necessary; and
- (b) all possible efforts are made to confirm the identity of the aircraft and to provide it with the navigational guidance necessary to avoid the need for interception.

Coordination of activities potentially hazardous to civil aircraft

12. (1) The arrangements for activities potentially hazardous to civil aircraft, whether over the territory of Trinidad and Tobago or over the high seas, shall be coordinated with the appropriate ATS authorities.

(2) The coordination of activities under subclause (1), shall be effected early enough to permit timely promulgation of information regarding the activities in accordance with the standards prescribed in Schedule 2.

(3) 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.

(4) The appropriate air traffic services authorities shall be responsible for initiating the promulgation of information regarding coordination of activities.

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

Aeronautical data

13. (1) Determination and reporting of ATS related aeronautical data shall be in accordance with the accuracy and integrity requirements prescribed in Tables 1 to 5 in Appendix 5 while taking into account the established quality system procedures.

(2) Accuracy requirements for aeronautical data are based upon a 95 per cent confidence level, and in that respect three types of positional data shall be identified as follows:

- (a) surveyed points such as navigation aids positions;
- (b) calculated points such as mathematical calculations from the known surveyed points of points in space or fixes; and
- (c) declared points such as flight information region boundary points;

(3) The Authority shall ensure that integrity of aeronautical data is maintained throughout the data process from survey and origin to the next intended user.

(4) Aeronautical data integrity requirements shall be based upon the potential risk resulting from corruption of data and upon the use to which the data item is put, consequently, the following classifications and data integrity levels shall apply:

- (a) critical data, integrity level 1×10^{-8} in which there is a high probability when using corrupted critical data;
- (b) essential data, integrity level 1×10^{-5} in which there is a low probability when using corrupted essential data; and

(c) routine data, integrity level 1×10^{-3} in which 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.

(5) Protection of electronic aeronautical data while stored or in transit shall be totally monitored by the CRC check.

(6) To achieve protection of the integrity level of critical and essential aeronautical data as classified in paragraphs (4)(a) and (b), a 32-bit or 24-bit cyclic redundancy check algorithm shall apply respectively.

(7) Geographical coordinates indicating latitude and longitude shall be determined and reported to the aeronautical information services in terms of the WGS-1984 (WGS-84) geodetic reference datum, identifying those geographical coordinates which have been transformed into WGS-84 coordinates by mathematical means where the whole accuracy of original field work does not meet the requirements in Table 1 of Appendix 5.

(8) The order of accuracy of the field work and determinations and calculations derived shall be such that the resulting operational navigation data for the phases of flight will be within the maximum deviations for an appropriate reference frame, as indicated in the tables contained in Appendix 5.

Coordination between meteorological and air traffic services authorities

14. (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 ATS authorities for ATS personnel—

(a) in addition to using indicating instruments, to report, if observed by ATS 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 ATS 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—

(i) pertinent information concerning pre-eruption volcanic activity;

(ii) volcanic eruptions; and

(iii) information concerning volcanic ash cloud; and

(d) area control centres and flight information centres shall report the information to the associated meteorological watch office and volcanic ash advisory centres.

(2) Close coordination shall be maintained among—

(a) area control centres;

(b) flight information centres; and

(c) associated meteorological watch offices, to ensure that information on volcanic ash included in NOTAM and SIGMET messages is consistent.

Coordination between aeronautical information services and air traffic services

15. (1) To ensure that the aeronautical information service unit provides up-to-date pre-flight information and to meet the need for in-flight information, the ATS units shall report the following to the aeronautical information service unit with a minimum of delay:

- (a) information on aerodrome conditions;
- (b) the operational status of associated facilities, services and navigation aids within the units' respective area of responsibility;
- (c) the occurrence of volcanic activity observed by ATS personnel or reported by aircraft; and
- (d) any other information considered to be of operational significance.

(2) Before introducing changes to the air navigation system the ATS units responsible for such changes shall take into account the time needed by the aeronautical information service for the preparation, production and issue of relevant material for promulgation.

(3) When submitting the raw information or data to aeronautical information services the ATS shall—

- (a) observe the predetermined, internationally agreed AIRAC system effective dates in addition to fourteen days postage time; and
- (b) take into account accuracy and integrity requirements for aeronautical data as prescribed to this Schedule.

Note: To ensure timely provision of the information to the aeronautical information service, close coordination between those services concerned is required.

Note: Of particular importance are changes to aeronautical information that affect charts and computer-based navigation systems which qualify to be notified by the AIRAC system, as prescribed in Appendix 4 of Part D of Schedule 2.

Minimum flight altitudes

16. The minimum flight altitudes shall be determined and promulgated for each ATS route and control area and in the airspace over Trinidad and Tobago and shall provide a minimum clearance above the controlling obstacle.

Service to aircraft where there is an emergency

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

Note: To indicate than an aircraft is in a state of emergency, an aircraft equipped with an appropriate data link capability or an SSR transponder might operate as follows:

- (a) on Mode A, Code 7700; or
- (b) on Mode A, Code 7500 to indicate specifically that it is being subjected to an act of unlawful interference;

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

(d) transmit the appropriate emergency message via CPDLC.

(2) When an occurrence of an act of unlawful interference with an aircraft occurs or is suspected, ATS units shall attend promptly to requests made by the aircraft.

(3) Information pertinent to the safe conduct of the flight of an aircraft subjected to an act of unlawful interference shall continue to be transmitted and appropriate action taken to expedite the conduct of all phases of the flight, especially the safe landing of the aircraft.

(4) 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.

Note 1: A strayed or unidentified aircraft may be suspected as being the subject of unlawful Interference

Note 2: Procedures relating to the handling of strayed or unidentified aircraft are contained in clause 18.

Note 3: PANS-ATM (Doc 4444), Chapter 15, 15.1.3 contains more specific procedures related to unlawful interference

In-flight contingencies for strayed, unidentified and intercepted aircraft

18. (1) As soon as an ATS unit becomes aware of a strayed aircraft, the ATS unit shall—

(a) where the aircraft position is not known, take all the necessary steps to assist the aircraft and to safeguard its flight as follows:

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

(ii) use all available means to determine its position;

(iii) inform other ATS 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;

(iv) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning strayed aircraft; and

(v) request from the units referred to in (iii) and (iv) and from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position; and

(b) when the position of the aircraft is established take all the necessary steps as follows—

(i) advise the aircraft of its position and corrective action to be taken; and

(ii) provide, as necessary, other ATS units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.

(2) As soon as an ATS unit becomes aware of an unidentified aircraft in its area, the ATS unit shall—

- (a) endeavour to establish the identity of the aircraft where this is necessary for the provision of ATS or required by the appropriate military authorities in accordance with locally agreed procedures;
- (b) take such of the following steps as appropriate to establish the identity of the aircraft:
 - (i) attempt to establish two-way communication with the aircraft;
 - (ii) inquire of other ATS units within the flight information region about the flight and request their assistance in establishing two way communication with the aircraft;
 - (iii) inquire of ATS units serving the adjacent flight information regions about the flight and request their assistance in establishing two way communication with the aircraft; and
 - (iv) attempt to obtain information from other aircraft in the area; and
- (c) immediately inform the appropriate military unit when the identity of the aircraft has been established.

(2B) An ATS unit that considers that a strayed or unidentified aircraft may be the subject of unlawful interference shall immediately inform the appropriate authority designated by the Authority, in accordance with locally agreed procedures.

(3) As soon as an ATS unit becomes aware that an aircraft is being intercepted—

- (a) in its area of responsibility, the ATS shall take such of the following steps as are appropriate:
 - (i) 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;
 - (ii) inform the pilot of the intercepted aircraft of the interception;
 - (iii) establish contact with the intercept control unit maintaining two way communication with the intercepting aircraft and provide intercept control unit with available information concerning the aircraft;
 - (iv) relay messages between the intercepting aircraft or the intercept control unit and the intercepted aircraft, as necessary;
 - (v) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft; and
 - (vi) inform air traffic services units serving adjacent flight information regions if it appears that the aircraft has strayed from an adjacent flight information regions; and
- (b) outside its area of responsibility, the ATS shall take such of the following steps as are appropriate:

- (i) provide the ATS unit serving the airspace in which the interception is taking place, with available information that will assist in identifying the aircraft and request that action be taken in accordance with paragraph (3)(a); and
- (ii) relay messages between the intercepted aircraft and the appropriate ATS unit, the intercept control unit or the intercepting aircraft.

Time standards requirements in air traffic services

19. (1) ATS units shall use time in UTC and shall express the time in hours and minutes and, when required, seconds of the 24 hour day beginning at midnight.

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

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

(4) Where data link communications are utilized by an ATS unit, clocks and other time-recording devices shall be adjusted as necessary to maintain correct time to within one second of UTC.

(5) UTC time shall be obtained from a standard time station or, where this is not possible, from another unit which has obtained UTC time from such station.

(6) 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 the correct time from other sources;

(7) ATS units shall—

- (a) provide aircraft with the correct time on request; and
- (b) give time checks to the nearest half minute.

Requirements for carriage and operation of pressure-altitude reporting Transponders

20. Requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace shall be established as prescribed in the Civil Aviation [(No. 7) Instruments and Equipment] Regulations, 2004.

Air traffic services safety management

21. (1) The ATS safety management programme shall include:

- (a) identification of safety hazards;
- (b) ensuring that remedial action necessary to maintain an acceptable level of safety is implemented;
- (c) providing for continuous monitoring and regular assessment of the safety level achieved; and
- (d) aiming to make continuous improvement to the overall level of safety.

(2) A safety management system shall clearly define lines of safety accountability throughout the Authority including a direct accountability for safety on the part of senior management.

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

(4) Where appropriate, the Director General shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.

Common reference systems

22. (1) The standard for horizontal reference system shall be the WGS-84—

(a) for air navigation; and

(b) for reporting aeronautical geographical coordinates indicating latitude and longitude;

(2) The standard for vertical reference system for air navigation shall be the mean sea level datum, which gives the relationship of gravity-related height or elevation to a surface known as the geoid.

Note: The geoid globally must closely approximate MSL. It is defined as the equipotential surface in the gravity field of the earth which coincides with the undisturbed MSL extended continuously through the continents.

(3) The standard for temporal reference system for air navigation shall be the Gregorian calendar and UTC.

(4) Where a different temporal reference system is used, this shall be indicated in the AIP as prescribed in Schedule 2.

Language proficiency

23. Air traffic controllers shall speak and understand the English language as prescribed for radiotelephony communications as prescribed in the Civil Aviation [(No.1) General Application and Personnel Licensing] Regulations, 2004.

APPENDIX 1

[Part A Clauses 6, 7 and 9]

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

Note: See Appendix 3 concerning the identification of standard departure and arrival routes and associated procedures. Guidance material on the establishment of these routes and procedures is contained in the Air Traffic Services Planning Manual (Doc 9426).

Designators for ATS routes and Navigation Specifications

1. (1) The purpose of a system of route designators and navigation specification applicable to specified ATS route segment, route 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 where operating along an ATS route or within a specified area; and
- (d) to indicate that a route is used primarily or exclusively by certain types of aircraft.

Note 1—Specifications governing the publication of navigation specification are given in Part C of Schedule 3, and the Appendix to Part B of Schedule 2.

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

(2) In order to satisfy the requirements under subclause (1), 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.

Composition, assignment and use of designators

2. Controlled, advisory and uncontrolled ATS routes, with the exception of standard arrival and departure routes, shall be as specified in clauses 3, 4 and 5.

Composition of designator

3. (1) An ATS route designator shall consist of a basic designator supplemented, where necessary, by—

(a) one prefix as prescribed in subclause (6); and

(b) one additional letter as prescribed in subclause (7).

(2) The number of characters required to compose the designator shall not exceed six characters.

(3) The number of characters required to compose the designator should, where possible, be kept to a maximum of five characters.

(4) The basic designator shall consist of one letter of the alphabet followed by a number from 1 to 999.

(5) Selection of a letter referred to in subclause (4) shall be made from the following list of letters as applicable:

(a) A, B, G and R for routes that form part of the regional networks of ATS routes and are not area navigation routes;

(b) L, M, N and P for area navigation routes that form part of the regional networks of ATS routes;

(c) H, J, V and W for routes that do not form part of the regional networks of ATS routes and are not area navigation routes; and

(d) Q, T, Y and Z for area navigation routes that do not form part of the regional networks of ATS routes.

(6) Where applicable, one supplementary letter shall be added as a prefix to the basic designator in accordance with the following standards:

(a) K to indicate a low-level route established for use primarily by helicopters;

(b) U to indicate that the route or portion thereof is established in the upper airspace; and

(c) S to indicate a route established exclusively for use by supersonic aircraft during acceleration, deceleration and while in supersonic flight.

(7) 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 standards:

(a) the letter F to indicate that on the route or portion of the route, advisory service only is provided; and

(b) the letter G to indicate that on the route or portion of the route, flight information service only is provided.

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

Note 2—Implementation of a route or a portion thereof as a controlled route, advisory route or flight information route is indicated in aeronautical charts and aeronautical information publications in accordance with the requirements in Schedule 2 and 3.

Assignment of basic designators

4. Basic ATS route designators shall be assigned in accordance with the following principles.

(a) the same basic designator shall be assigned to a main trunk route throughout the entire length of the route, irrespective of terminal control areas, States or regions traversed;

Note—The principle under paragraph (a) is of particular importance where automated ATS data processing and computerized airborne navigation equipment is used.

(b) where two or more trunk routes have a common segment, the segment in question shall be assigned to each of the designators of the routes concerned, except where this would present difficulties in the provision of ATS, in which case, by common agreement, one designator only shall be assigned;

(c) a basic designator assigned to one route shall not be assigned to any other route; and

(d) the Authority shall notify the Regional Offices of ICAO for coordination of its requirements for designators.

Use of designators in communications

5. (1) In printed communications, the designator shall be expressed at all times by not less than two and not more than six characters.

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

(3) Where the prefixes K, U or S specified in subclause 3(6), are used, the prefixes, shall, in voice communications, be spoken as follows:

(a) K—KOPTER; (The word “KOPTER” shall be pronounced as in the word “helicopter”)

(b) U—UPPER; and

(c) S—SUPERSONIC.

(4) Where the letters F, or G specified in subclause 3 (7) are used, the flight crew should not be required to use these letters in voice communications.

APPENDIX 2

[Part A Paragraph 1(c)]

**PRINCIPLES GOVERNING THE ESTABLISHMENT AND IDENTIFICATION OF
SIGNIFICANT POINTS**

1. (1) Significant points should, where possible, be established with reference to ground-based radio navigation aids, preferably VHF or higher frequency aids.

(2) Where ground-based radio navigation aids do not exist, significant points shall be established at locations that 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.

(3) Specific points may be designated as “transfer of control” points by agreement between adjacent air traffic control units or control positions concerned.

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

2. (1) Whenever practicable, a significant point marked by the site of a radio navigation aid shall be named with reference to an identifiable and preferably prominent geographical location.

(2) In selecting a name for the significant point under subclause (1), 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;

(b) 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, for example: FUERSTENFELDBRUCK = FURSTY;

(c) 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 and shall not create confusion with respect to other communications exchanged between air traffic services and pilots;

(d) the name should, where possible, consist of at least six letters and form two syllables and preferably not more than three;

(e) the selected name shall be the same for both the significant point and the radio navigation aid marking the significant point.

(3) Composition of coded designators for significant points marked by the site of a radio navigation aid shall be the same as the radio identification of the radio navigation aid and shall be so composed, where possible, as to facilitate association with the name of the point in plain language.

(4) Coded designators for significant points marked by the site of a radio navigation aid, shall not be duplicated within 1 100 km or 600 NM of the location of the radio navigation aid concerned, except where two radio navigation aids operating in different bands of the frequency spectrum are situated at the same location, the radio identification of the two radio navigation aids are normally the same.

(5) The Authority shall notify the Regional Offices of ICAO for coordination, of its requirements for coded designators.

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, the significant point shall be designated by a unique five-letter pronounceable name-code which will then serve as the name as well as the coded designator of the significant point.

(2) The name-code designator under subclause (1), 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, for example, ADOLA and KODAP.

(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.

(4) The name-code designator assigned to a significant point shall not be assigned to any other significant point.

(5) The Authority shall notify the Regional Offices of ICAO for coordination, of its requirements for name-code designators.

(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 WGS-84 geographical coordinates, except that permanently established significant points serving as exit or entry points into such areas shall be designated in accordance with the applicable provisions in clauses 2 or 3.

(7) Where there is a need to relocate a significant point, a new name-code designator shall be chosen.

(8) Where the Authority wishes to keep the allocation of specific name-codes for re-use at a different location, such name-codes shall not be used until after a period of at least six months.

Use of designators in communications

4. (1) The name selected in accordance with clause 2 or 3 shall be used to refer to the significant point in voice communications.

(2) Where the coded designator is used in voice communications, it shall be spoken in accordance with the ICAO spelling alphabet.

(3) Only the coded designator or the selected name-code shall be used to refer to a significant point in printed and coded communications.

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.

(2) In establishing selected significant points as reporting points, consideration shall be given to the following factors:

(a) the type of ATS 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 employed;
 - (h) the start or end of significant phases of a flight such as climb, descent and change of direction;
 - (i) transfer of control procedures;
 - (j) safety aspects;
 - (k) search and rescue aspects; and
 - (l) the cockpit and air-ground communication workload.
- (3) Reporting points shall be established as either “compulsory” or “on-request”.
- (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 ATS 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; and
 - (c) compulsory reporting points should not necessarily be established at flight information region or control area boundaries.
- (5) On request reporting points may be established in relation to the requirements of ATS for additional position reports where traffic conditions so demand.
- (6) The designation of “compulsory” and “on request” reporting points shall be reviewed regularly to keep the requirements for routine position reporting to the minimum necessary to ensure efficient ATS.
- (7) Routine reporting over compulsory reporting points should not systematically be made mandatory for all flights in all circumstances and 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; and
 - (b) aircraft transiting through a terminal control area should not be required to make routine position reports as frequently as arriving and departing aircraft.
- (8) In areas where the 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.

APPENDIX 3

[Part A clause 10(b)]

**PRINCIPLES GOVERNING THE IDENTIFICATION OF STANDARD DEPARTURE
AND ARRIVAL ROUTES AND ASSOCIATED PROCEDURES**

***Designators for standard departure and arrival routes and associated
Procedures***

1. In clause 2 “route” means route and associated procedures.
2. (1) The system of designators shall—
 - (a) permit the identification of each route in a simple and unambiguous manner;
 - (b) make a clear distinction between—
 - (i) departure routes and arrival routes;
 - (ii) departure or arrival routes and other ATS routes; and
 - (iii) 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; and
 - (f) provide sufficient possibility for extension to cater for any future requirements without the need for fundamental changes.
- (2) Each route shall be identified by a plain language designator and a corresponding coded designator.
- (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.

Composition of designators

3. (1) The plain language designator of a standard departure or arrival route shall consist of the following in the order listed:
 - (a) a basic indicator;
 - (b) a validity indicator;
 - (c) a route indicator, where required;
 - (d) the word “departure” or “arrival”; and
 - (e) the word “visual”, where the route has been established for use by aircraft operating in accordance with the VFR.

(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.

(3) The validity indicator shall be a number from 1 to 9.

(4) The route indicator shall be designated one letter of the alphabet, excluding the use of the letters “I” and “O”.

4. The coded designator of a standard departure or arrival route, instrument or visual, shall consist of the following in the order listed:

(a) the coded designator or name-code of the significant point described in paragraph 3(1)(a);

(b) the validity indicator specified under paragraph 3(1)(b); and

(c) the route indicator specified in paragraph 3(1)(c) where required.

Note: Limitations in the display equipment on board an aircraft may require shortening of the basic indicator, where the indicator is a five-letter name-code, for example KODAP. The manner in which such an indicator is shortened is left to the discretion of operators.

Assignment of designators

5. (1) Each route shall be assigned a separate designator.

(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 required under clause 3(4), shall be assigned to each route.

Assignment of validity indicators

6. (1) A validity indicator shall be assigned to each route to identify the route which is in effect.

(2) The first validity indicator to be assigned shall be the number “1”.

(3) Where a route is amended, a new validity indicator, consisting of the next higher number, shall be assigned.

(4) Where the validity indicator “9” has been assigned the next new validity indicator shall be the number “1”.

Examples of plain language and coded designators

7. (1) Example 1: Standard departure route—instrument:

(a) Plain language BRECON ONE designator: DEPARTURE

(b) Coded designator: BCN 1

Meaning: The designator identifies a standard instrument departure route which terminates at the significant point BRECON which is the basic indicator. BRECON is a radio navigation facility with the identification BCN which is the basic indicator of the coded designator. The validity indicator ONE which is (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) as provided in subclause 6(3). The absence of a route indicator as provided in clauses 3(4) and 5(2), signifies that only one route, in this case a departure route, has been established with reference to BRECON.

(2) Example 2: Standard arrival route—instrument:

(a) Plain language KODAP TWO ALPHA designator: ARRIVAL

(b) Coded designator: KODAP 2 A

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

(3) Example 3: Standard departure route—visual:

(a) Plain language ADOLA FIVE BRAVO designator: DEPARTURE VISUAL

(b) Coded designator: ADOLA 5 B

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.

Composition of designators for MLS with RNAV approach procedures

7. (1) The plain language designator of an MLS with RNAV approach procedure shall consist of the following in the order listed:

(a) MLS;

(b) a basic indicator;

(c) a validity indicator;

(d) a route indicator;

(e) the word “approach”; and

(f) the designator of the runway for which the procedure is designed.

(2) The basic indicator shall be the name or name-code of the significant point where the approach procedure begins.

(3) The validity indicator shall be a number from 1 to 9.

(4) The route indicator shall be designated one letter of the alphabet excluding the use of the letters “I” and “O”.

(5) The designator of the runway shall be in accordance with Volume 1, 5.2.2 of Annex 14 of the Chicago Convention.

8. (1) The coded designator of an MLS with RNAV approach procedure shall consist of the following in the order listed:

(a) MLS;

(2) Whenever possible, a graphic portrayal of the routes and procedures shall also be displayed.

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

APPENDIX 4

(Part A, Clause 6)

ATS AIRSPACE CLASSES-SERVICES PROVIDED AND FLIGHT REQUIREMENTS

Class	Type of Flight	Separation Provided	Service Provided	Speed Limitation*	Radio Communication Requirements	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	Air traffic control service	Not applicable	Continuous two way	Yes
	VFR	VFR from IFR	1) Air traffic service for separation from IFR; 2) VFR/VFR traffic information (and traffic avoidance advice on request)	250 kts IAS below 3050m (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 kts IAS below 3050m (10,000 ft) AMSL	Continuous two way	Yes
	VFR	Nil	Air traffic control service and as far as practicable traffic information about VFR flights	250 kts IAS below 3050m (10,000 ft) AMSL	Continuous two way	Yes
E	IFR	IFR from IFR	Traffic information as far as practicable	250 kts IAS below 3050m (10,000 ft) AMSL	Continuous two way	Yes
	VFR	Nil	Air traffic advisory service; flight information service	250 kts IAS below 3050m (10,000 ft) AMSL	No	No
F	IFR	IFR from IFR as far as practicable	Flight information service	250 kts IAS below 3050m (10,000 ft) AMSL	Continuous two way	No
	VFR	Nil	Flight information service	250 kts IAS below 3050m (10,000 ft) AMSL	No	No
G	IFR	Nil	Flight information service	250 kts IAS below 3050m (10,000 ft) AMSL	Continuous two way	No
	VFR	Nil	Flight information service	250 kts IAS below 3050m (10,000 ft) AMSL	No	NO

APPENDIX 5

(Part A, Clause 14)

AERONAUTICAL DATA QUALITY REQUIREMENTS

**Table 1
Latitude and Longitude**

Latitude and Longitude	Accuracy data type	Integrity classification
Flight information region boundary points	2 km declared	1 x 10 ⁻³ routine
P, R, D area boundary points (outside CTA/CTZ boundaries)	2 km declared	1 x 10 ⁻³ routine
P, R, D area boundary points (inside CTA/CTZ boundaries)	100 m calculated	1 x 10 ⁻⁵ essential
CTA/CTZ boundary points	100 m calculated	1 x 10 ⁻⁵ essential
En route nav aids and fixes, holding STAR/SID points	100 m surveyed/calculated	1 x 10 ⁻⁵ essential
Obstacles in Area 1 (the entire State territory)	50 m surveyed	1 x 10 ⁻³ routine
Obstacles in Area 2 (the Part outside the aerodrome/heliport boundary)	5 m surveyed	1 x 10 ⁻⁵ essential
Final approach fixes/points and other essential fixes/points comprising the instrument approach procedure.	3 m surveyed/calculated	1 x 10 ⁻⁵ essential

Note 1: See the Appendix to Part H of Schedule 2 for graphical illustrations of obstacles data collection surfaces and criteria used to identify obstacles in the defined area.

Note 2: In those portions of area 2 where flight operations are prohibited due to very high terrain or other local restrictions or regulations, obstacle data are to be collected in accordance with the Area 1 numerical requirements specified in the Appendix to Part H of Schedule 2.

Note 3: Implementation of Schedule 2 provisions concerning the availability, as of 20th November, 2008 and 18th November, 2010, of obstacle data according to Area 1 and Area 2 specifications, respectively, would be facilitated by appropriate advance planning for the collection and processing of such data.

**Table 2
Elevation, Altitude and Height**

Elevation/Altitude/Height	Accuracy Data type	Integrity classification
Threshold crossing height, precision approaches	0.5 m calculated	1 x 10 ⁻⁸ critical
Obstacle clearance altitude/height (OCA/H)	As specified in PANS-OPS (Doc 8168)	1 x 10 ⁻⁵ essential
Obstacles in Area 1 (the entire State territory) elevations	13 m surveyed	1 x 10 ⁻³ routine
Obstacles in Area 2 (the part outside the aerodrome/heliport boundary)	3 m surveyed	1 x 10 ⁻⁵ essential
Distance measuring equipment (DME) elevation	30 m (100 ft) surveyed	1 x 10 ⁻⁵ essential
Instrument approach procedure altitude	As specified in PANS-OPS (Doc 8168)	1 x 10 ⁻⁵ essential
Minimum altitudes	50 m calculated	1 x 10 ⁻³ routine

Note 1: See the Appendix to Part H of Schedule 2 for graphical illustrations of obstacles data collection surfaces and criteria used to identify obstacles in the defined area.

Note 2: In those portions of area 2 where flight operations are prohibited due to very high terrain or other local restrictions or regulations, obstacle data are to be collected in accordance with the Area 1 numerical requirements specified in the Appendix to Part H of Schedule 2.

Note 3: Implementation of Schedule 2 provisions concerning the availability, as of 20th November, 2008 and 18th November, 2010, of obstacle data according to Area 1 and Area 2 specifications, respectively, would be facilitated by appropriate advance planning for the collection and processing of such data.

**Table 3
Declination and Magnetic Variation**

Declination/Variation	Accuracy data type	Integrity classification
VHF NAV AID station declination used for technical line-up	1 degree surveyed	1 x 10 ⁻⁵ essential
NDB NAV AID magnetic variation	1 degree surveyed	1 x 10 ⁻³ routine

**Table 4
Bearing**

Bearing	Accuracy data type	Integrity classification
Airways segment	1/10 degree calculated	1 x 10 ⁻³ routine
En route and terminal fix information	1/10 degree calculated	1 x 10 ⁻³ routine
Terminal arrival/departure route segment	1/10 degree calculated	1 x 10 ⁻³ routine
Instrument approach procedure fix formations	1/100 degree calculated	1 x 10 ⁻⁵ essential

**Table 5
Length, Distance and Dimension**

Length/Distance/Dimension	Accuracy data type	Integrity classification
Airways segment	1/10 km calculated	1 x 10 ⁻³ routine
En route and terminal fix information	1/10 km calculated	1 x 10 ⁻³ routine
Terminal arrival/departure route segment	1/100 km calculated	1 x 10 ⁻⁵ essential
Instrument approach procedure fix formations	1/100 km calculated	1 x 10 ⁻⁵ essential

PART B

[Regulation 4(2) and (5)]

AIR TRAFFIC CONTROL SERVICE

The standards required to be met for air traffic control services are as follows:

Provision of air traffic control service

1. The parts of air traffic control service described in paragraph 2(a) of Part A shall be provided by the applicable 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; or

(ii) by an approach control unit when it is necessary or desirable to establish a separate unit; and

(c) aerodrome control service: by an aerodrome control tower.

Operation of air traffic control service

2. (1) To provide air traffic control service, an air traffic control unit shall—

(a) be provided with information—

(i) on the intended movement of each aircraft, or variations of information on the intended movement, and

(ii) current information on the actual progress of each aircraft;

(b) determine from the information received, the positions of known aircraft relative 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; and

(d) coordinate clearances as necessary with other ATC units—

(i) whenever an aircraft might otherwise conflict with traffic operated under the control of such other units; and

(ii) before transferring control of an aircraft to other ATC units.

(2) Information on aircraft movements, together with a record of ATC clearances issued to those aircraft, shall be displayed in a manner that will permit ready analysis in order to maintain an efficient flow of air traffic with adequate separation between aircraft.

(3) Clearances issued by ATC units shall provide separation between—

- (a) all flights in airspace Classes A and B;
- (b) IFR flights in airspace Classes C, D and E;
- (c) IFR flights and VFR flights in airspace Class C;
- (d) IFR flights and special VFR flights; and
- (e) special VFR flights when so prescribed by the appropriate ATS authority, except when requested by an aircraft and prescribed by the appropriate ATS authority for the cases listed under paragraph (3)(b) 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.

(4) Separation by an ATC 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 Schedule 7 of the Civil Aviation [(No. 2) Operations] Regulations, 2006; or
 - (ii) a modified table of cruising levels, when so prescribed in Accordance with Schedule 7 of the Civil Aviation [(No. 2) Operations] Regulations, 2006 for flight above FL 410, except that the correlation of levels to track as prescribed in subparagraphs (i) and (ii) shall not apply where 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; and
- (c) composite separation applied only on the basis of regional air navigation agreements, consisting of a combination of vertical separation and one of the other forms of separation contained in paragraph 4(b), using minima for each which may be lower than, but not less than half of, those used for each of the combined elements when applied individually;

(5) For all airspace where a reduced vertical separation minimum of 300 metres or 1000 feet 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 implementation and continued application of this vertical separation minimum meets the safety objectives;

(6) The coverage of the height-monitoring facilities provided under the programme under subclause (5), shall be adequate to permit monitoring of the relevant aircraft types of all operators that operate in RVSM airspace.

Note: The number of separate monitoring programmes should be restricted to the minimum necessary to effectively provide the required services for the region.

(7) Arrangements shall be made for the sharing of data from monitoring programmes through inter-regional agreement;

Separation minima

3. (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 (Doc. 4444) and the Regional Supplementary Procedures (Doc. 7030) as applicable under the prevailing circumstances except that, where types of aids are used or circumstances prevail which are not covered by current provisions of the Chicago Convention, other separation minima shall be established as necessary by—

(i) the Authority, following consultation with operators, for routes or portions of routes contained within the airspace that is the responsibility of Trinidad and Tobago; and

(ii) regional air navigation agreements for routes or portions of routes contained within airspace over the high seas or over areas of undetermined sovereignty; and

(b) the selection of separation minima shall be made in consultation between the Authority and the appropriate ATS authorities responsible for the provision of ATS in adjacent airspace when—

(i) traffic will pass into an adjacent airspace; and

(ii) routes are closer to the common boundary of an adjacent airspace than the separation minima applicable in the circumstances.

Note: The purpose of this provision is to ensure, in the first case, compatibility on both sides of the line of transfer of traffic, and, in the other case, adequate space between aircraft operating on both sides of the common boundary.

(2) Details of the selected separation minima and the associated areas of application shall be provided—

(i) to the ATS units concerned; and

(ii) 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.

Responsibility for control of aircraft

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

(2) Responsibility for the control of all aircraft operating within a given block of airspace shall be vested in a single air traffic control unit;

(3) Notwithstanding subclause (2) control of an aircraft or groups of aircraft may be delegated to other ATC units provided that coordination between the ATC units concerned is assured.

Place or time of transfer of responsibility for control of aircraft

5. The place or time of the transfer of responsibility for the control of an aircraft shall be made from one air traffic control unit to another air traffic control unit as follows:

- (a) between two units providing area control service: 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 agreed between the two units;
- (b) between a unit providing area control service and a unit providing approach control service: responsibility for the control of an aircraft shall be transferred between a unit providing area control service and a unit providing approach control service, at a point or time agreed between the two units;
- (c) between a unit providing approach control service and an aerodrome control tower for—
 - (i) arriving aircraft: responsibility for the control of an arriving aircraft shall be transferred from the unit providing approach control service to the aerodrome control tower, where 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) has reached uninterrupted visual meteorological conditions, or
 - (B) is at a prescribed point or level, as specified in letters of agreement or ATS unit instructions, or
 - (C) has landed; and
 - (ii) departing aircraft: 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;
 - (II) prior to the aircraft entering instrument meteorological conditions; or
 - (III) at a prescribed point or level, as specified in letters of agreement or ATS unit instructions; and
 - (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 ATS unit instructions; and
- (d) between control sectors or positions within the same air traffic control unit: responsibility for control of an aircraft shall be transferred from one control sector or position to another control sector or position within the same air traffic control unit at a point, level or time, as specified in ATS unit instructions.

Coordination of transfer of responsibility for control

6. Responsibility for control of an aircraft, shall not be transferred from one ATC unit to another without the consent of the ATC unit that is accepting control, in accordance with the following:

- (a) the air traffic control unit that is transferring control shall communicate to the ATC unit that is accepting control, the appropriate parts of the current flight plan and any control information pertinent to the transfer requested;
- (b) where transfer of control is to be effected using radar or ADS-B data, the control information pertinent to the transfer shall include information on the position and if required, the track and speed of the aircraft, as observed by radar or ADS- immediately prior to the transfer;
- (c) 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;
- (d) the ATC unit accepting control shall—
 - (i) indicate its ability to accept control of the aircraft on the terms specified by the ATC unit that is transferring control, unless by prior agreement between the ATC units concerned, the absence of any such indication is understood to signify acceptance of the terms specified, or indicate any necessary changes thereto; and
 - (ii) 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; and
 - (iii) notify the transferring air traffic control unit when it has established two-way voice and data link communications with and assumed control of the aircraft concerned, unless otherwise specified by agreement between the two control units concerned; and
- (e) applicable coordination procedures, including transfer of control points, shall be specified in letters of agreement and air traffic control unit instructions as appropriate.

Air traffic control clearances

8. Air traffic control clearances shall be based solely on the requirements for providing ATC services as follows:

- (a) contents of an ATC clearance shall indicate the following:
 - (i) aircraft identification as shown in the flight plan;
 - (ii) clearance limit;
 - (iii) route of flight;
 - (iv) levels of flight for the entire route or part thereof and changes of levels if required; and
 - (v) any necessary instructions or information on other matters such as approach or departure manoeuvres, communications and the time clearance expires.
- (b) the ATC clearance relating to the transonic acceleration phase of a supersonic flight shall extend at least to the end of that phase;

- (c) the flight crew shall read back to the air traffic controller safety-related parts of ATC clearances and instructions that were transmitted by voice;
- (d) notwithstanding paragraph (c) the following items shall always be read back by flight crew:
 - (i) ATC route clearances;
 - (ii) clearances and instructions to enter, land on, take off from, hold short of, cross and backtrack on any runway; and
 - (iii) 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;
- (e) other clearances or instructions, including conditional clearances, shall be read back or acknowledged by the flight crew in a manner to clearly indicate that the clearance or instructions have been understood and will be complied with;
- (f) the air traffic 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;
- (g) unless specified by the Authority, voice read-back of CPDLC messages shall not be required;

Note. The procedures and provisions relating to the exchange and acknowledgement of CPDLC messages are contained in Annex 10, Volume II of the Chicago Convention, and PANS-ATM, Chapter 14.

- (h) 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—
 - (i) an aircraft shall be cleared for the entire route to the aerodrome of first intended landing when:
 - (A) it has been possible, prior to departure, to coordinate the clearance between all the units under whose control the aircraft will come; or
 - (B) there is reasonable assurance that prior coordination will be effected between those units under whose control the aircraft will subsequently come;
 - (ii) coordination as prescribed in paragraph (i) has not been achieved or is not anticipated, the aircraft shall be cleared only to that point when coordination is reasonably assured; prior to reaching such point, or at such point, the aircraft shall receive further clearance with holding instructions being issued as appropriate;
 - (iii) where prescribed by the appropriate ATS authority, aircraft shall contact a downstream air traffic control unit, for the purpose of receiving a downstream clearance prior to the transfer of control point;
 - (iv) aircraft shall maintain the necessary two-way communication with the current air traffic control unit while obtaining a downstream clearance;
 - (v) a clearance issued as a downstream clearance shall be clearly identifiable as such to the pilot;

- (vi) 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;

Note: Requirements relating to the application of downstream clearance, delivery service are specified in Volume 2 of Annex 10 of the Chicago Convention. Guidance material is contained in the manual of air traffic services data link applications (ICAO Doc. 9694)

- (vii) 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;
- (viii) when an aircraft intends to leave a control area for flight outside controlled airspace, and will subsequently re-enter the same or another control area, a clearance from point of departure to the aerodrome of first intended landing may be issued; and
- (xi) the clearance or revisions specified in paragraph 8(h)(viii), shall apply only to those portions of the flight conducted within controlled airspace;
- (i) 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;
- (j) 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 air traffic control unit shall so advise the ATFM unit, when such is established, as well as, when appropriate, air traffic services units concerned; and
- (k) 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.

Control of persons and vehicles at aerodromes

8. (1) The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome shall, where necessary, be controlled by the aerodrome control tower to avoid hazard to other persons, vehicles or to aircraft landing, taxiing or taking off.

(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 in particular, regard shall be given to the requirements to protect the ILS sensitive areas when Category II or Category III precision instrument operations are in progress; and

(b) subject to paragraph 8(3), the minimum separation between vehicles and taxiing aircraft shall be as prescribed by the Authority taking into account the landing aids available.

(3) Emergency vehicles proceeding to the assistance of an aircraft in distress shall be given priority over all other surface movement traffic.

(4) Subject to subclause (3), vehicles on the manoeuvring area shall be required to comply with the following:

(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; and

(c) vehicles shall give way to other vehicles in accordance with ATS unit instructions.

(5) Notwithstanding subclause (4), vehicles and vehicles towing aircraft shall comply with instructions issued by the aerodrome control tower.

PART C

FLIGHT INFORMATION SERVICE

(Regulation 6)

The standards to be met for flight information service are as follows:

Scope of flight information service

1. (1) Flight information service shall provide all information likely to affect safety including 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 where the aerodrome and movement areas are affected by significant depth of water and any other condition likely to affect safety; and
- (f) information on unmanned free balloons.

(2) Flight information service provided to all flights shall include, in addition to the requirements specified in subclause (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; and
- (c) flight over water areas, where and when requested by a pilot, any available information including radio call sign, position, true track, speed of surface vessels in the area and other relevant information;

(3) Flight information service provided to VFR flights shall include, in addition to requirements specified in subclause (1), the provision of available information concerning traffic and weather conditions along the route of flight that are likely to make operation under the VFR impracticable.

Operational flight information service broadcasts

2. (1) Meteorological information and operational information concerning radio navigation services and aerodromes included in the flight information service shall, where available, be provided in an operationally integrated form.

(2) Where requested by a pilot the applicable operational flight information service messages shall be transmitted by the appropriate ATS unit.

(3) Voice-ATIS broadcasts shall meet the following requirements:

- (a) be provided at aerodromes where there is a requirement to reduce the communication load on the ATS VHF air-ground communication channels and comprise—
 - (i) one broadcast serving arriving aircraft;
 - (ii) one broadcast serving departing aircraft;
 - (iii) one broadcast serving both arriving and departing aircraft; or
 - (iv) 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;
 - (b) use a discrete VHF frequency, where practicable;
 - (c) where a discrete VHF frequency is not available, the transmission of the Voice- ATIS broadcast may be made on the voice channel of the most appropriate terminal navigation aid, preferably a VOR, provided that the range and readability are adequate and the identification of the navigation aid is sequenced with the broadcast so that the Voice-ATIS broadcast is not obliterated;
 - (d) voice-ATIS broadcast shall not be transmitted on the voice channel of an ILS;
 - (e) where Voice-ATIS is provided, the broadcast shall be continuous and repetitive;
 - (f) information contained in a current broadcast shall immediately be made known to the ATS unit concerned with the provision to aircraft of information relating to approach, landing and take-off, where the message has not been prepared by that ATS unit; and
 - (g) voice-ATIS broadcast provided at designated aerodromes for use by international air services shall be made available in the English language;
- (4) D-ATIS shall be meet the following requirements—
- (a) 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;
 - (b) where real-time meteorological information is included but the data remains within the parameters of the significant change criteria, the content shall be considered identical, for the purpose of maintaining the same designator; and
 - (c) 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.
- (5) Automatic Voice-ATIS and D-ATIS shall meet the following requirement:
- (a) where Voice-ATIS or D-ATIS is provided—
 - (i) the information communicated shall relate to a single aerodrome;
 - (ii) the information communicated shall be updated immediately where a significant change occurs;
 - (iii) the preparation and dissemination of the ATIS message shall be the responsibility of the appropriate ATS unit;

- (iv) individual ATIS messages shall be identified by a designator in the form of a letter of the ICAO spelling alphabet;
 - (v) designators assigned to consecutive ATIS messages shall be in alphabetical order;
 - (vi) flight crew shall acknowledge receipt of the information upon establishing communication with the ATS unit providing approach control service or the aerodrome control tower, as appropriate;
 - (vii) the appropriate ATS unit shall, when replying to the message in paragraph (vi) or, in the case of arriving aircraft, at such other time as may be prescribed by the Authority, provide the aircraft with the current altimeter setting; and
 - (viii) the meteorological information shall be extracted from the local meteorological routine or special report;
- (b) where 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;
- (c) where information contained in a current ATIS, has been acknowledged as being received by the aircraft concerned, the information received need not be included in a directed transmission to the aircraft, except for the altimeter setting, which shall be provided in accordance with subparagraph (5)(a)(vii); and
- (d) where an aircraft acknowledges receipt of an ATIS that is not current, any element of information that needs updating shall be transmitted to the aircraft without delay.
- (6) ATIS messages for both arriving and departing aircraft shall contain arrival and departure information in the order listed as follows:
- (a) name of aerodrome;
 - (b) arrival and departure indicator;
 - (c) contract type, where communication is by D-ATIS;
 - (d) designator;
 - (e) time of observation, where appropriate;
 - (f) type of approaches to be expected;
 - (g) the runway in use; and if applicable status of arresting system constituting a potential hazard;
 - (h) significant runway surface conditions and where appropriate, braking action;
 - (i) holding delay where appropriate;
 - (j) transition level where applicable;
 - (k) other essential operational information;
 - (l) surface wind direction and speed, including significant variations and where surface wind sensors related specifically to the sections of runway in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;

- *(m)* visibility and when applicable, RVR;
- *(n)* present weather;
- *(o)* cloud below 5,000 feet 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 as determined on the basis of regional air navigation agreements;
- (r)* altimeter setting;
- (s)* any available information on significant meteorological phenomena in the approach and climb-out areas including wind shear, and information on recent weather of operational significance;
- (t)* trend forecast, when available; and
- (u)* specific ATIS instructions;

(7) ATIS messages for arriving aircraft containing arrival information only shall be presented in the order listed as follows:

- (a)* name of aerodrome;
- (b)* arrival indicator;
- (c)* contract type, where communication is by D-ATIS;
- (d)* designator;
- (e)* time of observation, if appropriate;
- (f)* type of approach to be expected;
- (g)* main landing runway; status of arresting system constituting a potential hazard, if any;
- (h)* significant runway surface conditions and, if appropriate, braking action;
- (i)* holding delay, if appropriate;
- (j)* transition level, if applicable;
- (k)* other essential operational information;
- (l)* surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;
- (m)* visibility and, when applicable, RVR;
- (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 as determined on the basis of regional air navigation agreements;
- (r) altimeter setting;
- (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;

(8) ATIS messages for departing aircraft containing departure information only, shall be presented in the order listed as follows:

- (a) name of aerodrome;
- (b) departure indicator;
- (c) contract type, if communication is by D-ATIS;
- (d) designator;
- (e) time of observation, where appropriate;
- (f) runways to be used for take-off and where applicable status of arresting system constituting a potential hazard;
- (g) significant surface conditions of runway to be used for take-off and where appropriate, braking action;
- (h) departure delay, where appropriate;
- (i) transition level, where applicable;
- (j) other essential operational information;
- (k) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runways in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;

**(l)* visibility and, when applicable, RVR;

**(m)* present weather;

**(n)* cloud below 5,000 feet 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 as determined on the basis of regional air navigation agreements;
- (q) altimeter setting;

- (r) any available information on significant meteorological phenomena in the climb-out area including wind shear;
- (s) trend forecast, when available; and
- (t) specific ATIS instructions.

Note: The items marked with an asterisk () are replaced by the term “CAVOK”, where the conditions as specified in the PANS-ATM (Doc 4444), Chapter 11 prevail.*

PART D

ALERTING SERVICE

(Regulation 9)

Application

The standards required to be met for alerting service are as follows:

1. (1) 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 the information to the appropriate rescue coordination centre.
- (2) Where there is an emergency affecting an aircraft while the aircraft is under the control of an aerodrome control tower unit or approach control unit, that unit shall immediately notify the flight information centre or area control centre responsible and thereafter the flight information centre or area control centre shall notify the rescue coordination centre.
- (3) Subject to subclause (2), notification of the area control centre, flight information centre, or rescue coordination centre shall not be required where the nature of an emergency is such that the notification would be superfluous.
- (4) Where in an emergency under subclause (2), it is determined that the nature of the emergency requires urgent attention, 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.

Notification of rescue coordination centres

2. (1) ATS units shall immediately notify rescue coordination centres where an aircraft is considered to be in any phase of a state of emergency set out below:

(a) uncertainty phase when—

- (i) no communication has been received from an aircraft within a period of thirty minutes after the time a communication should have been received, or from the time an unsuccessful attempt to establish communication with the aircraft was first made, whichever is the earlier; or
- (ii) an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by ATS units, whichever is the later;

(b) alert phase when—

- (i) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft;
- (ii) the 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;
- (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; or

(iv) an aircraft is known or believed to be the subject of an act 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

(ii) the fuel of an aircraft is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety; or

(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

(iv) information in respect of the aircraft is received or it is reasonably certain that the aircraft is about to make or has made a forced landing.

(2) In addition to the requirements under subclause (1), rescue coordination centre shall, without delay, be furnished with—

(a) any useful additional information, especially on the development of the state of emergency of an aircraft through subsequent phases; or

(b) information that the emergency situation no longer exists.

(3) A notification under this clause shall contain information where available in the order listed as follows:

(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) ATC unit which made last contact, time and means used;

(f) last position report in respect of the aircraft and how determined;

(g) colour and distinctive marks of aircraft;

(h) dangerous goods carried as cargo on board the aircraft;

(i) any action taken by reporting office; and

(j) other pertinent remarks.

(4) The rescue co-ordination centre shall be provided without delay with –

(a) any useful additional information especially on the development of the state of emergency through subsequent phases; and

(b) information that the emergency situation no longer exists.

Information to the operator

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

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

Use of communication facilities

4. ATS units shall, where necessary, use all available communication facilities to establish and maintain communication with an aircraft in an emergency, and to request news of the aircraft.

Plotting aircraft in a state of emergency

5. (1) In an emergency, the flight of an aircraft involved shall be plotted on a chart in order to determine the probable future position of the aircraft and its maximum range from its last known position.

(2) Other aircraft known to be operating in the vicinity of the aircraft involved in an emergency shall also be plotted on a chart in order to determine the probable future positions and maximum endurance of those aircraft.

Information to aircraft operating in the vicinity of an aircraft in a state of emergency

6. (1) When it has been established by an ATS 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 subclause (2) be informed of the nature of the emergency as soon as possible.

(2) When an ATS unit knows or believes that an aircraft is being subjected to an act of 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.

PART E

AIR TRAFFIC SERVICES REQUIREMENTS FOR COMMUNICATIONS

(Regulation 10)

The standards required to be met for ATS communications are as follows—

Aeronautical mobile service for air-ground communications

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

(2) When direct pilot-controller two-way radiotelephony or data link communication is used for the provision of air traffic control service, recording facilities shall be provided on all air-ground communication channels.

(3) Air-ground communication under subclause (2) shall be recorded and retained for a period of at least thirty days.

1A. Where RCP types have been prescribed by the Authority for ATM functions, ATS units shall, in addition to the requirements specified in paragraph (1), be provided with communication equipment which will enable them to provide ATS in accordance with the prescribed RCP types.

2. The following standards are required to be met by air ground communication facilities.

(a) *flight information services*: this service shall enable two-way communication to take place between ATS unit providing flight information service and appropriately equipped aircraft flying anywhere within the flight information region;

(b) *area control service*: this service 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;

(c) *aerodrome control service*: this service 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 kilometres (25 NM) of the aerodrome concerned; and

(d) *approach control service*: this service shall—

(i) 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; and

(ii) where an air ground communication facility is providing approach control service functions under subparagraph (i) as a separate unit, air-ground communications shall be conducted over communication channels provided for its exclusive use.

Aeronautical fixed service for ground-ground communications

3. (1) Direct-speech or data link communications shall be used in ground-ground communications for ATS.

(2) Communications within a flight information region between ATS units shall be as follows:

- (a) a flight information centre shall have facilities for communications with the following units providing a service within its area of responsibility:
 - (i) the area control centre, unless collocated;
 - (ii) approach control units; and
 - (iii) aerodrome control towers;
 - (b) an area control centre, in addition to being connected to the flight information centre as prescribed in subparagraph (a), shall have facilities for communications with the following units providing a service within its area of responsibility:
 - (i) approach control units;
 - (ii) aerodrome control towers; and
 - (iii) ATS reporting offices, when separately established.
 - (c) an approach control unit, in addition to being connected to the flight information centre and the area control centre as prescribed in subparagraphs (a) and (b), shall have facilities for communications with the associated aerodrome control tower and, where separately established, the associated ATS reporting office; and
 - (d) 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 subparagraphs (a), (b) and (c), shall have facilities for communications with the associated ATS reporting office, where separately established;
- (3) Communication within a flight information region between air traffic services units and other units shall be as follows:
- (a) a flight information centre and an area control centre shall have facilities for communications with the following units providing a service within the respective area of responsibility to the flight information centre and area control centre:
 - (i) appropriate military units;
 - (ii) the meteorological office serving the centre;
 - (iii) the aeronautical telecommunications station serving the centre;
 - (iv) appropriate operator's offices;
 - (v) the rescue coordination centre or, in the absence of a rescue coordination centre, any other appropriate emergency service; and
 - (vi) the international NOTAM office serving the centre;
 - (b) an approach control unit and an aerodrome control tower shall have facilities for communications with the following units providing a service within the respective area of responsibility of the approach control unit and aerodrome control tower:
 - (i) appropriate military units;
 - (ii) rescue and emergency services including ambulance and fire;

- (iii) the meteorological office serving the unit concerned;
- (iv) the aeronautical telecommunications station serving the unit concerned; and
- (v) the unit providing apron management service, when separately established; and

(c) the communication facilities required under subparagraphs (a)(i) and (b)(i), shall include provisions for rapid and reliable communications between the ATS unit concerned and the military unit responsible for control of interception operations within the area of responsibility of the ATS unit;

(4) Description of communication facilities within a flight information region shall be as follows:

(a) the communication facilities required under subclauses 3(2), (3)(a)(i) and (3)(b)(i), (ii) and (iii) and shall include provisions for—

- (i) 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
- (ii) printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes;

(b) in all cases where automatic transfer of data to or from ATS computers is required, suitable facilities for automatic recording shall be provided;

(c) the communication facilities required under subparagraphs (3)(a)(i), (ii) and (iii), shall include provisions for communications by direct speech arranged for conference communications;

(d) all facilities for direct-speech or data link communications between ATS units or between air traffic services units and other units described under subparagraphs (3)(a) and (b), shall be provided with automatic recording; and

(e) recordings of data and communications as required in subparagraphs (3)(c) and (4)(d), shall be retained for a period of at least thirty days;

(5) Communications between flight information regions shall be as follows:

(a) light information centres and area control centres shall have facilities for communications with all adjacent flight information centres and area control centres;

(b) the communication facilities under subparagraph (5)(a), 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;

(c) 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;

- (d) where so required by agreement between the States concerned in order to eliminate or reduce the need for interceptions in the event of deviations from assigned track, facilities for communications between adjacent flight information centres or area control centres other than those mentioned in subparagraphs (5)(c), shall include provisions for direct speech alone, or in combination with data link communications;
- (e) the communication facilities shall be provided with automatic recording;
- (f) in all cases where automatic exchange of data between ATS computers is required, suitable facilities for automatic recording shall be provided; and
- (g) recordings of data and communications as required in paragraph (5)(f), shall be retained for a period of at least thirty days.

3A. Where RCP types have been prescribed by the Authority for ATM functions, ATS units shall, in addition to the requirements specified in paragraph (1), be provided with communication equipment which will enable them to provide ATS in accordance with the prescribed RCP types.

Surface movement control service

4. Communications for the control of vehicles other than aircraft on manoeuvring areas at controlled aerodromes shall be as follows:

- (a) 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;
- (b) where conditions warrant, separate communication channels with automatic recording facilities shall be provided for the control of vehicles on the manoeuvring area; and
- (c) recordings of communications as required in paragraph (b), shall be retained for a period of at least thirty days;

Aeronautical radio navigation service

5. Automatic recording of surveillance data shall be as follows:

- (a) surveillance data from primary and secondary radar equipment or other systems such as ADS-B and ADS-C used as an aid to ATS, shall be automatically recorded for use in—
 - (i) accident and incident investigations;
 - (ii) search and rescue;
 - (iii) air traffic control; and
 - (iv) surveillance systems evaluation and training;
- (b) automatic recordings of surveillance data shall be retained for a period of at least thirty days;
- (c) where the recordings under paragraph (b) are pertinent to accident and incident investigations, they shall be retained for longer periods until it is evident that the recordings are no longer required.

PART F

(Regulation 9)

AIR TRAFFIC SERVICES REQUIREMENTS FOR INFORMATION

The standards required to be met for Air Traffic Services Requirements for information are as follows:

Meteorological information

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

(2) The information under subparagraph (1), 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.

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

2. Flight information centres and area control centres:

(a) Flight information centres and area control centres shall be supplied with meteorological information as described in Annex 3, Appendix 9, 1.3, covering the flight information region or control area and such other areas as may be determined on the basis of regional air navigation agreements particular emphasis being given to the occurrence or expected occurrence of weather deterioration as soon as this can be determined; and

(b) 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.

3. Units providing approach control service:

(a) units providing approach control service shall be supplied with meteorological Information as described in Annex 3, Appendix 9, 1.2 for the airspace and the aerodromes with which units providing approach control service are concerned;

(b) 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;

(c) where multiple sensors are used, the displays to which the multiple sensors are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

(d) 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;

(e) units providing approach control service for final approach, landing and take-off shall be equipped with surface wind display;

(f) the display under paragraph (e), shall be related to the same location of observation and be fed from the same sensor as the corresponding display in the aerodrome control tower and in the meteorological station, where a meteorological station exists;

- (g) units providing approach control service for final approach, landing and take-off at aerodromes where runway visual range values are assessed by instrumental means shall be equipped with display permitting read-out of the current RVR value;
- (h) the display under paragraph (g), shall be related to the same location of observation and be fed from the same sensor as the corresponding displays in the aerodrome control tower and in the meteorological station, where a meteorological station exists; and
- (i) units providing approach control service for final approach, landing and takeoff shall be supplied with information on wind shear which could adversely affect aircraft on the approach or take-off paths or during circling approach.

4. Aerodrome control towers:

- (a) aerodrome control towers shall be supplied with meteorological information as described in Annex 3, Appendix 9, 1.1 for the aerodrome with which they are concerned
- (b) special reports and amendments to forecasts shall be communicated to the aerodrome control towers as soon as the special reports and amendments to forecasts become necessary in accordance with established criteria, without waiting for the next routine report or forecast;
- (c) aerodrome control towers shall be provided with current pressure data for setting altimeters for the aerodrome concerned;
- (d) aerodrome control towers shall be equipped with surface wind display;
- (e) the display under paragraph (d), shall be related to the same location of observation and be fed from the same sensor as the corresponding display in the meteorological station, where such a station exists;
- (f) where multiple sensors are used, the displays to which the multiple sensors are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor;
- (g) aerodrome control towers at aerodromes where RVR range values are measured by instrumental means shall be equipped with display permitting read-out of the current RVR value;
- (h) the display under paragraph (g), shall be related to the same location of observation and be fed from the same sensor as the corresponding display in the meteorological station, where a meteorological station exists; and
- (i) aerodrome control towers shall be supplied with information on wind shear which can 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.

5. Communication stations:

- (a) where necessary for flight information purposes, current meteorological reports and forecasts shall be supplied to communication stations;
- (b) a copy of the information under paragraph (a), shall be forwarded to the flight information centre or the area control centre.

***Information on aerodrome condition and the operational status
of associated facilities***

6. 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 with which aerodrome control towers and approach control units are concerned.

Information on the operational status of navigation services

7. ATS units shall be kept currently informed of the operational status of radio navigation services, and those visual aids essential for take-off, departure, approach and landing procedures within the area of responsibility of the ATS units and those radio navigation services and visual aids essential for surface movement.

Information on unmanned free balloons

8. Operators of unmanned free balloons shall keep the appropriate ATS units informed of details of flights of unmanned free balloons in accordance with the provisions contained in Civil Aviation [(No. 2) Operations], Regulations, 2004.

Information concerning volcanic activity

9. (1) ATS 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 the area of responsibility of the ATS units.

(2) Area control centres and flight information centres shall be provided with volcanic ash advisory information issued by the associated volcanic ash advisory information centre.

Information concerning radioactive materials and toxic chemical "clouds"

10. ATS 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 the area of responsibility of the ATS units.