SCHEDULE 2

(Regulation 13)

PART A

GENERAL

Responsibilities and functions

The following are the standards required to be met by the Authority in providing Aeronautical Information Services:

1. (1) Except in circumstances where aeronautical information service is provided to an aircraft in flight in the area of responsibility of the aeronautical information service on a continuous basis, the minimum period for the provision of aeronautical information service to an aircraft in flight in the area of responsibility of the information flight service shall be for at least two hours before the flight and throughout the entire flight until two hours after the flight has ended.

(2) Aeronautical information services under subclause (3) shall also be made available at such other time as may be requested by an appropriate ground organization.

(3) Any aeronautical information and aeronautical data provided by aeronautical information services that is necessary for the safety, regularity or efficiency of air navigation shall be made available—

(a) promptly to the aeronautical information service of other Contracting States; and

(b) in a form suitable for the operational requirements of—

(i) persons involved in flight operations, including flight crews, flight planning and flight simulators; and

(ii) the air traffic services unit responsible for flight information service and the services responsible for pre-flight information.

(4) An aeronautical information service shall—

(a) receive;

(b) generate;

(c) collate or assemble;

(d) edit;

(e) format;

(f) publish; and

(g) distribute aeronautical information and aeronautical data concerning the entire territory of Trinidad and Tobago as well as areas in which the Authority is responsible for air traffic services outside the territory of Trinidad and Tobago.

(5) All aeronautical information shall be published as an Integrated Aeronautical Information Package.

Quality system

2. (1) Established quality system shall provide users with the necessary assurance and confidence that distributed aeronautical information and aeronautical data satisfy stated requirements for data quality (accuracy, resolution and integrity) and for data traceability by the use of appropriate procedures in every stage of data production or data modification process.

(2) The system shall also provide assurance of the applicability period of intended use of aeronautical data as well as that the agreed distribution dates will be met.

(3) The order of accuracy for aeronautical data, based upon a ninety-five per cent confidence level, shall be as specified in Part A of Schedule 1 and Chapter 2 Annex 14 of the ICAO.

(4) In determining the order of accuracy for aeronautical data the three types of positional data shall be identified as follows:

(a) surveyed points such as runway thresholds, navigation aid positions, etc.; and

(b) calculated points based on mathematical calculations from the known surveyed points of points in space and fixes and declared points such as flight information region boundary points.

(5) The order of publication resolution of aeronautical data shall be that as specified in the Appendix to this Part.

(6) The integrity of aeronautical data is maintained throughout the data process from survey and origin to distribution to the next intended user.

(7) Aeronautical data integrity requirements shall be based upon the potential risk resulting from the corruption of data and upon the use to which the data item is put.

(8) Further to the requirements in subclause (7), the following classifications and data integrity levels shall apply:

(a) critical data, integrity level 1 x 10-8: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;

(b) essential data, integrity level 1 x 10-5: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and

(c) routine data, integrity level 1 x 10-3: 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.

(9) Aeronautical data quality requirements related to classification and data integrity shall be as provided in Tables A–1 through A–5 of the Appendix to this Part.

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

(11) To achieve protection of the integrity level of critical and essential aeronautical data as classified in subclauses (10) and (11), a 32 – or 24 – bit CRC algorithm shall apply respectively.

(12) The material to be issued as part of the Integrated Aeronautical Information Package shall be thoroughly checked and coordinated with the responsible services before it is submitted to the aeronautical information service, in order to make certain that all necessary information has been included and that it is correct in detail prior to distribution.

(13) Validation and verification procedures shall be established to ensure that quality requirements including accuracy, resolution, integrity and traceability of aeronautical data are met.

Note : Guidance material on liaison with other related services is contained in the Aeronautical Services Manual ICAO Doc 8126.

(14) An audit shall be conducted of the quality system applied to evaluate the degree at compliance with standards prescribed in this clause.

(15) Where nonconformity is identified, corrective action shall be determined and applied.

(16) All audit observations and remedial actions shall be evidenced and properly documented.

Note : Guidance material on the aeronautical data requirements (accuracy, resolution, integrity and traceability) is contained in ICAO Doc 9684 (WGS 84) Manual.

Exchange of aeronautical information and aeronautical data

3. (1) The Authority shall designate the office to which all elements of the Integrated Aeronautical Information Package originated by other States is to be forwarded.

(2) The office designated under subclause (1), shall be qualified to deal with requests for information and aeronautical data originated by other States.

(3) Where the Authority designates more than one international NOTAM office, the Director General shall define the extent of responsibility and the territory covered by each office.

(4) The aeronautical information service shall arrange, as necessary, to satisfy operational requirements for the issue and receipt of NOTAM distributed by telecommunication.

(5) The Director General shall, wherever practicable, establish direct contact with other AIS in order to facilitate the international exchange of aeronautical information and aeronautical data.

(6) One copy of each of the elements of the Integrated Aeronautical Information Package, in paper or electronic form or both, that has been requested by an AIS of another Contracting State shall be made available by the Director General in the mutually-agreed form, without charge, even where authority for publication, storage and distribution has been delegated to a commercial agency.

Copyright

4. Any AIS product of another Contracting State which has been granted copyright protection shall only be made available to a third party on the condition that the third party is made aware that the product is copyright protected and provided that it is appropriately annotated that the product is subject to copyright protection of the originating State.

General specifications

5. (1) Each element of the Integrated Aeronautical Information Package for international distribution shall include English text for those parts expressed in plain language.

(2) The name of places shall be spelt in conformity with local usage and transliterated, where necessary, into the Latin alphabet.

6. ICAO abbreviations shall be used in the aeronautical information services where the abbreviations are appropriate and the use of those abbreviations will facilitate distribution of information and data.

7. (1) Each prohibited area, restricted area, or danger area established by the Authority shall, upon initial establishment, be given an identification and full details shall be promulgated under ENR 5.1 of the AIP.

(2) The identification assigned under subclause (4) shall—

(a) be used to identify the area in all subsequent notifications pertaining to that area; and

(b) be composed of a group of letters and figures as follows:

(i) nationality letters for location indicators assigned to the State or territory which has established the airspace;

(ii) a letter P for prohibited area, R for restricted area and D for danger area as appropriate; and

(iii) a number, unduplicated within the State or territory concerned.

(3) Identification numbers shall not be reused for a period of at least one year after cancellation of the area to which they refer.

8. Human Factors Principles shall be taken into consideration in determining the organization of the aeronautical information services as well as the design, contents, processing and distribution of aeronautical information and data to facilitate their optimum utilization.

Common reference systems for air navigation

9. (1) Common reference system used for air navigation shall be as follows:

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

(b) geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in Part A of Schedule 1 and Chapter 2 of Volume 1 of Annex 14 of the Chicago Convention, shall be identified by an asterisk; and

(c) the order of publication resolution of geographical coordinates shall be that specified in Table A-1 of the Appendix while the order of chart resolution of geographical coordinates shall be that specified in Table 1 of Part A of Appendix 3 of Schedule 3;

(2) Vertical reference system for air navigation shall be as follows:

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

(b) The Earth Gravitational Mode—1996 (EGM—96), containing long wavelength gravity field data to degree and order 360, shall be used by international air navigation as the global gravity model;

(c) Geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation specified in Volumes I and II of Annex 14, on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data shall be developed and used;

(d) where a geoid model other than the EGM-96 model is used, a description of the model used, including the parameters required for height transformation between the model and EGM-96, shall be provided in the AIP;

(e) further to elevation referenced to the MSL (geoid), for the specific surveyed ground positions, geoid undulation (referenced to the WGS-84 ellipsoid) for those positions specified in the Appendix to Part B of Schedule 2 shall also be published; and

(f) the order of publication resolution of elevation and geoid undulation shall be that specified in Table A-2 of the Appendix, while the order of chart resolution of elevation and geoid undulation shall be that specified in Table 3 of Part A of Appendix 3 of Schedule 3.

(3) Temporal references for air navigation shall be as follows:

(a) for international civil aviation, the Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system; and

(b) where a different temporal reference system is used for some applications, the feature catalogue, or the metadata associated with an application schema or a data set, as appropriate, shall include either a description of that system or a citation for a document that describes that temporal reference system.

APPENDIX

[Part A, Clause 2 (13)]

Table A-1 Latitude and Longitude

Latitude and Longitude	Publication Resolution	Integrity classification
Flight information region boundary points	1 min	1×10^{-3} routine
P, R, D area boundary points (outside CTA/CTZ boundaries)	1 min	1×10^{-3} routine
P, R, D area boundary points (inside CTA/CTZ boundaries)	1 sec	1×10^{-5} essential
CTA/CTZ boundary points	1 sec	1×10^{-5} essential
En route navaids, intersections and waypoints, and holding STAR/SID points	1 sec	1×10^{-5} essential
Obstacles in Area 1 (the entire State territory)	1 sec	1×10^{-3} routine
Aerodrome/heliport reference point	1 sec	1×10^{-3} routine
NAVAIDS located at aerodrome/heliport	1/10 sec	1×10^{-5} essential
Obstacles in Area 3	1/10 sec	1×10^{-5} essential
Obstacle in Area 2	1/10 sec	1×10^{-5} essential
Final approach fixes/points and other essential fixes/points comprising the instrument approach procedure	1/10 sec	1×10^{-5} essential
Runway threshold	1/100 sec	1×10^{-8} critical
Runway end (flight path alignment point)	1/100 sec	1×10^{-8} critical
Runway holding point	1/100 sec	1×10^{-8} critical
Taxiway centre line/parking guidance line points	1/100 sec	1×10^{-5} essential
Taxiway intersection marking line	1/100 sec	1×10^{-5} essential
Exit guidance line	1/100 sec	1×10^{-5} essential
Aircraft stand points/INS checkpoints	1/100 sec	1×10^{-3} routine
Geometric centre of TLOF or FATO threshold, heliport	1/100 sec	1×10^{-8} critical
Apron boundaries (polygon)	1/10 sec	1×10^{-3} routine
De-icing/anti-icing facility (polygon)	1/10 sec	1×10^{-3} routine

Table A-2 Elevation/ Altitude/Height

[Part A, Clauses 2(9) and (13), 6(3) and (9)]

Elevation/Altitude/Height	Publication Resolution	Integrity classification
Aerodrome/heliport elevation	1 m or 1 ft	1×10^{-5} essential
WGS-84 geoid undulation at aerodrome/heliport elevation position	1 m or 1 ft	1×10^{-5} essential
Runway or FATO threshold, non-precision approaches	1 m or 1 ft	1×10^{-5} essential
WGS-84 geoid undulation at runway or FATO threshold, TLOF geometric centre, non-precision approaches	1 m or 1 ft	1×10^{-5} essential
Runway or FATO threshold, precision approaches	0.1 m or 0.1 ft	1×10^{-8} critical
WGS-84 geoid undulation at runway or FATO threshold, TLOF geometric centre, precision approaches	0.1 m or 0.1 ft	1×10^{-8} critical
Threshold crossing height, precision approaches	0.1 m or 0.1 ft	1×10^{-8} critical
Obstacles in Area 2	1 m or 1 ft	1×10^{-5} essential
Obstacles in Area 3	0.1 m or 0.1 ft	1×10^{-5} essential
Obstacles in Area 1 (the entire State territory)	1 m or 1 ft	1×10^{-3} routine
Distance measuring equipment/precision (DME/P)	3 m (10 ft)	1×10^{-5} essential
Distance measuring equipment (DME)	30 m (100 ft)	1×10^{-5} essential
Minimum altitudes	50 m or 100 ft	1×10^{-3} routine

See the Appendix to Part H for graphical illustration of obstacle data collection surfaces and criteria used to identify obstacles in defined areas

Table A-3 Declination and Magnetic Variation

[Part A, Clauses 2(9) and (13) and 6(3)]

Declination/Variation	Accuracy data type	Integrity classification
VHF NAV AID station declination used for technical line-up	1 degree	1×10^{-5} essential
NDB NAV AID magnetic variation	1 degree	1×10^{-3} routine
Aerodrome/heliport magnetic variation	1 degree	1×10^{-5} essential
ILS localizer antenna magnetic variation	1 degree	1×10^{-5} essential
MLS azimuth antenna magnetic variation	1 degree	1×10^{-5} essential

Table A-4 Bearing

[Part A, Clauses 2(9) and (13) and 6(3)]

Bearing	Accuracy data type	Integrity classification
Airways segment	1 degree	1×10^{-3} routine
En route and terminal fix information	1/10 degree	1×10^{-3} routine
Terminal arrival/departure route segment	1 degree	1 x 10-3 routine

Bearing	Accuracy data type	Integrity classification
Instrument approach procedure fix formations	1/100 degree	1×10^{-5} essential
ILS localizer alignment (True)	1/100 degree	1×10^{-5} essential
MLS zero azimuth alignment (True)	1/100 degree	1×10^{-5} essential
Runway and FATO bearing (True)	1/100 degree	1×10^{-3} routine

Table A-5
Length, Distance and Dimension

Length/Distance/Dimension	Accuracy data type	Integrity classification
Airways segment length	1/10 km or 1/10 NM	1×10^{-3} routine
En-route fix formation distance	1/10 km or 1/10 NM	1×10^{-3} routine
Terminal arrival/departure route segment length	1/100 km or 1/100 NM	1×10^{-5} essential
Instrument approach procedure fix formation distance	1/100 km or 1/100 NM	1×10^{-5} essential
Runway and FATO length, TLOF dimensions	1 m or 1 ft	1×10^{-8} critical
Runway width	1 m or 1 ft	1×10^{-5} essential
Displaced threshold distance.	1 m or 1 ft	1×10^{-3} routine
Clearway length and width	1 m or 1 ft	1×10^{-5} essential
Stopway length and width	1 m or 1 ft	1×10^{-8} critical
Landing distance available	1 m or 1 ft	1×10^{-8} critical
Take-off run available	1 m or 1 ft	1×10^{-8} critical
Take-off distance available	1 m or 1 ft	1×10^{-8} critical
Accelerate-stop distance available	1 m or 1 ft	1×10^{-8} critical
Runway shoulder width	1 m or 1 ft	1×10^{-5} essential
Taxiway width	1 m or 1 ft	1×10^{-5} essential
Taxiway shoulder width	1 m or 1 ft	1×10^{-5} essential
ILS localizer antenna-runway end, distance	1 m or 1 ft	1×10^{-3} routine
ILS glide slope antenna-threshold, distance along centre line	1 m or 1 ft	1×10^{-3} routine
ILS marker-threshold distance	1 m or 1 ft	1×10^{-5} essential
ILS DME antenna-threshold, distance along centre line	1 m or 1 ft	1×10^{-5} essential
MLS azimuth antenna-runway end, distance	1 m or 1 ft	1×10^{-3} routine
MLS elevation antenna-threshold, distance along centre line	1 m or 1 ft	1×10^{-3} routine
MLS DME/P antenna-threshold, distance along centre line	1 m or 1 ft	1×10^{-5} essential

PART B

(Regulation 20)

AERONAUTICAL INFORMATION PUBLICATIONS (AIP)

The standards required to be met for AIP shall be as follows:

Contents

1. (1) an AIP shall contain, in three parts, sections and subsections uniformly referenced to allow for standardized electronic data storage and retrieval, current information relating to, and arranged under those subjects enumerated in the Appendix to this Part.

(2) Notwithstanding subclause (1), when the AIP, or volume of the AIP, is designed basically to facilitate operational use in flight, the precise format and arrangement may be left to the discretion of the Director General provided that an adequate table of contents is included.

(3) An AIP shall include in Part 1—General (GEN) the following:

(a) A statement of the competent authority responsible for the air navigation facilities, services or procedures covered by the AIP;

(b) The general conditions under which the services or facilities are available for international use;

(c) A list of significant differences between the regulations and practices of Trinidad And Tobago and the related ICAO Standards, Recommended Practices and Procedures, given in a form that would enable a user to readily differentiate between the requirements of the Authority and the related ICAO provisions; and

(d) The choice made by the Director General in each significant case where an Alternative course of action is provided for in ICAO Standards, Recommended Practices and Procedures.

(4) The following aeronautical charts shall, where available for designated international ICAO aerodromes and heliports, form part of the AIP, or be distributed separately to recipients of the AIP:

(a) Aerodrome and Heliport Chart—ICAO;

(b*)* Aerodrome Ground Movement Chart—ICAO;

(c) Aerodrome Obstacle Chart (Type A)—ICAO;

(d) Aerodrome Terrain and Obstacle Chart – ICAO (Electronic);

(e) Aircraft Parking and Docking Chart—ICAO;

(f) Area Chart—ICAO;

(g) ATC Surveillance Minimum Altitude Chart—ICAO;

(h) Instrument Approach Chart—ICAO;

(i) Precision Approach Terrain Chart—ICAO;

(j) Standard Arrival Chart—Instrument (STAR)—ICAO;

(k) Standard Departure Chart—Instrument (SID)—ICAO; and

(l) Visual Approach Chart—ICAO

(5) Charts, maps or diagrams shall be used, where appropriate, to complement or as a substitute for the tabulations or text of an AIP.

General specifications

2. (1) An AIP shall—

(a) be self-contained and include a table of contents; and

(b) not duplicate information within the AIP or from other sources.

(2) Where the Authority and another State combine to issue a joint AIP, this information shall be made clear on the cover and in the table of contents.

(3) All AIP shall be dated.

(4) Where an AIP is issued in loose-leaf form, each page shall contain the day, month and year, of the publication date or the effective date of the information.

(5) A checklist giving the current date of each page in the AIP series shall be reissued frequently to assist the user in maintaining a current publication.

(6) The page number, chart title and date of the checklist under subclause (4), shall appear on the checklist itself.

(7) An AIP issued as a bound volume and each page of an AIP issued in loose-leaf form shall be so annotated as to indicate clearly—

(a) the identity of the AIP;

(b) the territory covered and subdivisions when necessary;

(c) the identification of the issuing State and the authority;

(d) page numbers and chart titles; and

(e) the degree of reliability where the information is doubtful.

(8) All changes to the AIP, or new information on a reprinted page, shall be identified by a distinctive symbol or annotation.

(9) Operationally significant changes to the AIP shall be published in accordance with AIRAC procedures and shall be clearly identified by the acronym—AIRAC.

(10) AIP shall be amended or reissued at such regular intervals as may be necessary to keep the AIP up to date.

(11) Recourse to hand amendments or annotations shall be kept to the minimum.

(12) The normal method of amendment shall be by means of a replacement sheet.

(13) The regular interval referred to in subclause (10) shall be specified in the AIP,

Part 1—General (GEN).

Specifications for AIP Amendments

3. (1) Permanent changes to the AIP shall be published as AIP amendments.

(2) Each AIP amendment shall be allocated a consecutive serial number.

(3) Each AIP Amendment page, including the cover sheet, shall display a publication date.

(4) Each AIRAC AIP amendment page, including the cover sheet, shall display the date when the amendment becomes effective.

(5) When an AIP amendment is issued, the AIP amendment shall include references to the serial number of those elements, if any, of the Integrated Aeronautical Information Package which have been incorporated into the amendment.

(6) A brief indication of the subjects affected by the amendment shall be stated on the AIP amendment cover sheet.

(7) When an AIP amendment will not be published at the established interval or publication date, a NIL notification shall be originated and distributed by the monthly printed plain-language list of valid NOTAM required in subclause 2(14) of Part C of this Schedule.

Specifications for AIP Supplements

4. (1) Temporary changes of duration three months or longer and information of short duration which contains extensive text or graphics shall be published as AIP Supplements.

(2) Each AIP supplement shall be allocated consecutive serial numbers based on the calendar year.

(3) AIP supplement pages shall be kept in the AIP for as long as all or some of their contents remain valid.

(4) Where an AIP supplement is sent in replacement of a NOTAM, the AIP supplement shall include a reference to the serial number of the NOTAM.

(5) A checklist of valid AIP supplements shall be issued through the medium of the monthly printed plain-language list of valid NOTAM required in subclause 2(14) of Part C of this Schedule.

Distribution

5. AIP amendments and AIP supplements shall be made available by the Authority by the most expeditious means.

APPENDIX

(Schedule2, Part B)

CONTENTS OF AERONAUTICAL INFORMATION PUBLICATION (AIP)

Note: This Appendix provides for structure in which an AIP is to be formatted

PART 1

GENERAL (GEN)

Where an AIP is produced and made available in more than one volume with each having a separate amendment and supplement service, a separate preface, record of AIP amendments, record of AIP supplements, checklist of AIP pages and list of current hand amendments must be included in each volume.

GEN 0.1—Preface

Brief description of the AIP, including the—

(a) name of the publishing authority;

(b) applicable ICAO documents;

(c) AIP structure and established regular amendment interval; and

(d) service to contact in case of detected AIP errors or omissions.

GEN 0.2—Record of AIP Amendments

A record of AIP amendments and AIRAC AIP amendments published in accordance with the AIRAC system containing the—

(a) amendment number;.

(b) publication date;

(c) date inserted for AIP amendments and effective date for AIRAC AIP amendments; and

(d) initials of officer who inserted the amendment.

GEN 0.3—Record of AIP Supplements

A record of issued AIP Supplements containing the—

(a) supplement number;

(b) supplement subject;

(c) AIP section affected;

(d) period of validity; and

(e) cancellation record.

GEN 0.4—Checklist of AIP pages

A checklist of AIP pages containing the—

(a) page number and chart title; and

(b) publication or effective date of the aeronautical information expressed as day, month by name and year.

GEN 0.5—List of hand amendments to the AIP

A list of current hand amendments to the AIP containing the—

(a) AIP page affected;

(b) amendment text; and

(c) AIP amendment number by which a hand amendment was introduced.

GEN 0.6—Table of contents to Part 1

A list of all sections and subsections of the subjects enumerated in Part 1—General (GEN).

GEN 1.—NATIONAL REGULATIONS AND REQUIREMENTS

GEN 1.1—Designated authorities

The addresses of authorities designated by the Government of Trinidad and Tobago concerned with the facilitation of international air navigation such as civil aviation, meteorology, customs, immigration, health, en route and aerodrome/heliport charges, agricultural quarantine and aircraft accident investigation and containing, for each authority the—

(a) designated authority;

(b) name of the authority;

(c) postal address;

(d) telephone number;

(e) telefax number;

(f) telex number; and

(g) AFS address.

GEN 1.2—Entry, transit and departure of aircraft

Regulations and requirements for advance notification and applications for permission concerning entry, transit and departure of aircraft on international flights.

GEN 1.3—Entry, transit and departure of passengers and crew

Regulations including customs, immigration and quarantine, and requirements for advance notification and applications for permission and concerning entry, transit and departure of non-immigrant passengers and crew.

GEN 1.4—Entry, transit and departure of cargo

Regulations including customs and requirements for advance notification and applications for permission and concerning entry, transit and departure of cargo.

Note: Provisions for facilitating entry and departure for search, rescue, salvage, investigation, repair or salvage in connection with lost or damaged aircraft are detailed in GEN 3.6, search and rescue.

GEN 1.5—Aircraft instruments, equipment and flight documents

A brief description of aircraft instruments, equipment and flight documents, including the aircraft communication, navigation and surveillance equipment to be carried on aircraft and any special requirement in addition to the requirements specified in the Civil Aviation [(No. 7) Instrument and Equipment] Regulations, 2004.

GEN 1.6—Summary of national regulations and international agreements and conventions

A list of titles and references and, where applicable, summaries of national regulations affecting air navigation, together with a list of international agreements and conventions ratified by Trinidad and Tobago.

GEN 1.7—Differences from ICAO Standards, Recommended Practices and Procedures

A list of significant differences between any written law and practices in Trinidad and Tobago and related ICAO provisions must be listed under this subsection, including the:

(a) provision affected (Annex and edition number, paragraph);

(b) difference in full text.;

(c) all Annexes in numerical order even if there is no difference to an Annex, in which case a NIL notification shall be provided; and

(d) the degree of non-application of the regional supplementary procedures that shall be notified immediately following the Annex to which the supplementary procedure relates.

GEN 2.—TABLES AND CODES

GEN 2.1—Measuring system, aircraft markings and holidays

GEN 2.1.1—Units of measurement

A description of units of measurement used including table of units of measurement.

GEN 2.1.2—Temporal reference system

A description of the temporal reference system employed, together with an indication of whether or not daylight saving hours are employed and how the temporal reference system is presented throughout the AIP.

GEN 2.1.3—Horizontal reference system

A brief description of the horizontal reference system used, including:

(a) the name and designation of the reference system;

(b) the identification of the projection;

(c) the identification of the ellipsoid used;

(d) the identification of the datum used

(e) the area of application; and

(f) an explanation, where applicable, of the asterisk used to identify those coordinates that do not meet the accuracy requirements of Schedule 1 and Annex 14.

GEN 2.1.4—Vertical reference system

A brief description of the vertical reference system used, including the:

(a) name and designation of the reference system;

(b) description of the geoid model used including the parameters required for height transformation between the model used and EGM-96; and

(c) an explanation, where applicable, of the asterisk used to identify those elevations and geoid undulations that do not meet the accuracy requirements of Annex 14.

GEN 2.1.5—Aircraft nationality and registration marks

An indication of aircraft nationality and registration as specified in Civil Aviation [(No. 4) Registration and Markings] Regulations, 2004.

GEN 2.1.6—Public holidays

A list of public holidays indicating the services being affected.

GEN 2.2—Abbreviations used in AIS publications

A list of alphabetically arranged abbreviations and their respective significations used by the Authority in its AIP and in the distribution of aeronautical information and data with appropriate annotation for those national abbreviations that are different from those contained in the ICAO Procedures for Air Navigation Services Doc 8400.

Note: A list of alphabetically arranged definitions or glossary of terms may also be added.

GEN 2.3—Chart symbols

A list of chart symbols arranged according to the chart series where symbols are applied.

GEN 2.4—Location indicators

A list of alphabetically arranged location indicators assigned to the locations of AFS to be used for encoding and decoding purposes with an annotation to locations not connected to the AFS where applicable.

GEN 2.5—List of radio navigation aids

A list of radio navigation aids arranged alphabetically, containing:

(a) the identifier;

(b) the name of the station;

(c) the type of facility or aid; and

(d) the indication whether aid serves en route, aerodrome or dual purposes represented by the letters EA and AE respectively.

GEN 2.6—Conversion tables

Tables for conversion between:

(a) nautical miles and kilometres and *vice versa*;

(b) feet and metres and *vice versa*;

(c) decimal minutes of arc and seconds of arc and *vice versa*; and

(d) other conversion tables, as appropriate.

GEN 2.7—Sunrise and sunset tables

A brief description of criteria used for determination of the times given in the sunrise and sunset tables, together with an alphabetical list of locations for which the times are given with a reference to the related page in the table and the sunrise and sunset tables for the selected stations or locations, including the:

(a) station name;

(b) ICAO location indicator;

(c) geographical coordinates in degrees and minutes;

(d) date for which times are given;

(e) time for the beginning of morning civil twilight;

(f) time for sunrise;

(g) time for sunset; and

(h) time for the end of evening civil twilight.

GEN 3—SERVICES

GEN 3.1—Aeronautical information services

GEN 3.1.1—Responsible service

A description of the AIS provided and its major components, including—

(a) the service and unit name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) the telex number;

(f) the AFS address;

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed; and

(h) an indication if service is not H24.

GEN 3.1.2—Area of responsibility

The area of responsibility for the aeronautical information service.

GEN 3.1.3—Aeronautical publications

A description of the elements of the Integrated Aeronautical Information Package, including:

(a) AIP and related amendment service;

(b) AIP Supplements;

(c) AIC including whether used to publish publication prices;

(d) NOTAM and PIB;

(e) checklists and lists of valid NOTAM; and

(f) how each element may be obtained.

GEN 3.1.4—AIRAC system

A brief description of the AIRAC system provided including a table of present and near future AIRAC dates.

GEN 3.1.5 Pre-flight information service at aerodromes and heliports

A list of aerodromes and heliports at which pre-flight information is routinely available, including an indication of the relevant:

(a) elements of the Integrated Aeronautical Information Packages held;

(b) maps and charts held; and

(c) general area of coverage of such data.

GEN 3.1.6 —Electronic terrain and obstacle data

Details of how electronic terrain and obstacle data may be obtained, containing the:

(a) name of the individual, service or organization responsible;

(b) street address and e-mail address of the individual, service or organization responsible;

(c) telefax number of the individual, service or organization responsible;

(d) telephone number of the individual, service or organization responsible;

(e) hours of service represented in time period including time zone when contact can be made;

(f) online information that can be used to contact the individual, service or organizatioAnd

(g) supplemental information, where necessary, on how and when to contact the individual, service or organization.

GEN 3.2—Aeronautical charts

GEN 3.2.1—Responsible service

A description of service responsible for the production of aeronautical charts, including—

(a) the service name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) telex number;

(f) the AFS address;

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed; and

(h) an indication if service is not H24.

GEN 3.2.2—Maintenance of charts

A brief description of how aeronautical charts are revised and amended.

GEN 3.2.3—Purchase arrangements

Details of how charts may be obtained containing the—

(a) service and sales agency;

(b) postal address;

(c) telephone number;

(d) telefax number;

(e) telex number; and

(f) AFS address.

GEN 3.2.4—Aeronautical chart series available

A list of aeronautical chart series available followed by a general description of each series and an indication of the intended use.

GEN 3.2.5—List of aeronautical charts available

A list of aeronautical charts available, including the—

(a) title of series;

(b) scale of series;

(c) name and number of each chart or each sheet in a series;

(d) price per sheet; and

(e) date of latest revision.

GEN 3.2.6—Index to the WAC-ICAO 1:1000 000

An index chart showing coverage and sheet layout for the WAC 1:1000 000 produced by the Authority where Aeronautical Chart—ICAO 1:500 000 is produced instead of WAC 1:1000 000, index charts must be used to indicate coverage and sheet layout for the Aeronautical Chart—ICAO 1:500 000.

GEN 3.2.7—Topographical charts

Details of how topographical charts may be obtained, containing the—

(a) name of service and agency;

(b) postal address;

(c) telephone number;

(d) telefax number;

(e) telex number; and

(f) AFS address.

GEN 3.2.8—Corrections to charts not contained in the AIP

A list of corrections to aeronautical charts not contained in the AIP, or an indication where the information can be obtained.

GEN 3.3—Air traffic services

GEN 3.3.1—Responsible service

A description of the ATS and its major components, including—

(a) the service name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) the telex number;

(f) the AFS address;

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed; and

(h) an indication if service is not H24.

GEN 3.3.2—Area of Responsibility

A brief description of area of responsibility for which ATS are provided.

GEN 3.3.3—Types of services

A brief description of main types of ATS provided.

GEN 3.3.4—Coordination between an operator and ATS

General conditions under which coordination between an operator and ATS is effected.

GEN 3.3.5—Minimum flight altitude

The criteria used to determine minimum flight altitudes.

GEN 3.3.6—ATS units address list

A list of ATS units and the units addresses arranged alphabetically, containing the—

(a) unit name;

(b) postal address;

(c) telephone number;

(d) telefax number;

(e) telex number; and

(f) AFS address.

GEN 3.4—Communication services

GEN 3.4.1—Responsible service

A description of the service responsible for the provision of telecommunication and navigation facilities, including—

(a) the service name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) the telex number;

(f) the AFS address;

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed; and

(h) an indication if service is not H24.

GEN 3.4.2—Area of responsibility

A brief description of area of responsibility for which telecommunication service is provided.

GEN 3.4.3—Types of service

A brief description of the main types of service and facilities provided, including—

(a) the radio navigation services;

(b) voice or data link services;

(c) the broadcasting service;

(d) the language used; and

(e) an indication of where detailed information can be obtained.

GEN 3.4.4—Requirements and conditions

A brief description concerning the requirements and conditions under which the communication service is available.

GEN 3.5—Meteorological services

GEN 3.5.1—Responsible service

A brief description of the meteorological service responsible for the provision of meteorological information, including—

(a) the service name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) the telex number;

(f) the AFS address;

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed; and

(h) an indication if service is not H24.

GEN 3.5.2—Area of responsibility

A brief description of the area and air routes for which meteorological service is provided.

GEN 3.5.3—Meteorological observations and reports

A detailed description of the meteorological observations and reports provided for international air navigation, including the—

(a) name of the station and the ICAO location indicator;

(b) type and frequency of observation including an indication of automatic observing equipment;

(c) types of meteorological reports such as METAR and availability of a trend forecast;

(d) specific type of observation system and number of observation sites used to observe and report surface wind, visibility, runway visual range, cloud base, temperature and where applicable, wind shear measured by an anemometer at intersection of runways and transmissometer next to touchdown zone.

(e) hours of operation; and

(f) indication of aeronautical climatological information available.

GEN 3.5.4—Types of services

Brief description of the main types of service provided, including details of briefing, consultation, display of meteorological information, flight documentation available for operators and flight crew members, and of the methods and means used for supplying the meteorological information.

GEN 3.5.5—Notification required from operators

Minimum amount of advance notice required by the unit responsible for meteorological services from operators in respect of briefing, consultation and flight documentation and other meteorological information they require or change.

GEN 3.5.6—Aircraft reports

As necessary, requirements of the unit responsible for meteorological services for the making and transmission of aircraft reports.

GEN 3.5.7—VOLMET service

Description of VOLMET or VOLMET service, including the—

(a) name of transmitting station;

(b) call sign or identification and abbreviation for the radio communication emission;

(c) frequency or frequencies used for broadcast;

(d) broadcasting period;

(e) hours of service;

(f) list of aerodromes and heliports for which reports and forecasts are included; and

(g) reports, forecasts and SIGMET information included and remarks.

GEN 3.5.8—SIGMET and AIRMET service

Description of the meteorological watch provided within flight information regions or control areas for which ATS are provided, including a list of the meteorological watch offices with the—

(a) name of the meteorological watch office, ICAO location indicator;

(b) hours of service;

(c) flight information region or control area served;

(d) SIGMET validity periods;

(e) specific procedures applied to SIGMET information such as for volcanic ash and tropical cyclones;

(f) procedures applied to AIRMET information in accordance with relevant regional air navigation agreements;

(g) ATS unit provided with SIGMET and AIRMET information; and

(h) additional information such as limitation of service.

GEN 3.5.9—Other automated meteorological services

Description of available automated services for the provision of meteorological information such as automated pre-flight information service accessible by telephone and computer modem including the—

(a) service name;

(b) information available;

(c) areas, routes and aerodromes covered; and

(d) telephone, telex and telefax numbers.

GEN 3.6—Search and rescue

GEN 3.6.1—Responsible service

Brief description of service responsible for the provision of SAR, including—

(a) the service and unit name;

(b) the postal address;

(c) the telephone number;

(d) the telefax number;

(e) the telex number;

(f) the AFS address; and

(g) a statement concerning the ICAO documents on which the service is based and a reference to the AIP location where differences, if any, are listed.

GEN 3.6.2—Area of responsibility

A brief description of area of responsibility within which SAR services are provided.

GEN 3.6.3—Types of service

A brief description and geographical portrayal, where appropriate, of the type of service and facilities provided including indications where SAR aerial coverage is dependent upon significant deployment of aircraft.

GEN 3.6.4—SAR agreements

A brief description of SAR agreements in force, including provisions for facilitating entry and departure of other States' aircraft for search, rescue, salvage, repair or salvage in connection with lost or damaged aircraft, either with airborne notification only or after flight plan notification.

GEN 3.6.5—Conditions of availability

A brief description of provisions for search and rescue, including the general conditions under which the service and facilities are available for international use, including an indication of whether a facility available for search and rescue is specialized in SAR techniques and functions, or is specially used for other purposes but adapted for SAR purposes by training and equipment, or is only occasionally available and has no particular training or preparation for SAR work.

GEN 3.6.6—Procedures and signals used

A brief description of the procedures and signals employed by rescue aircraft and a table showing the signals to be used by survivors.

GEN 4.—CHARGES FOR AERODROMES, HELIPORTS AND AIR NAVIGATION SERVICES

Reference may be made to where details of actual charges may be found, if not itemized in this chapter.

GEN 4.1—Aerodrome and heliport charges

Brief description of type of charges which may be applicable at aerodromes and heliports available for international use, including—

(a) the landing of aircraft;

(b) the parking, hangarage and long-term storage of aircraft;

(c) the passenger service;

(d) the security;

(e) the noise-related items;

(f) other information such as, customs, health and immigration;

(g) the exemptions and reductions; and

(h) methods of payment.

GEN 4.2—Air navigation services charges

A brief description of charges which may be applicable to air navigation services provided for international use, including the:

(a) approach control;

(b) route air navigation services;

(c) cost basis for air navigation services and exemptions and reductions; and

(d) methods of payment.

PART 2—EN ROUTE(ENR)

Where an AIP is produced and made available in more than one volume with each having a separate amendment and supplement service, a separate preface, record of AIP Amendments, record of AIP Supplements, checklist of AIP pages and list of current hand amendments must be included in each volume. In the case of an AIP being published as one volume, the annotation "not applicable" must be entered against each of the above subsections.

Reference must be made in the appropriate subsection to indicate that differences between national regulations and ICAO SARPs and procedures exist and that they are detailed in GEN 1.7.

ENR 0.6—Table of contents to Part 2

A list of sections and subsections contained in Part 2—En route.

Note: Subsections may be listed alphabetically.

ENR 1. GENERAL RULES AND PROCEDURES

ENR 1.1—General rules

Publication of the general rules as applied within the Piarco Flight Information Region.

ENR 1.2—Visual flight rules

Publication of the VFR as applied within the Piarco Flight Information Region.

ENR 1.3—Instrument flight rules

Publication of the instrument flight rules as applied within the Piarco Flight Information Region.

ENR 1.4—ATS airspace classification

The description of ATS airspace classes, in the form of the ATS airspace classification table set out in Appendix 4 of Schedule 1, and appropriately annotated to indicate those airspace classes not used by the Piarco Flight Information Region.

ENR 1.5 Holding, approach and departure procedures

ENR 1.5.1—General

A statement setting out the criteria on which holding, approach and departure procedures are established. Where the format is different from the ICAO requirements the presentation of criteria should be in a tabular form.

ENR 1.5.2—Arriving flights

Presentation of conventional or area navigation procedures for arriving flights which are common to flights into or within the same type of airspace. Where different procedures apply within a terminal airspace, a note to this effect must be given together with a reference to where the specific procedures can be found.

ENR 1.5.3—Departing flights

Presentation of conventional or area navigation procedures for departing flights which are common to flights departing from any aerodrome or heliport.

ENR 1.6—ATS surveillance services and procedures

ENR 1.6.1—Primary radar

A description of primary radar services and procedures, including the—

(a) supplementary services;

(b) the application of radar control service;

(c) radar and air-ground communication failure procedures;

(d) voice and CPDLC position reporting requirements; and

(e) graphic portrayal of area of radar coverage.

ENR 1.6.2—Secondary surveillance radar

A description of SSR operating procedures, including—

(a) emergency procedures;

(b) air-ground communication failure and unlawful interference procedures;

(c) the system of SSR code assignment;

(d) voice and CPDLC position reporting requirements; and

(e) graphic portrayal of area of SSR coverage.

Note: The SSR description is of particular importance in areas or routes where the possibility of interception exists.

ENR 1.6.3 Automatic dependent surveillance broadcast (ADS-B)

Description of Automatic dependent surveillance – broadcast (ADS-B) operating procedures, including -

(a) emergency procedures;

(b) air-ground communication failure and unlawful interference procedures;

(c) aircraft identification requirements;

(d) voice and CPDLC position reporting requirements; and

(e) graphic portrayal of area of ADS-B coverage.

Note: The ADS-B description is of particular importance in areas or routes where the possibility of interception exists.

ENR 1.7—Altimeter setting procedures

A statement of altimeter setting procedures in use, containing—

(a) brief introduction with a statement concerning the ICAO documents on which the procedures are based together with differences to ICAO provisions, if any;

(b) basic altimeter setting procedures;

(c) description of altimeter setting region;

(d) procedures applicable to operators including pilots; and

(e) table of cruising levels.

ENR 1.8—Regional supplementary procedures

Presentation of SUPPS affecting the entire area of responsibility, with properly annotated national differences, if any.

ENR 1.9—Air traffic flow management

A brief description of ATFM system, including the—

(a) ATFM structure, service area, service provided, location of unit and hours of operation;

(b) types of flow messages and descriptions of the formats; and

(c) procedures applicable for departing flights, containing the—

(i) service responsible for provision of information on applied ATFM measures;

(ii) flight plan requirements; and

(iii) slot allocations.

ENR 1.10—Flight planning

An indication of any restriction, limitation or advisory information related to the flight planning stage which may assist the user in the presentation of the intended flight operation, including the—

(a) procedures for the submission of a flight plan;

(b) repetitive flight plan system; and

(c) changes to the submitted flight plan.

ENR 1.11—Addressing of flight plan messages

An indication, in tabular form, of the addresses allocated to flight plans, showing the—

(a) category of flight such as IFR, VFR;

(b) route into or through the FIR or TMA; and

(c) message address.

ENR 1.12—Interception of civil aircraft

A complete statement of interception procedures and visual signals to be used with a clear indication of whether ICAO provisions are applied and if not, a complete presentation of differences.

ENR 1.13—Unlawful interference

A presentation of appropriate procedures to be applied in case of unlawful interference.

ENR 1.14—Air traffic incidents

A description of air traffic incidents reporting system, including the:

(a) definition of air traffic incidents;

(b) use of the Air Traffic Incident Reporting Form;

(c) reporting procedures including in-flight reporting procedures; and

(d) purpose for reporting and handling of the form.

ENR 2.—AIR TRAFFIC SERVICES AIRSPACE

ENR 2.1—FIR, UIR, TMA

A detailed description of flight information regions, upper flight information regions, and terminal control areas, including the:

(a) name, geographical coordinates in degrees and minutes of the FIR or UIR lateral limits and in degrees, minutes and seconds of the TMA lateral limits, vertical limits and class of airspace;

(b) identification of unit providing the service;

(c) call sign of aeronautical station serving the unit and the language used, specifying the area and conditions, when and where to be used, if applicable;

(d) frequencies supplemented by indications for specific purposes; and

(e) remarks.

Control zones around military air bases not otherwise described in the AIP must be included under this heading.

Where the requirements of Civil Aviation [(No. 2) Operations] Regulations, 2004, concerning flight plans, two-way communications and position reporting apply to all flights in order to eliminate or reduce the need for interceptions or where the possibility of interception exists and the maintenance of guard on the VHF emergency channel 121.5 MHz is required, a statement to this effect must be included for the relevant area or portion.

A description of designated areas over which the carriage of an ELT is required and where aircraft shall continuously guard the VHF emergency frequency 121.5 MHz, except for those periods when aircraft are carrying out communications on other VHF channels or when airborne equipment limitations or cockpit duties do not permit simultaneous guarding of two channels.

Note: Other types of airspace around civil aerodromes and heliports such as control zones and aerodrome traffic zones are described in the relevant aerodrome or heliport section.

ENR 2.2—Other regulated airspace

Where established, a detailed description of other types of regulated airspace and airspace classification.

ENR 3.—ATS ROUTES

Note 1: Bearings, tracks and radials are normally magnetic. In areas of high latitude, where it is determined by the appropriate authority that reference to Magnetic North is impractical, another suitable reference, such as True North or Grid North, may be used.

Note 2: Change over points established at the midpoint between two radio navigation aids, or at the intersection of the two radials in the case of a route which changes direction between the navigation aids, need not be shown for each route segment if a general statement regarding their existence is made.

ENR 3.1—Lower ATS routes

Detailed description of lower ATS routes, including the—

(a) route designator, RNP type applicable to a specified segment, name, coded designator or name-code and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including "compulsory" or "on- request" reporting points;

(b) tracks or VOR radials to the nearest degree, geodetic distance to the nearest tenth of a kilometre or tenth of a nautical mile between each successive designated significant point and, in the case of VOR radials, changeover points;

(c) upper and lower limits or minimum *en route* altitudes, to the nearest higher fifty metres or one hundred feet and airspace classification;

(d) lateral limits and minimum obstacle clearance altitudes;

(e) direction of cruising levels; and

(f) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address.

Note: In relation to Appendix 1 of Schedule 1 and for flight planning purposes, the specified RNP type is not considered to be an integral part of the route designator.

ENR 3.2—Upper ATS routes

A detailed description of upper ATS routes, including the—

(a) route designator, RNP type applicable to a specified segment, name, coded designator or name-code and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including "compulsory" or "on-request" reporting points;

(b) track or VOR radial to the nearest degree, geodetic distance to the nearest tenth of a kilometre or tenth of a nautical mile between each successive designated significant point and, in the case of VOR radials, changeover points;

(c) upper and lower limits and airspace classification;

(d) lateral limits;

(e) direction of cruising levels; and

(f) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its log on address

Note: In relation to Appendix 1 of Schedule 1 and for flight planning purposes, the specified RNP type is not considered to be an integral part of the route designator.

ENR 3.3—Area navigation routes

A detailed description of area navigation routes, including the—

(1) route designator, RNP type applicable to a specified segment, name, coded designator or name-code and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including compulsory or on-request reporting points;

(2) in respect of waypoints defining a VOR or DME area navigation route, including the:

(a) station identification of the reference VOR or DME;

(b) bearing to the nearest degree and the distance to the nearest tenth of a kilometre or tenth of a nautical mile from the reference VOR or DME, if the waypoint is not collocated with it; and

(c) elevation of the transmitting antenna of DME to the nearest thirty metres or one hundred feet;

(3) geodetic distance to the nearest tenth of a kilometre or tenth of a nautical mile between defined end-points and distance between each successive designated significant point;

(4) upper and lower limits and airspace classification;

(5) direction of cruising levels; and

(6) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address.

Note: In relation to Appendix 1 of Schedule 1 and for flight planning purposes, the specified RNP type is not considered to be an integral part of the route designator.

ENR 3.4—Helicopter routes

A detailed description of helicopter routes, including the—

(1) route designator, RNP type applicable to a specified segment, name, coded designator or name-code and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including compulsory or on-request reporting points;

(2) tracks or VOR radials to the nearest degree, geodetic distance to the nearest tenth of a kilometre or tenth of a nautical mile between each successive designated significant point and, in the case of VOR radials, changeover points;

(3) upper and lower limits and airspace classification;

(4) minimum flight altitudes to the nearest higher 50 metres or 100 feet; and

(5) remarks, including an indication of the controlling unit and its operating frequency.

Note: In relation to Appendix 1 of Schedule 1 and for flight planning purposes, the specified RNP type is not considered to be an integral part of the route designator.

ENR 3.5—Other routes

A description of other specifically designated routes which are compulsory within specified area.

Note: Arrival, transit and departure routes which are specified in connection with procedures for traffic to and from aerodromes and heliports need not be described since they are described in the relevant section of Part 3 of the AIP—Aerodromes.

ENR 3.6—En route holding

A detailed description of en route holding procedures, containing the—

(1) holding identification where applicable and holding fix (navigation aid) or waypoint with geographical coordinates in degrees, minutes and seconds;

(2) inbound track;

(3) direction of the procedure turn;

(4) maximum indicated airspeed;

(5) minimum and maximum holding level;

(6) time and distance outbound; and

(7) indication of the controlling unit and its operating frequency.

Note: Obstacle clearance criteria related to holding procedures are contained in ICAO Doc 8168 "Procedures for Air Navigation Services—Aircraft Operations PANS-OPS", Volumes I and II.

ENR 4.—RADIO NAVIGATION AIDS AND SYSTEMS

ENR 4.1—Radio navigation aids—en route

A list of stations providing radio navigation services established for en route purposes and arranged alphabetically by name of the station, including:

(1) the name of the station and magnetic variation to the nearest degree and for VOR, station declination to the nearest degree used for technical line-up of the aid;

(2) the identification code;

(3) the frequency and channel for each element;

(4) the hours of operation;

(5) the geographical coordinates in degrees, minutes and seconds of the position of the transmitting antenna;

(6) the elevation of the transmitting antenna of DME to the nearest 30 metres or 100 feet; And

(7) remarks.

Where the operating authority of the facility is not the Authority, the name of the operating authority and facility coverage must be indicated in the remarks column.

ENR 4.2—Special navigation systems

A description of stations associated with special navigation systems such as DECCA and LORAN, including—

(1) the name of station or chain;

(2) the type of service available such as master signal, slave signal and colour;

(3) the frequency of operations together with the channel number, basic pulse rate, recurrence rate, as applicable;

(4) the hours of operation;

(5) the geographical coordinates in degrees, minutes and seconds of the position of the transmitting station; and

(6) remarks.

Where the operating authority of the facility is not the Authority, the name of the operating authority and facility coverage must be indicated in the remarks column.

ENR 4.3—Global navigation satellite system

A list and description of elements of the global navigation satellite system providing the navigation service established for en route purposes and arranged alphabetically by name of the element, including—

(1) the name of the GNSS element such as GPS, GLONASS, EGNOS, MSAS and WAAS;

(2) the frequency, as appropriate;

(3) the geographical coordinates in degrees, minutes and seconds of the nominal service area and coverage area; and

(4) remarks.

Where the operating authority of the facility is not the Authority, the name of the operating authority must be indicated in the remarks column.

ENR 4.4—Name-code designators for significant points

An alphabetically arranged list of five-letter pronounceable name-code designators established for significant points at positions other than the site of radio navigation aids, including the—

(1) name-code designator;

(2) geographical coordinates in degrees, minutes and seconds of the position; and

(3) reference to ATS or other routes where the point is located.

ENR 4.5—Aeronautical ground lights—en route

A list of aeronautical ground lights and other light beacons designating geographical positions which are selected by the Authority as being significant, including the—

(1) name of the city or town or other identification of the beacon;

(2) type of beacon and intensity of the light in thousands of candelas;

(3) characteristics of the signal;

(4) operational hours; and

(5) remarks.

ENR 5.—NAVIGATION WARNINGS

ENR 5.1—Prohibited, restricted and danger areas

A description, supplemented by graphic portrayal where appropriate, of prohibited, restricted and danger areas together with information regarding their establishment and activation, including—

(1) the identification, name and geographical coordinates of the lateral limits in degrees, minutes and seconds if inside and in degrees and minutes if outside control area or control zone boundaries;

(2) the upper and lower limits; and

(3) remarks, including time of activity.

Type of restriction or nature of hazard, risk of interception in the event of penetration and time of activity must be indicated in the remarks column.

ENR 5.2—Military exercise and training areas and air defence identification zone

A description, supplemented by graphic portrayal where appropriate, of established military training areas and military exercises taking place at regular intervals, and established air defence identification zone ADIZ, including—

(1) the geographical coordinates of the lateral limits in degrees, minutes and seconds if inside and in degrees and minutes if outside control area or control zone boundaries;

(2) the upper and lower limits and system and means of activation announcements together with information pertinent to civil flights and applicable ADIZ procedures; and

(3) remarks.

Time of activity and risk of interception in the event of penetration of ADIZ must be indicated in the remarks section.

ENR 5.3—Other activities of a dangerous nature and other potential hazards

ENR 5.3.1—Other activities of a dangerous nature

A description, supplemented by charts where appropriate, of activities that could affect flights including the—

(1) the geographical coordinates in degrees and minutes of centre of area and range of influence;

(2) the vertical limits of activities of a dangerous nature;

(3) the advisory measures;

(4) the authority responsible for the provision of information; and

(5) remarks, including time of activity.

ENR 5.3.2—Other potential hazards

A description, supplemented by charts where appropriate, of other potential hazards such as active volcanoes, nuclear power stations that could affect flights, including—

(a) the geographical coordinates in degrees and minutes of location of potential hazard;

(b) the vertical limits of the potential hazards;

(c) any advisory measures;

(d) the authority responsible for the provision of information; and

(e) remarks.

ENR 5.4—Air navigation obstacles

The list of obstacles affecting air navigation in Area 1, including the—

(a) obstacle identification or designation;

(b) type of obstacle;

(c) obstacle position, represented by geographical coordinates in degrees, minutes and seconds;

(d) obstacle elevation and height to the nearest metre or foot;

(e) type and colour of obstacle lighting where applicable; and

(f) if appropriate, an indication that the list of obstacles is available in electronic form, and a reference to GEN 3.1.6.

Note 1: An obstacle whose height above the ground is one hundred metres and higher is considered an obstacle for Area 1.

Note 2: Specifications governing the determination and reporting (accuracy of field work and data integrity) of positions (latitude and longitude) and elevations/heights for obstacles in Area 1 are given in Tables 1 and 2 of Appendix 5 of Schedule 1.

ENR 5.5—Aerial sporting and recreational activities

A brief description, supplemented by graphic portrayal where appropriate, of intensive aerial sporting and recreational activities together with conditions under which they are carried out, including—

(a) the designation and geographical coordinates of the lateral limits in degrees, minutes and seconds if inside and in degrees and minutes if outside control area or control zone boundaries;

(b) the vertical limits of the aerial, sporting and recreational activities;

(c) the operator or user telephone number; and

(d) remarks.

Note 1: The time of activity must be indicated in the remarks section.

Note 2: This paragraph may be subdivided into different sections for each different category of activity, giving the indicated details in each case.

ENR 5.6—Bird migration and areas with sensitive fauna

A description, supplemented by charts where practicable, of movements of birds associated with migration, including migration routes and permanent resting areas and areas with sensitive fauna.

ENR 6.—EN ROUTE CHARTS

En route Chart—ICAO and index charts to be included in this section.

PART 3—AERODROMES (AD)

Where an AIP is produced and made available in more than one volume with each having a separate amendment and supplement service, a separate preface, record of AIP Amendments, record of AIP Supplements, checklist of AIP pages and list of current hand amendments must be included in each volume. In the case of an AIP being published as one volume, the annotation "not applicable" must be entered against each of the above subsections.

AD 0.6—Table of contents to Part 3

A list of sections and subsections contained in Part 3—Aerodromes.

AD 1.— AERODROMES AND HELIPORTS

INTRODUCTION

AD 1.1—Availability of Aerodrome and heliport

A brief description of the authority responsible for aerodromes and heliports, including—

(a) the general conditions under which aerodromes and heliports and associated facilities are available for use;

(b) a statement concerning the ICAO documents on which the services are based and a reference to the AIP location where differences, if any, are listed;

(c) regulations, if any, concerning civil use of military air bases;

(d) the general conditions under which the low visibility procedures applicable to Category II and Category III operations at aerodromes, if any, are applied;

(e) friction measuring device used and the runway friction level below which the Director General will declare the runway to be slippery when wet; and

(f) other information of a similar nature.

AD 1.2—Rescue and firefighting services and snow plan

AD 1.2.1—Rescue and firefighting services

A brief description of rules governing the establishment of rescue and firefighting services at aerodromes and heliports available for public use together with an indication of rescue and fire-fighting categories established by the aredrome authority.

AD 1.3—Index to aerodromes and heliports

A list, supplemented by graphic portrayal, of aerodromes and heliports within Trinidad and Tobago, including the—

(a) aerodrome or heliport name and ICAO location indicator;

(b) type of traffic permitted to use the aerodrome or heliport such as international or national, IFR or VFR, scheduled or non-scheduled and private; and

(c) reference to AIP, Part 3 subsection in which the aerodrome and heliport details are presented.

AD 1.4—Grouping of aerodromes and heliports

A brief description of the criteria applied by the Authority in grouping aerodromes and heliports such as international or national; primary or secondary, major or other and civil or military for the purpose of the production, distribution and provision of information.

AD 2.—AERODROMES

In this Part the four asterisk "****" appearing at each heading is to be replaced by the relevant ICAO location indicator.

**** *AD 2.1—Aerodrome location indicator and name*

The ICAO location indicator allocated to the aerodrome and the name of aerodrome must be provided. An ICAO location indicator must be an integral part of the referencing system applicable to all subsections in section AD 2.

***** AD 2.2—Aerodrome geographical and administrative data*

Aerodrome geographical and administrative data including—

(a) the aerodrome reference point represented by geographical coordinates in degrees, minutes and seconds and its site;

(b) the direction and distance of aerodrome reference point from centre of the city or town which the aerodrome serves;

(c) the aerodrome elevation to the nearest metre or foot, and reference temperature;

(d) the geoid undulation at the aerodrome elevation position to the nearest metre or foot;

(e) the magnetic variation to the nearest degree, date of information and annual change;

(f) the name of aerodrome administration, address, telephone, telefax and telex numbers and AFS address;

(g) the types of traffic permitted to use the aerodrome such as IFRNVFR; and

(h) remarks.

***** AD 2.3—Operational hours*

A detailed description of the hours of operation of services at the aerodrome, such as—

(a) aerodrome administration;

(b) customs and immigration;

(c) health and sanitation;

(d) AIS briefing office;

(e) ATS reporting office;

(f) MET briefing office;

(g) air traffic service;

(h) fuelling;

(i) handling;

(j) security;

(k) de-icing where applicable; and

(l) remarks.

**** *AD 2.4—Handling services and facilities*

A detailed description of the handling services and facilities available at the aerodrome, such as—

(a) cargo-handling facilities;

(b) fuel and oil types;

(c) fuelling facilities and capacity;

(d) de-icing facilities where available;

(e) hangar space for visiting aircraft;

(f) repair facilities for visiting aircraft; and

(g) remarks.

**** *AD 2.5—Passenger facilities*

A brief description of passenger facilities available at the aerodrome, such as—

(a) hotels at or in the vicinity of aerodrome;

(b) restaurants at or in the vicinity of aerodrome;

(c) transportation options;

(d) medical facilities;

(e) banks and post offices at or in the vicinity of aerodrome;

(f) tourist offices; and

(g) remarks.

**** *AD 2.6—Rescue and firefighting services*

A detailed description of the rescue and firefighting services and equipment available at the aerodrome, including:

(a) aerodrome category for firefighting;

(b) rescue equipment;

(c) capability for removal of disabled aircraft; and

(d) remarks.

**** *AD 2.7—Seasonal availability—clearing*

A detailed description of the equipment and operational priorities established for the clearance of aerodrome movement areas, including—

(a) the type of clearing equipment;

(b) clearance priorities; and

(c) remarks.

**** *AD 2.8—Aprons, taxiways and check locations or positions data*

Details related to the physical characteristics of aprons, taxiways and check locations or positions of designated checkpoints, including—

(a) the surface and strength of aprons;

(b) the width, surface and strength of taxiways;

(c) the location and elevation to the nearest metre or foot of altimeter checkpoints;

(d) the location of VOR checkpoints;

(e) the position of INS checkpoints in degrees, minutes, seconds and hundredths of seconds; and

(f) remarks.

If check locations or positions are shown on an aerodrome chart, a note to that effect must be provided under this subsection.

**** *AD 2.9—Surface movement guidance and control system and markings*

Brief description of the surface movement guidance and control system and runway and taxiway markings, including—

(a) the use of aircraft stand identification signs, taxiway guide lines and visual docking or parking guidance system at aircraft stands;

(b) the runway and taxiway markings and lights;

(c) stop bars where applicable; and

(d) remarks.

**** *AD 2.10—Aerodrome obstacles*

A detailed description of obstacles, in respect of:

(1) obstacles in Area 2 as follows:

(a) obstacle identification or designation;

(b) type of obstacle;

(c) obstacle position, represented by geographical coordinates in degrees, minutes, seconds and tenths of seconds;

(d) obstacle elevation and height to the nearest metre or foot;

(e) obstacle marking, and type and colour of obstacle lighting where applicable;

(f) if appropriate, an indication that the list of obstacles is available in electronic form, and a reference to GEN 3.1.6; and

(g) NIL indication, if appropriate.

Note 1: Subclause 2(2) of Part H, provides a description of Area 2 while, Figure A-2 of the Appendix of Part H contains graphical illustrations of obstacle data collection surfaces and criteria used to identify obstacles in Area 2.

Note 2: Specifications governing the determination and reporting accuracy of field work and data integrity of positions latitude and longitude and elevations for obstacles in Area 2 are given in Tables 1 and 2 in Appendix 5 of Schedule 1, and Tables A5-1 and A5-2, in Appendix 5, Volume 1 of Appendix 14, respectively.

(2) obstacles in Area 3 as follows:

(a) the obstacle identification or designation;

(b) the type of obstacle;

(c) the obstacle position, represented by geographical coordinates in degrees, minutes, seconds and tenths of seconds;

(d) the obstacle elevation and height to the nearest metre or foot;

(e) the obstacle marking, and type and colour of obstacle lighting where applicable;

(f) if appropriate, an indication that the list of obstacles is available in electronic form, and a reference to GEN 3.1.6; and

(g) a NIL indication, if appropriate.

Note 1: Subclause 2(3) of Part H, provides a description of Area 3 while Figure A8-3 of Appendix 8 contains graphical illustrations of obstacle data collection surfaces and criteria used to identify obstacles in Area 3.

Note 2: Specifications governing the determination and reporting accuracy of field work and data integrity of positions latitude and longitude) and elevations for obstacles in Area 3 are given in Appendix 5, Volume 1 of Annex 14 and Tables A5-1 and A5-2, respectively.

***** AD 2.11—Meteorological information provided*

A detailed description of meteorological information provided at the aerodrome and an indication of which meteorological office is responsible for the service enumerated, including—

(a) the name of the associated meteorological office

(b) the hours of service and, where applicable, the designation of the responsible meteorological office outside these hours;

(c) the office responsible for preparation of TAFs and periods of validity and interval of issuance of the forecasts;

(d) the availability of the trend forecasts for the aerodrome, and interval of issuance;

(e) the information on how briefing or consultation is provided;

(f) types of flight documentation supplied and the language used in flight documentation;

(g) charts and other information displayed or available for briefing or consultation;

(h) supplementary equipment available for providing information on meteorological conditions, such as weather radar and receiver for satellite images;

(i) the ATS unit provided with meteorological information; and

(j) any additional information such as limitation of service.

***** AD 2.12—Runway physical characteristics*

A detailed description of runway physical characteristics for each runway, including—

(a) the designations;

(b) true bearings to one-hundredth of a degree;

(c) the dimensions of runways to the nearest metre or foot;

(d) the strength of pavement to include PCN and associated data and surface of each runway and associated stopways;

(e) the geographical coordinates in degrees, minutes, seconds and hundredths of seconds for each threshold and runway end, and geoid undulation to the nearest one-half metre or foot for each threshold;

(f) elevations of—

(i) thresholds of a non-precision approach runway to the nearest metre or foot; and

(ii) thresholds and the highest elevation of the touchdown zone of a precision approach runway to the nearest one-half metre or foot;

(g) the slope of each runway and associated stopways;

(h) the dimensions of stopway where applicable to the nearest metre or foot;

(i) the dimensions of clearway where applicable to the nearest metre or foot;

(j) the dimensions of strips;

(k) the existence of an obstacle-free zone; and

(l) remarks.

***** AD 2.13—Declared distances*

A detailed description of declared distances to the nearest metre or foot for each direction of each runway, including—

(a) the runway designator;

(b) the take-off run available;

(c) the take-off distance available;

(d) the accelerate-stop distance available;

(e) the landing distance available; and

(f) remarks.

Where a runway direction cannot be used for take-off or landing, or both, because it is operationally forbidden, then this must be declared and the words "not usable" or the abbreviation "NU" entered.

**** *AD 2.14—Approach and runway lighting*

A detailed description of approach and runway lighting, including—

(a) the runway designator;

(b) the type, length and intensity of approach lighting system;

(c) the runway threshold lights, colour and wing bars;

(d) the type of visual approach slope indicator system;

(e) the length of runway touchdown zone lights;

(f) the length, spacing, colour and intensity of runway centre line lights;

(g) the length, spacing, colour and intensity of runway edge lights;

(h) the colour of runway end lights and wing bars;

(i) the length and colour of stopway lights; and

(j) remarks.

**** *AD 2.15—Other lighting, secondary power supply*

A description of other lighting and secondary power supply, including—

(a) the location, characteristics and hours of operation of aerodrome beacon or identification beacon where applicable;

(b) the location and lighting where applicable of anemometer or landing direction indicator;

(c) the taxiway edge and taxiway centre line lights;

(d) secondary power supply including switch-over time; and

(e) remarks.

***** AD 2.16—Helicopter landing area*

A detailed description of helicopter landing area provided at the aerodrome, including—

(a) the geographical coordinates in degrees, minutes, seconds and hundredths of seconds and geoid undulation to the nearest one-half metre or foot of the geometric centre of touchdown and lift-off or of each threshold of final approach and take-off area where appropriate;

(b) the TLOF and FATO area elevation—

(i) for non-precision approaches, to the nearest metre or foot; and

(ii) for precision approaches, to the nearest one-half metre or foot;

(c) the TLOF and FATO area dimensions to the nearest metre or foot, surface type, bearing strength and marking;

(d) true bearings to one-hundredth of a degree of FATO;

(e) the declared distances available, to the nearest metre or foot;

(f) the approach and FATO lighting; and

(g) remarks.

***** AD 2.17—Air traffic services airspace*

A detailed description of ATS airspace organized at the aerodrome, including—

(a) the airspace designation and geographical coordinates in degrees, minutes and seconds of the lateral limits;

(b) the vertical limits;

(c) the airspace classification;

(d) the call sign and language of the ATS unit providing service;

(e) the transition altitude; and

(f) remarks.

***** AD 2.18—Air traffic services communication facilities*

A detailed description of air traffic services communication facilities established at the aerodrome, including—

(a) the service designation;

(b) the call sign;

(c) channel

(d) logon address, as appropriate;

(e) hours of operation; and

(f) remarks

***** AD 2.19—Radio navigation and landing aids*

A detailed description of radio navigation and landing aids associated with the instrument approach and the terminal area procedures at the aerodrome, including—

(a) the type of aids, magnetic variation to the nearest degree, as appropriate, and type of supported operation for ILS or MLS, basic GNSS, SBAS, and GBAS and for VOR, ILS and MLS also station declination to the nearest degree used for technical line-up of the aid;

(b) the identification, if required;

(c) the frequency, as appropriate;

(d) the hours of operation, as appropriate;

(e) the geographical coordinates in degrees, minutes, seconds and tenths of seconds of the position of the transmitting antenna, as appropriate;

(f) the elevation of the transmitting antenna of DME to the nearest 30 metres or 100 feet and of DME/P to the nearest 3 metres or 10 feet; and

(g) remarks.

When the same aid is used for both en route and aerodrome purposes, a description must also be given in section ENR 4. Where the GBAS serves more than one aerodrome, description of the aid must be provided under each aerodrome. Where the operating authority of the facility is not the Authority, the name of the operating authority and facility coverage must be indicated in the remarks column.

***** AD 2.20—Local traffic regulations*

A detailed description of regulations applicable to the traffic at the aerodrome including standard routes for taxiing aircraft, parking regulations, school and training flights and similar but excluding flight procedures.

***** AD 2.21—Noise abatement procedures*

A detailed description of noise abatement procedures established at the aerodrome.

***** AD—2.22 Flight procedures*

A detailed description of the conditions and flight procedures, including radar or ADS-B procedures, established on the basis of airspace organization at the aerodrome and where established, detailed description of the low visibility procedures at the aerodrome, including-

(a) runways and associated equipment authorized for use under low visibility procedures;

(b) defined meteorological conditions under which initiation, use and termination of low visibility procedures would be made; and

(c) description of ground marking/lighting for use under low visibility procedures.

***** AD 2.23—Additional information*

Additional information at the aerodrome, such as an indication of bird concentrations at the aerodrome, together with an indication of significant daily movement between resting and feeding areas, to the extent practicable.

***** AD 2.24 Charts related to an aerodrome*

Charts related to an aerodrome are to included in the following order:

(a) Aerodrome and Heliport Chart—ICAO;

(b) Aircraft Parking and Docking Chart—ICAO;

(c) Aerodrome Ground Movement Chart—ICAO;

(d) Aerodrome Obstacle Chart—ICAO Type A;

(e) Aerodrome Terrain and Obstacle Chart — ICAO (Electronic);

(f) Precision Approach Terrain Chart — ICAO for precision approach Categories II and III runways;

(g) Area Chart — ICAO for departure and transit routes;

(h) Standard Departure Chart — Instrument — ICAO;

(i) Area Chart — ICAO for arrival and transit routes;

(j) Standard Arrival Chart — Instrument — ICAO;

(k) Radar ATC Surveillance Minimum Altitude Chart — ICAO;

(l) Instrument Approach Chart — ICAO for each runway and procedure type;

(m) Visual Approach Chart — ICAO; and

(n) bird concentrations in the vicinity of the aerodrome.

Where some of the charts are not produced, a statement to this effect must be given in section GEN 3.2, Aeronautical charts.

Where some of the charts are not produced, a statement to this effect must be given in section GEN 3.2, Aeronautical charts.

AD 3.—HELIPORTS

When a helicopter landing area is provided at the aerodrome, associated data must be listed only under **** AD 2.16.

***** AD 3.1—Heliport location indicator and name*

The ICAO location indicator assigned to the heliport and the name of heliport must be provided. An ICAO location indicator must be an integral part of the referencing system applicable to all subsections in section AD 3.

***** AD 3.2 Heliport geographical and administrative data*

Heliport geographical and administrative data shall be provided, including—

(a) the heliport reference point represented by geographical coordinates in degrees, minutes and seconds and its site;

(b) the direction and distance of heliport reference point from centre of the city or town which the heliport serves;

(c) the heliport elevation to the nearest metre or foot, and reference temperature;

(d) the geoid undulation at the heliport elevation position to the nearest metre or foot;

(e) the magnetic variation to the nearest degree, date of information and annual change;

(f) the name of heliport administration, address, telephone, telefax and telex numbers and AFS address;

(g) the types of traffic permitted to use the heliport such as IFR or VFR; and

(h) remarks.

**** *AD 3 Operational hours.3*

A detailed description of the hours of operation of services at the heliport, such as—

(a) heliport administration;

(b) customs and immigration;

(c) health and sanitation;

(d) AIS briefing office;

(e) ATS reporting office;

(f) MET briefing office;

(g) air traffic service;

(h) fuelling;

(i) handling;

(j) security;

(k) de-icing, as applicable; and

(l) remarks.

**** *AD 3.4—Handling services and facilities*

A detailed description of the handling services and facilities available at the heliport, such as—

(a) cargo-handling facilities;

(b) fuel and oil types;

(c) fuelling facilities and capacity;

(d) de-icing facilities;

(e) hangar space for visiting helicopters;

(f) repair facilities for visiting helicopters; and

(g) remarks.

**** *AD 3.5—Passenger facilities*

A brief description of passenger facilities available at the heliport, such as—

(a) hotels at or in the vicinity of the heliport;

(b) restaurants at or in the vicinity of the heliport;

(c) transportation options;

(d) medical facilities;

(e) banks and post offices at or in the vicinity of the heliport;

(f) tourist offices; and

(g) remarks.

**** *AD 3.6—Rescue and firefighting services*

A detailed description of the rescue and firefighting services and equipment available at the heliport, including—

(a) the heliport category for firefighting;

(b) the rescue equipment;

(c) the capability for removal of disabled helicopter; and

(d) remarks.

**** *AD 3.7—Seasonal availability—clearing*

A detailed description of the equipment and operational priorities established for the clearance of heliport movement areas, including—

(a) the types of clearing equipment;

(b) the clearance priorities; and

(c) remarks.

**** *AD 3.8—Aprons, taxiways and check locations/positions data*

A detailed description of the physical characteristics of aprons, taxiways and locations or positions of designated checkpoints, including—

(a) the surface and strength of aprons, helicopter stands;

(b) the width, surface type and designation of helicopter ground taxiways;

(c) the width and designation of helicopter air taxiway and air transit route;

(d) the location and elevation to the nearest metre or foot of altimeter checkpoints;

(e) the location of VOR checkpoints;

(f) the position of INS checkpoints in degrees, minutes, seconds and hundredths of seconds; and

(g) remarks.

Where check locations or positions are presented on a heliport chart, a note to that effect must be provided under this subsection.

**** *AD 3.9—Markings and markers*

A brief description of final approach and take-off area and taxiway markings and markers, including—

(a) the final approach and take-off markings;

(b) the taxiway markings, air taxiway markers and air transit route markers; And

(c) remarks.

**** *AD 3.10 Heliport obstacles*

A detailed description of obstacles, in respect of—

(1) Obstacles in Area 2 such as:

(a) obstacle identification or designation;

(b) type of obstacle;

(c) obstacle position, represented by geographical coordinates in degrees, minutes, seconds and tenths of seconds;

(d) obstacle elevation and height to the nearest metre or foot;

(e) obstacle marking, and type and colour of obstacle lighting where applicable;

(f) if appropriate, an indication that the list of obstacles is available in electronic form, and a reference to GEN 3.1.6; and

(g) NIL indication, if appropriate.

Note 1: Subclause 2(2), (3) and (4)*(a)* of Part H, provides a description of Area 2 while Figure A-2 of the Appendix to Part H, contains graphical illustrations of obstacle data collection surfaces and criteria used to identify obstacles in Area 2.

Note 2: Specifications governing the determination and reporting accuracy of field work and data integrity of positions latitude and longitude and elevations for obstacles in Area 2 are given in, Tables 1 and 2, in the Appendix to Part A of Schedule 1 and in Tables 1 and 2 in Appendix 1 Volume 11 of Annex 14, respectively.

(2) Obstacles in Area 3 such as:

(a) obstacle identification or designation;

(b) type of obstacle;

(c) obstacle position, represented by geographical coordinates in degrees minutes, seconds and tenths of seconds;

(d) obstacle elevation and height to the nearest metre or foot;

(e) obstacle marking, and type and colour of obstacle lighting where applicable;

(f) if appropriate, an indication that the list of obstacles is available in electronic form, and a reference to GEN 3.1.6; and

(g) NIL indication, if appropriate.

Note 1: Subclause 2(3) of Part H provides a description of Area 3 while Figure A-3 of the Appendix to Part H, contains graphical illustrations of obstacle data collection surfaces and criteria used to identify obstacles in Area 3.

Note 2: Specifications governing the determination and reporting accuracy of field work and data integrity of positions latitude and longitude and elevations for obstacles in Area 3 are given in Tables 1 and 2 in the Appendix to Part A of Schedule 1, respectively.

***** AD 3.11 Meteorological information provided*

A detailed description of meteorological information provided at the heliport and an indication of which meteorological office is responsible for the service enumerated, including the—

(a) the name of the associated meteorological office;

(b) the hours of service and, where applicable, the designation of the responsible meteorological office outside these hours;

(c) the office responsible for preparation of TAFs, and periods of validity of the forecasts;

(d) the availability of the trend forecasts for the heliport, and interval of issuance;

(e) the information on how briefing and/or consultation is provided;

(f) the type of flight documentation supplied and language used in flight documentation;

(g) the charts and other information displayed or available for briefing or consultation;

(h) the supplementary equipment available for providing information on meteorological conditions, such as weather radar and receiver for satellite images;

(i) the ATS units provided with meteorological information; and

(j) any additional information such as limitation of service.

***** AD 3.12—Heliport data*

A detailed description of the heliport dimensions and related information, including the:

(a) the heliport type such as surface-level, elevated or helideck;

(b) the TLOF area dimensions to the nearest metre or foot;

(c) the true bearings to one-hundredth of a degree of FATO area;

(d) the dimensions to the nearest metre or foot of FATO, and surface type;

(e) the surface and bearing strength in tonnes of TLOF;

(f) the geographical coordinates in degrees, minutes, seconds and hundredths of seconds and geoid undulation to the nearest one-half metre or foot of the geometric centre of TLOF or of each threshold of FATO where appropriate;

(g) the TLOF and FATO slope and elevation—

(i) for non-precision approaches to the nearest metre or foot; and

(ii) for precision approaches to the nearest one-half metre or foot;

(h) the dimensions of safety area;

(i) the dimensions, to the nearest metre or foot, of helicopter clearway;

(j) the existence of an obstacle-free sector; and

(k) remarks.

**** *AD 3.13—Declared distances*

A detailed description of declared distances to the nearest metre or foot, where relevant for a heliport, including the—

(a) take-off distance available;

(b) rejected take-off distance available;

(c) landing distance available; and

(d) remarks.

**** *AD 3.14—Approach and FATO lighting*

A detailed description of approach and FATO lighting, including—

(a) the type, length and intensity of approach lighting system;

(b) the type of visual approach slope indicator system;

(c) the characteristics and location of FATO area lights;

(d) the characteristics and location of aiming point lights;

(e) the characteristics and location of TLOF lighting system; and

(f) remarks.

**** *AD 3.15—Other lighting, secondary power supply*

A description of other lighting and secondary power supply, including—

(a) the location, characteristics and hours of operation of heliport beacon;

(b) the location and lighting of WDI;

(c) the taxiway edge and taxiway centre line lights;

(d) the secondary power supply including switch-over time; and

(e) remarks.

***** AD 3.16—Air traffic services airspace*

A detailed description of ATS airspace organized at the heliport, including—

(a) the airspace designation and geographical coordinates in degrees, minutes and seconds of the lateral limits;

(b) the vertical limits of the ATS airspace at the heliport;

(c) the airspace classification;

(d) the call sign and language of ATS unit providing service;

(e) the transition altitude; and

(f) remarks.

***** AD 3.17—Air traffic services communication facilities*

A detailed description of air traffic services communication facilities established at the heliport, including—

(a) the service designation;

(b) the call sign;

(c) the frequency;

(d) the hours of operation; and

(e) remarks.

***** AD 3.18—Radio navigation and landing aids*

A detailed description of radio navigation and landing aids associated with the instrument approach and the terminal area procedures at the heliport, including—

(a) the type of aids, magnetic variation for VOR, station declination used for technical line-up of the aid to the nearest degree, and type of operation for ILS, MLS, basic GNSS, SBAS, and GBAS;

(b) the identification of the radio navigation and landing aids, if required;

(c) the frequency, as appropriate;

(d) the hours of operation, as appropriate;

(e) the geographical coordinates in degrees, minutes, seconds and tenths of seconds of the position of the transmitting antenna, as appropriate;

(f) the elevation of the transmitting antenna of DME to the nearest 100 feet and of DME/P to the nearest 10 feet; and

(g) remarks.

Where the same aid is used for both en route and heliport purposes, a description must also be given in section ENR 4. Where the ground-based augmentation system (GBAS) serves more than one heliport, description of the aid must be provided under each heliport. Where the operating authority of the facility is not the Authority, the name of the operating authority and facility coverage must be indicated in the remarks column.

***** AD 3.19—Local traffic regulations*

A detailed description of regulations applicable to traffic at the heliport, including standard routes for taxiing helicopters, parking regulations, school flights, training flights and other similar flights but excluding flight procedures.

***** AD 3.20—Noise abatement procedures*

A detailed description of noise abatement procedures established at the heliport.

***** AD 3.21—Flight procedures*

A detailed description of the conditions and flight procedures, including radar and/or ADS-B procedures, established on the basis of airspace organization established at the heliport and where established, detailed description of the low visibility procedures at the heliport, including:

(a) touchdown and lift-off (TLOF) area(s) and associated equipment authorized for use under low visibility procedures;

(b) defined meteorological conditions under which initiation, use and termination of low visibility procedures would be made; and

(c) description of ground marking/lighting for use under low visibility procedures.

***** AD 3.22—Additional information*

Additional information about the heliport, such as an indication of bird concentrations at the heliport together with an indication of significant daily movement between resting and feeding areas, to the extent practicable.

***** AD 3.23—Charts related to a heliport*

Charts related to a heliport shall be included in the following order:

(a) Aerodrome and Heliport Chart—ICAO;

(b) Area Chart—ICAO for departure and transit routes;

(c) Standard Departure Chart—Instrument—ICAO;

(d) Area Chart—ICAO for arrival and transit routes;

(e) Standard Arrival Chart—Instrument—ICAO;

(f) ATC Surveillance Minimum Altitude Chart – ICAO;

(g) Instrument Approach Chart—ICAO for each procedure type;

(h) Visual Approach Chart—ICAO; and

(i) A chart showing bird concentrations in the vicinity of heliport.

Where some of the charts are not produced, a statement to this effect must be given in section. *GEN 3.2—Aeronautical charts.*

PART C

(Regulation 21)

NOTAM

The Standards required to be met for NOTAM shall be as follows:

Origination

1. (1) A NOTAM shall be originated and issued promptly where—

(a) the information to be distributed is of a temporary nature and of short duration; or

(b) operationally significant permanent changes, or temporary changes of long duration are made at short notice.

(2) A NOTAM shall be originated and issued in respect of the following:

(a) establishment, closure or significant changes in operation of aerodrome and heliport or runways;

(b) establishment, withdrawal and significant changes in operation of aeronautical services such as AGA, AIS, ATS, COM, MET and SAR;

(c) establishment or withdrawal of electronic and other aids to air navigation and aerodrome and heliport which includes—

(i) interruption or return to operation;

(ii) change of frequencies;

(iii) change in notified hours of service;

(iv) change of identification;

(v) change of orientation such as directional aids;

(vi) change of location;

(vii) power increase or decrease amounting to fifty per cent or more;

(viii) change in broadcast schedules or contents; or

(ix) irregularity or unreliability of operation of any electronic aid to air navigation, and air-ground communication services;

(d) establishment, withdrawal or significant changes made to visual aids;

(e) interruption of or return to operation of major components of aerodrome lighting systems;

(f) establishment, withdrawal or significant changes made to procedures for air navigation services;

(g) occurrence or correction of major defects or impediments in the manoeuvring area;

(h) changes to and limitations on availability of fuel, oil and oxygen;

(i) major changes to search and rescue facilities and services available;

(j) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation;

(k) changes in regulations requiring immediate action, such as prohibited areas for SAR action;

(l) presence of hazards which affect air navigation including obstacles, military exercises, displays, races and major parachuting events outside promulgated sites;

(m) erecting or removal of, or changes to, obstacles to air navigation in the take-off and climb, missed approach, approach areas and runway strip;

(n) establishment or discontinuance, including activation or deactivation as applicable, or changes in the status of prohibited, restricted or danger areas;

(o) establishment or discontinuance of areas or routes or portions of the arears or routes where the possibility of interception exists and where the maintenance of guard on the VHF emergency frequency 121.5 MHz is required;

(p) allocation, cancellation or change of location indicators;

(q) significant changes in the level of protection normally available at an aerodrome for rescue and firefighting purposes;

(r) presence or removal of, or significant changes in, hazardous conditions due to water on the movement area;

(s) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures;

(t) forecasts of solar cosmic radiation, where provided;

(u) an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected;

(v) release into the atmosphere of radioactive materials or toxic chemicals following a nuclear or chemical incident, the location, date and time of the incident, the flight levels and routes or portion of routes which could be affected and the direction of movement;

(w) establishment of operations of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with procedures and or limitations which affect air navigation; and

(x) implementation of short-term contingency measures in cases of disruption, or partial disruption, of air traffic services and related supporting services.

(3) The following information shall not be notified by NOTAM:

(a) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft;

(b) runway marking work, where aircraft operations can safely be conducted on other available runways, or the equipment used can be removed where necessary;

(c) temporary obstructions in the vicinity of aerodrome and heliport that do not affect the safe operation of aircraft;

(d) partial failure of aerodrome and heliport lighting facilities where the partial failure does not directly affect aircraft operations;

(e) partial temporary failure of air-ground communications where suitable alternative frequencies are known to be available and are operative;

(f) the lack of apron marshalling services and road traffic control;

(g) the unserviceability of location, destination or other instruction signs on the aerodrome movement area;

(h) parachuting where in uncontrolled airspace under VFR, when controlled, at promulgated sites or within danger or prohibited areas; and

(i) other information of a similar temporary nature.

(4) At least seven days' advance notice shall be given of the activation of established danger, restricted or prohibited areas and of activities requiring temporary airspace restrictions other than for emergency operations.

(5) NOTAM notifying unserviceability of aids to air navigation, facilities or communication services shall give an estimate of the period of unserviceability or the time at which restoration of service is expected.

(6) Where an AIP amendment or an AIP supplement is published in accordance with AIRAC procedures, NOTAM shall be originated giving a brief description of the contents, the effective date and the reference number to the amendment or supplement.

(7) The NOTAM under subclause (5) shall come into force on the effective date as the amendment or supplement became effective and remains valid in the pre-flight information bulletin for a period of fourteen days.

General specifications

2. (1) Except as otherwise provided in subclauses (3) and (4), each NOTAM shall contain the information in the order shown in the NOTAM Format in Appendix 3 of this Part.

(2) Text of NOTAM shall be composed of the significations and uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language.

(3) When NOTAM is selected for international distribution, English text shall be included for those parts expressed in plain language.

(4) Information concerning an operationally significant change in volcanic activity, a volcanic eruption or volcanic ash cloud when reported by means of an ASHTAM, shall contain the information in the order shown in the ASHTAM Format in Appendix 1 of this Part.

(5) The NOTAM originator shall allocate to each NOTAM a series identified by a letter and a consecutive four-digit number based on the calendar year followed by a stroke and a two-digit number for the year.

(6) Where errors occur in a NOTAM, a new number to replace the erroneous NOTAM shall be issued.

(7) Where a NOTAM is issued which cancels or replaces a previous NOTAM, the series and number of the previous NOTAM shall be indicated so the series, location indicator and subject of both NOTAM are the same and only one NOTAM is cancelled or replaced by another NOTAM.

(8) Each NOTAM shall—

(a) deal with only one subject and one condition of the subject;

(b) be as brief as possible and compiled so that the meaning of the NOTAM is clear without the need to refer to another document; and

(c) be transmitted as a single telecommunication message.

(9) A NOTAM containing permanent or temporary information of long duration shall carry appropriate AIP or AIP supplement references.

(10) A complete form of Location indicators shall be included in the text of a NOTAM contained in the Location Indicators specified in the ICAO Doc. 7910.

(11) In no case shall an abbreviated form of a location indicator under subclause (11) be used.

(12) Where no ICAO location indicator is assigned to the location, the name of the location spelt in accordance with subclause 5(2), shall be entered in plain language.

(13) A checklist of valid NOTAM for each series shall—

(a) be issued as a NOTAM over the AFS at intervals of not more than one month using the NOTAM format specified in Appendix 3 of this Part one NOTAM issued for each series.

(b) refer to the latest AIP Amendments, AIP Supplements and at least the internationally distributed AIC; and

(c) have the same distribution as the actual message series to which they refer and be clearly identified as checklist.

(14) A monthly printed plain-language list of valid NOTAM, including indications of the latest AIP amendments, AIC issued and a checklist of AIP supplements shall be prepared with a minimum of delay and forwarded by the most expeditious means to recipients of the Integrated Aeronautical Information Package.

Distribution

3. (1) NOTAM shall—

(a) be distributed on the basis of a request;

(b) be prepared in conformity with the relevant provisions of the ICAO communication procedures.

(2) AFS shall, where practicable, be employed for NOTAM distribution.

(3) Where a NOTAM exchange as specified in subclause (5) is sent by means other than the AFS, a six-digit date-time group indicating the date and time of NOTAM origination, and the identification of the originator shall be used, preceding the text.

(4) The Director General shall select the NOTAM that are to be given international distribution.

(5) International exchange of NOTAM shall take place only as mutually agreed between the Authority and the international NOTAM offices concerned.

(6) The international exchange of ASHTAM, and NOTAM where the Authority use NOTAM for distribution of information on volcanic activity, shall include volcanic ash advisory centres and the centres designated by regional air navigation agreement for the operation of AFS satellite distribution systems such as satellite distribution system for information relating to air navigation (SADIS) and international satellite communications system (ISCS), and shall take account of the requirements of long range operations.

(7) The exchanges of NOTAM between international NOTAM offices shall, as far as practicable, be limited to the requirements of the receiving States concerned by means of separate series providing for at least international and domestic flights.

(8) A predetermined distribution system for NOTAM transmitted on the AFS in accordance with Appendix 2 of this Part shall be used where possible, subject to the requirements of subclause (5).

APPENDIX 1

(clause 2(5) of Part C)

ASHTAM FORMAT

(COM heading)	(PRIORITY INDICATOR)	(ADDRESSES)			
	(DATE AND TIME OF FILING)		(ORIGINATOR'S INDICATOR)		
(Abbreviated heading)	(VA*2 SERIAL NUMBER) V A *2 * 2		(LOCATION INDICATOR)	DATE/TIME OF ISSUANCE	(OPTIONAL GROUP)
ASHTAM	(Serial number)				
(FLIGHT INFORMATION REGION AFFECTED)					A)
(DATE/TIME (UTC) OF ERUPTION)					B)
(VOLCANO NAME AND NUMBER)					C)
(VOLCANO LATITUDE/LONGITUDE OR VOLCANO RADIAL AND DISTANCE FROM NAVAID)					D)
(VOLCANO LEVEL OF ALERT COLOUR CODE, INCLUDING ANY PRIOR LEVEL OF ALERT COLOUR CODE)[3]					E)
(EXISTENCE AND HORIZONTAL/VERTICAL EXTENT OF VOLCANIC ASH CLOUD)[4]					F)
(DIRECTION OF MOVEMENT OF ASH CLOUD)[4]					G)
(AIR ROUTES OR PORTIONS OF AIR ROUTES AND FLIGHT LEVELS AFFECTED)					H)
(CLOSURE OF AIRSPACE AND/OR AIR ROUTES OR PORTIONS OF AIR ROUTES, AND ALTERNATIVE AIR ROUTES AVAILABLE)					I)
(SOURCE OF INFORMATION)					J)
(PLAIN-LANGUAGE REMARKS)					K)
NOTES: 1. See also Appendix 2 regarding addressee indicators used in predetermined distribution systems. 2. *Enter ICAO nationality letter as given in ICAO Doc 7910, Part 2. 3. See paragraph 3.5 below. 4. Advice on the existence, extent and movement of volcanic ash cloud G) and H) may be obtained from the Volcanic Ash Advisory Centre(s) responsible for the FIR concerned. 5. Item titles in brackets ( ) not to be transmitted.					

SIGNATURE OF ORIGINATOR (not for transmission)

INSTRUCTIONS FOR THE COMPLETION OF THE ASHTAM FORMAT

1. General

(a) the ASHTAM provides information on the status of activity of a volcano when a change in its activity is, or is expected to be of operational significance. This information is provided using the volcano level of alert colour code given in subclause 3*(e)* below;

(b) in the event of a volcanic eruption producing ash cloud of operational significance, the ASHTAM also provides information on the location, extent and movement of the ash cloud and the air routes and flight levels affected;

(c) issuance of an ASHTAM giving information on a volcanic eruption, in accordance with section 3 below, should not be delayed until complete information (A) to (K) is available but should be issued immediately following receipt of notification that an eruption has occurred or is expected to occur, or a change in the status of activity of a volcano of operational significance has occurred or is expected to occur, or an ash cloud is reported. In the case of an expected eruption, and hence no ash cloud evident at that time, items (A) to (E) should be completed and items (F) to (I) indicated as "not applicable". Similarly, if a volcanic ash cloud is reported, e.g. by special air-report, but the source volcano is not known at that time, the ASHTAM should be issued initially with items (A) to (E) indicated as "unknown", and items (F) to (K) completed, as necessary, based on the special air-report, pending receipt of further information. In other circumstances, if information for a specific field (A) to (K) is not available indicate "NIL".

(d) the maximum period of validity of ASHTAM is twenty-four hours;

(e) new ASHTAM must be issued where there is a change in the level of alert.

2. Abbreviated heading

Following the usual AFTN communications header, the abbreviated heading "TT AAiiii CCCC MMYYGGgg (BBB)" is included to facilitate the automatic processing of ASHTAM messages in computer data banks. The explanation of these symbols is:

TT = data designator for ASHTAM = VA;

AA = geographical designator for States, e.g. NZ = New Zealand [*see* Location Indicators (Doc 7910), Part 2, Index to Nationality Letters for Location Indicators];

iiii = ASHTAM serial number in a four-figure group;

CCCC = four-letter location indicator of the flight information region concerned [*see* Location Indicators (Doc 7910), Part 5, addresses of centres in charge of FIR/UIR];

MMYYGGgg = date/time of report, whereby:

MM = month, e.g. January = 01, December = 12

YY = day of the month

GGgg = time in hours (GG) and minutes (gg) UTC;

(BBB) = Optional group for correction to an ASHTAM message previously disseminated with the same serial number = COR.

Note: Brackets in (BBB) are used to indicate that this group is optional.

Example: Abbreviated heading of ASHTAM for Auckland Oceanic FIR, report on 7 November at 0620 UTC:

VANZ0001 NZZO 11070620

3. Content of ASHTAM

(a) Item A —Flight information region affected, plain-language equivalent of the location indicator given in the abbreviated heading, in this example "Auckland Oceanic FIR";

(b) Item B—Date and time (UTC) of first eruption;

(c) Item C—Name of volcano, and number of volcano as listed in the ICAO Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691), Appendix H, and on the World Map of Volcanoes and Principal Aeronautical Features;

(d) Item D—Latitude and Longitude of the volcano in whole degrees or radial and distance of volcano from NAVAID (as listed in the ICAO Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691), Appendix H, and on the World Map of Volcanoes and Principal Aeronautical Features);

(e) Item E—Colour code for level of alert indicating volcanic activity, including any previous level of alert colour code as follows:

Level of alert colour code	***Status of activity of Volcano***
GREEN ALERT	Volcano is in normal, non-eruptive state; *or, after a change from a higher alert level:* Volcanic activity considered to have ceased and volcano reverted to its normal, non-eruptive state.
YELLOW ALERT	Volcano is experiencing signs of elevated unrest above known background levels. *or, after a change from higher alert level:* Volcanic activity has decreased significantly but continues to be closely monitored for possible renewed increase.
ORANGE ALERT	Volcano is exhibiting heightened unrest with increased likelihood of eruption; *or,* Volcanic eruption is underway with no or minor ash emission. *[specify ash-plume height where possible]*.

RED ALERT	Eruption is forecasted to be imminent with significant emission of ash into the atmosphere likely; *or*, Eruption is underway with significant emission of ash into the atmosphere *[specify ash-plume height if possible]*.

Note.— The colour code for the level of alert indicating the status of activity of the volcano and any change from a previous status of activity should be provided to the area control centre by the responsible vulcanological agency in the State concerned, e.g. "RED ALERT FOLLOWING YELLOW" OR "GREEN ALERT FOLLOWING ORANGE

(f) Item F—Where volcanic ash cloud of operational significance is reported, indicate the horizontal extent and base and top of the ash cloud using latitude and longitude in whole degrees and altitudes in thousands of metres or feet or radial and distance from source volcano;

(g) Information initially may be based only on special air-report, but subsequent information may be more detailed based on advice from the responsible meteorological watch office and/or volcanic ash advisory centre;

(h) Item G—Indicate forecast direction of movement of the ash cloud at selected levels based on advice from the responsible meteorological watch office and/or volcanic ash advisory centre;

(i) Item H—Indicate air routes and portions of air routes and flight levels affected, or expected to become affected;

(j) Item I—Indicate closure of airspace, air routes or portions of air routes, and availability of alternative routes;

(k) Item J—Source of the information, e.g. "special air-report" or "vulcanological agency", etc. The source of information should always be indicated, whether an eruption has actually occurred or ash cloud reported, or not; and

(l) Item K—Include in plain language any operationally significant information additional to the foregoing.

APPENDIX 2

[Schedule 2 Part C, Clause 3(8)]

PREDETERMINED DISTRIBUTION SYSTEM FOR NOTAM

1. The predetermined distribution system provides for incoming NOTAM and ASHTAM to be channeled through the AFTN direct to designated addressees predetermined by the receiving country concerned while concurrently being routed to the international NOTAM office for checking and control purposes.

2. The addressee indicators for those designated addressees are constituted as follows:

(a) First and second letters:

The first two letters of the location indicator for the AFTN communication centre associated with the relevant international NOTAM office of the receiving country.

(b) Third and fourth letters:

The letters "ZZ" indicating a requirement for special distribution.

(c) Fifth letter:

The fifth letter differentiating between NOTAM (letter "N") and ASHTAM (letter "V").

(d) Sixth and seventh letters:

The sixth and seventh letters, each taken from the series A to Z and denoting the national and/or international distribution list(s) to be used by the receiving AFTN centre.

Note: The fifth, sixth and seventh letters replace the three-letter designator YNY which, in the normal distribution system, denotes an international NOTAM office.

(e) Eighth letter:

The eighth position letter shall be the filler letter "X" to complete the eight- letter addressee indicator.

3. The Authority shall inform the States from which it received NOTAM of the sixth and seventh letters to be used under different circumstances to ensure proper routing.

APPENDIX 3

(Schedule 2 Part C clause 2(1) and (13))

NOTAM FORMAT

Priority indicator		→
Address		
Date and time of filing		→
Originator's indicator		
Message series, number and identifier		
NOTAM containing new information	..... (series and number/year)	NOTAMN
NOTAM replacing a previous NOTAM	..... (series and number/year)	NOTAMR ..... (series and number/year of NOATM to be replaced)
NOTAM canceling a previous NOTAM	..... (series and number/year)	NOTAMC ..... (series and number/year of NOTAM to be cancelled)
Qualifiers		

	FIR	NOTAM Code	Traffic	Purpose	Scope	Lower limit	Upper limit	Coordinates, Radius
Q)		Q						

Identification of ICAO location indicator in which the facility airspace or condition reported on is located	A)	→
Period of Validity		
From (date-time group)	B)	→
To (PERM or date-time group)	C)	EST* PERM*
Time Schedule (if applicable)	D)	→
Text of NOTAM; Plain-language Entry (using ICAO Abbreviations)		
E)		
Lower Limit	F)	→
Upper Limit	G)	
Signature		

* Delete as appropriate

INSTRUCTIONS FOR THE COMPLETION OF THE NOTAM FORMAT

1. General

The qualifier line Item Q and all identifiers Items A to G inclusive each followed by a closing parenthesis, as shown in the format, shall be transmitted unless there is no entry to be made against a particular identifier.

2. NOTAM numbering

Each NOTAM shall be allocated a series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year (e.g. A0023/03).

3. Qualifiers Item Q

Item Q is divided in eight fields, each separated by a stroke. If no entry is to be made in a field, it is not necessary to transmit blanks between the strokes. Examples of how fields are to be filled are shown in the Aeronautical Information Services Manual (Doc 8126). The definition of the field is as follows:

(a) FIR—ICAO location indicator of affected FIR;

(b) NOTAM CODE:

All NOTAM Code groups contain a total of five letters and the first letter is always the letter Q. The second and third letters identify the subject, and the fourth and fifth letters denote the status of the subject reported upon. For combinations of second and third and fourth and fifth letters, insert the ICAO NOTAM codes listed in the PANS-ABC (Doc 8400) or in the NOTAM Selection Criteria contained in the Aeronautical Information Services Manual (Doc 8126) or insert one of the following combinations, as appropriate—

(i) If the subject is not listed in the NOTAM Code (Doc 8400) or in the NOTAM Selection Criteria (Doc 8126), insert "XX" as the second and third letters (e.g. QXXAK);

(ii) If the condition of the subject is not listed in the NOTAM Code (Doc 8400) or in the NOTAM Selection Criteria (Doc 8126), insert "XX" as the fourth and fifth letters (e.g. QFAXX);

(iii) Where a NOTAM containing operationally significant information is issued in accordance with Appendix 4 and Chapter 6 and when it is used to announce existence of AIRAC AIP Amendments or Supplements, insert "TT" as the fourth and fifth letters of the NOTAM Code;

(iv) Where a NOTAM is issued containing a checklist of valid NOTAM, insert "KKKK" as the second, third, fourth and fifth letters; and

(v) The following fourth and fifth letters of the NOTAM Code shall be used in NOTAM cancellations:

AK: RESUMED NORMAL OPERATION

AL: OPERATIVE OR RE-OPERATIVE SUBJECT TO PREVIOUSLY PUBLISHED LIMITATIONS OR CONDITIONS

AO: OPERATIONAL

CC: COMPLETED

XX: PLAIN LANGUAGE

(c) TRAFFIC

I = IFR

V = VFR

K = NOTAM is a checklist

Note: Depending on the NOTAM subject and content, the qualifier field TRAFFIC may contain combined qualifiers. For possible combinations refer to the NOTAM Selection Criteria in the Aeronautical Information Services Manual (Doc 8126).

(d) PURPOSE

N = NOTAM selected for the immediate attention of aircraft operators

B = NOTAM selected for PIB entry

O = NOTAM concerning flight operations

M = Miscellaneous NOTAM; not subject for a briefing, but it is available on Request

K = NOTAM is a checklist

Note: Depending on the NOTAM subject and content, the qualifier field PURPOSE may contain combined qualifiers. For possible combinations refer to the NOTAM Selection Criteria in the Aeronautical Information Services Manual (Doc 8126).

(e) SCOPE

A = Aerodrome

E = En route

W= Nav Warning

K = NOTAM is a checklist

Note: Depending on the NOTAM subject and content, the qualifier field SCOPE may contain combined qualifiers. For possible combinations refer to the NOTAM Selection Criteria in the Aeronautical Information Services Manual (Doc 8126). If the subject is qualified AE, the aerodrome location indicator must be reported in Item A.

(f) LOWER AND UPPER

LOWER and UPPER limits shall always be filled and shall only be expressed in flight levels (FL). In the case of navigation warnings and airspace restrictions, values entered shall be consistent with those provided under Items F and G. Where the subject does not contain specific height information, insert "000" for LOWER and "999" for UPPER as default values.

(g) COORDINATES, RADIUS

The latitude and longitude accurate to one minute, as well as a three digit distance figure giving the radius of influence in NM (e.g. 4700N01140E043). Coordinates present approximate centre of circle whose radius encompasses the whole area of influence, and if the NOTAM affects the entire FIR, enter the default value "999" for radius.

4. Item A

Insert the location indicator as contained in ICAO Doc 7910 of the aerodrome or FIR in which the facility, airspace, or condition being reported on is located. More than one FIR or IR may be indicated when appropriate. If there is no available ICAO location indicator, use the ICAO nationality letter as given in ICAO Doc 7910, Part 2, plus "XX" and followed up in Item E by the name, in plain language. If information concerns GNSS, insert the appropriate ICAO location indicator allocated for a GNSS element or the common location indicator allocated for all elements of GNSS (except GBAS).

Note: In the case of GNSS, the location indicator may be used when identifying a GNSS element outage (e.g. KNMH for a GPS satellite outage).

5. Item B

For the date-time group, use a ten-figure group, giving year, month, day, hours and minutes in UTC and this entry shall be the date-time at which the NOTAMN, NOTAMR or NOTAMC comes into force.

6. Item C

With the exception of NOTAMC, a ten-figure day-time group giving year, month, day, hours and minutes in UTC indicating duration of information shall be used unless the information is of a permanent nature in which case the abbreviation "PERM" is inserted instead. Where the information on timing is uncertain, the approximate duration shall be indicated using a date-time group followed by the abbreviation "EST". Any NOTAM which includes an "EST" shall be cancelled or replaced before the date-time specified in Item C.

7. Item D

Where the hazard, status of operation or condition of facilities being reported on will be active in accordance with a specific time and date schedule between the dates-times indicated in Items (B) and (C), insert such information under Item (D). Where Item (D) exceeds two hundred characters, consideration shall be given to providing such information in a separate, consecutive NOTAM.

Note: Guidance concerning a harmonized definition of Item (D) content is provided in Doc 8126.

8. Item E

Use decoded NOTAM Code, complemented where necessary by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language. When NOTAM is selected for international distribution, English text shall be included for those parts expressed in plain language. This entry shall be clear and concise in order to provide a suitable PIB entry. In the case of NOTAMC, a subject reference and status message shall be included to enable accurate plausibility checks.

9. Items F and G

These items are normally applicable to navigation warnings or airspace restrictions and are usually part of the PIB entry. Insert both lower and upper height limits of activities or restrictions, clearly indicating reference datum and units of measurement.

Note: For NOTAM examples *see* Doc 8126 and the PANS-ABC (Doc 8400).

PART D

(Regulation 22)

AERONAUTICAL INFORMATION REGULATION AND CONTROL (AIRAC)

The standards required to be met for AIRAC shall be as follows:

General specifications

1. (1) Information concerning the circumstances listed in Part 1 of the Appendix, shall be distributed under AIRAC, basing establishment, withdrawal or significant changes upon a series of common effective dates at intervals of twenty-eight days.

(2) Information notified in the AIRAC shall not be changed further for at least another twenty-eight days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period.

(3) Where information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.

(4) Implementation dates other than the AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work or for updating of navigation databases.

Provision of information in paper copy form

2. In all circumstances, information provided under the AIRAC system shall be published in paper copy form and distributed by the AIS unit at least forty-two days in advance of the effective date with the objective of reaching recipients at least twenty-eight days in advance of the effective date.

Provision of information in electronic form

3. (1) Where the Authority has established an aeronautical database in and thereafter updates the contents of that database concerning the circumstances listed in Part 1 of the Appendix, the Authority shall ensure that the effective dates of the data coincide with the established AIRAC effective dates used for the provision of information in paper copy form.

(2) The information provided in electronic form, concerning the circumstances listed in Part 1 of the Appendix, shall be distributed and made available by the AIS unit so as to reach recipients at least twenty-eight days in advance of the AIRAC effective date.

APPENDIX

INFORMATION TO BE NOTIFIED BY AIRAC

[clauses 1(1), 6 and 7 of Part D]

PART 1

1. The AIRAC shall provide information on the establishment and withdrawal of, and premeditated significant changes including operational trials as follows:

(a) horizontal and vertical limits and regulations and procedures applicable to—

(i) flight information regions;

(ii) control areas;

(iii) control zones;

(iv) advisory areas;

(v) ATS routes;

(vi) permanent danger, prohibited and restricted areas (including type and periods of activity when known) and ADIZ;

(vii) permanent areas or routes or portions thereof where the possibility of interception exists;

(b) positions, frequencies, call signs, known irregularities and maintenance periods of radio navigation aids and communication facilities;

(c) holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures; and

(d) meteorological facilities including broadcasts and procedures.

(e) runways and stopways.

PART 2

2. The AIRAC shall provide information on the establishment and withdrawal of, and premeditated significant changes to—

(a) position, height and lighting of navigational obstacles;

(b) taxiways and aprons;

(c) hours of service: aerodromes, facilities and services;

(d) customs, immigration and health services;

(e) temporary danger, prohibited and restricted areas and navigational hazards, military exercises and mass movements of aircraft; and

(f) temporary areas or routes or portions thereof where the possibility of interception exists.

PART E

(Regulation 23)

AERONAUTICAL INFORMATION CIRCULARS

The standards required to be met for AIC shall be as follows:

Origination

1. (1) Whenever it is necessary to publish aeronautical information which does not qualify—

(a) under the specifications in clause 1 of Part B for inclusion in an AIP; or

(b) under the specifications in clause 1 of Part C for the origination of a NOTAM, an AIC shall be originated.

(2) Whenever it is desirable to publish—

(a) a long-term forecast of any major change in legislation, regulations, procedures or facilities;

(b) information of a purely explanatory or advisory nature liable to affect flight safety;

(c) information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters such as—

(i) forecasts of important changes in the air navigation procedures, services and facilities provided;

(ii) forecasts of implementation of new navigational systems;

(iii) significant information arising from aircraft accident or incident investigation which has a bearing on flight safety;

(iv) information on regulations relating to the safeguarding of international civil aviation against acts of unlawful interference;

(v) advice on medical matters of special interest to pilots;

(vi) warnings to pilots concerning the avoidance of physical hazards;

(vii) effect of certain weather phenomena on aircraft operations;

(viii) information on new hazards affecting aircraft handling techniques;

(ix) regulations relating to the carriage of restricted articles by air;

(x) reference to the requirements of, and publication of changes in, national legislation;

(xi) aircrew licensing arrangements;

(xii) training of aviation personnel;

(xiii) application of, or exemption from, requirements in national legislation;

(xiv) advice on the use and maintenance of specific types of equipment;

(xv) actual or planned availability of new or revised editions of aeronautical charts;

(xvi) carriage of communication equipment;

(xvii) explanatory information relating to noise abatement;

(xviii) selected airworthiness directives

(xix) changes in NOTAM series or distribution, new editions of AIP or major changes in their contents, coverage or format; and

(xx) other information of a similar nature, an AIC shall be originated.

(f) PAR, DME, SSR, ADS-B, ADS-C, CPDLC, D-ATIS and D- VOLMET.

Note: The publication of an AIC does not remove the obligation set out in Part B and Part C.

General specifications

2. (1) An AIC shall be issued in printed form.

(2) Each AIC shall be allocated a consecutive serial number which shall be based on the calendar year.

(3) Where AIC are distributed in more than one series, each series shall be separately identified by a letter.

(4) A checklist of AIC currently in force shall be issued at least once a year, and distributed to the recipients of AIC.

PART F

(Regulation 24)

PRE-FLIGHT AND POST-FLIGHT INFORMATION/DATA

The standards required to be met for pre-flight and post-flight information and data are as follows:

Pre-flight information

1. (1) Aeronautical information provided for pre-flight planning purposes at the aerodrome or heliport referred to in regulation, shall include relevant—

(a) elements of the Integrated Aeronautical Information Package; and

(b) maps and charts.

(2) Additional current information relating to the aerodrome of departure shall be provided concerning the following where applicable:

(a) construction or maintenance work on or immediately adjacent to the manoeuvring area;

(b) rough portions of any part of the manoeuvring area, whether marked or unmarked such as broken parts of the surface of runways and taxiways;

(c) presence and depth of water on runways and taxiways, including their effect on surface friction;

(d) parked aircraft or other objects on or immediately adjacent to taxiways;

(e) presence of other temporary hazards;

(f) presence of birds constituting a potential hazard to aircraft operations;

(g) failure or irregular operation of part or all of the aerodrome lighting system including approach, threshold, runway, taxiway, obstruction and manoeuvring area unserviceability lights and aerodrome power supply;

(h) failure, irregular operation and changes in the operational status of ILS including markers, basic GNSS, SBAS, GBAS, SRE, PAR, DME, SSR, VOR, NDB, VHF aeromobile channels, RVR observing system, and secondary power supply; and

(i) presence and operation of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with any associated procedures or limitations applied thereof.

(3) A summary of current NOTAM and other information of urgent character shall be made available to flight crews in the form of plain-language pre-flight information bulletins (PIB).

Note: Guidance on the preparation of PIB is contained in ICAO Doc 8126.

Automated aeronautical information systems

2. (1) Where the Authority uses automated pre-flight information systems to make aeronautical information or data available to operations personnel including flight crew members for self-briefing, flight planning and flight information service purposes, the information or data made available shall comply with the provisions of subclauses (2) and (4).

(2) Where automated pre-flight information systems are used to provide the harmonized, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical information or data and meteorological information, the Authority shall remain responsible for the quality and timeliness of the aeronautical information and data provided by means of such a system.

(3) Self-briefing facilities of an automated pre-flight information system shall provide for every access to all relevant information or data in guided manner to operations personnel, including flight crew members and other aeronautical personnel concerned, to consultation as necessary with the aeronautical information service by telephone or other suitable telecommunications means.\

Post-flight information

3. (1) The Authority shall ensure that arrangements are made to receive at aerodromes and heliports information concerning—

(a) the state and operation of air navigation facilities noted by aircrews and shall ensure that such information is made available to the aeronautical information service for distribution as the circumstances necessitate.

(b) the presence of birds observed by aircrews and shall ensure that such information is made available to the aeronautical information service for such distribution as the circumstances necessitate.

PART G

(Regulation 25)

TELECOMMUNICATION REQUIREMENTS

The standards required to be met for Telecommunications requirements are as follows:

(a) International NOTAM offices shall be connected to the AFS;

(b) the connections provide for printed communications; and

(c) each international NOTAM office shall be connected, through the AFS, to the following points within Trinidad and Tobago for which NOTAM office provides service:

(i) area control centres and flight information centres; and

(ii) aerodromes and heliports at which an information service is established in accordance with Part F.

PART H

(Regulation 26)

ELECTRONIC TERRAIN AND OBSTACLE DATA

The standards required to be met for electronic terrain and obstacle data are as follows:

Function

1. Sets of electronic terrain and obstacle data used in combination with aeronautical data, as appropriate shall satisfy user requirements necessary to support the following air navigation applications:

(a) ground proximity warning system with forward looking terrain avoidance function and MSAW system;

(b) determination of contingency procedures for use in the event of an emergency during a missed approach or take-off;

(c) analysis aircraft operating limitations;

(d) instrument procedure design including circling procedure;

(e) determination of en route drift-down procedure and en route emergency landing location;

(f) advanced surface movement guidance and control system;

(g) aeronautical chart production and on-board databases;

(h) flight simulator;

(i) synthetic vision; and

(j) aerodrome or heliport obstacle restriction and removal.

Coverage and terrain and obstacle data numerical requirements

2. (1) To satisfy requirements necessary to accommodate air navigation systems or functions specified in clause 1, sets of electronic terrain and obstacle data shall be collected and recorded in databases in accordance with the following areas of coverage:

(a) Area 1: entire territory of a State;

(b) Area 2: terminal control area;

(c) Area 3: aerodrome and heliport area; and

(d) Area 4: Category II or III operations area.

(2) Area 1 shall cover the entire territory of Trinidad and Tobago, including aerodromes and heliports.

(3) Area 2 shall be the terminal control area as published in the AIP or limited to a forty-five kilometer radius from the aerodrome or heliport reference point whichever is smaller.

(4) At IFR aerodromes and heliports—

(a) where a terminal control area has not been established, Area 2 shall be the area within a forty-five kilometer radius of the aerodrome or heliport reference point.

(b) area 3 shall cover the area that extends from the edges of the runways to ninety metres from the runway centre line and for all other parts of aerodrome or heliport movement areas, fifty metres from the edges of the defined areas.

(5) Area 4 shall be restricted to those runways where precision approach Category II or III operations have been established and where detailed terrain information is required by operators to enable them to assess, by use of radio altimeters, the effect of terrain on decision height determination.

(6) The width of the area under subclause (5), shall be sixty metres on either side of the extended runway centre line while the length shall be nine hundred metres from the runway threshold measured along the extended runway centre line.

(7) According to the air navigation applications listed in subclause 1 and areas of coverage, sets of electronic terrain data shall satisfy the numerical requirements specified in Table 1 of the Appendix, while obstacle data shall satisfy the numerical requirements specified in Table 2 of the Appendix.

Content and structure of Terrain database

3. (1) A terrain database shall contain digital sets of data representing terrain surface in the form of continuous elevation values at all intersections of a defined grid, referenced to common datum.

(2) A terrain grid under subclause (1), shall be angular or linear and of regular or irregular shape.

(3) Sets of electronic terrain data shall include spatial or represented by position and elevation, thematic and temporal aspects for the surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles.

Note: In practical terms depending in the acquisition method used, sets of electronic data when put together would represent a continuous surface that exists at the bare earth, the top of the canopy or something in between, also known as "first reflective surface".

(4) Terrain data shall be collected according to

(a) the areas specified in clause 2;

(b) terrain data collection surfaces and criteria specified in Figure 1 of the Appendix ; and

(c) the terrain data numerical requirements provided in Table 1 of the Appendix .

(5) In terrain databases, only terrain feature type shall be recorded.

(6) Feature attributes describing terrain under subclause (5), shall be those listed in Table 3 of the Appendix, representing the minimum set of terrain attributes, and those annotated as mandatory shall be recorded in the terrain database.

Content and structure of obstacle database

4. (1) One obstacle database shall contain a digital set of obstacle data that includes those features having vertical significance in relation to adjacent and surrounding features that are considered hazardous to air navigation.

(2) Obstacle data shall—

(a) comprise the digital representation of the vertical and horizontal extent of man-made objects; and

(b) not be included in terrain databases.

(3) Obstacle data elements are features that shall be represented in the database by points, lines or polygons.

(4) Obstacles shall be identified within the areas defined in Clause 2, on the basis of the obstacle data collection surfaces and criteria specified in Figure 2 of the Appendix, and collected in accordance with obstacle data numerical requirements provided in Table 2 of the Appendix.

(5) In an obstacle database, all defined obstacle feature types shall be recorded and each of them shall be described according to the list of mandatory attributes provided in Table 4 of the Appendix.

Terrain and obstacle data product specifications

5. (1) To allow and support the interchange and use of sets of electronic terrain and obstacle data among different data providers and data users, the ISO 19100 series of standards for geographic information shall be used as a general data modeling framework.

(2) A comprehensive statement of available electronic terrain and obstacle data sets shall be provided in the form of terrain data product specifications as well as obstacle data product specifications on which basis air navigation users will be able to evaluate the products and determine whether the products fulfil the requirements for the intended application.

(3) Each terrain data product specification shall include an overview, a specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.

(4) An overview of terrain data product specification or obstacle data product specification shall provide an informal description of the product and contain general information about the data product.

Note: Specification of terrain data may not be homogenous across the whole data product but may vary for different parts of the data sets and a specification scope shall be identified.

(5) Where specifications of terrain data is not homogenous across the whole data product, for each subject the specification scope shall be identified.

(6) Identification information concerning both terrain and obstacle data products shall—

(a) include the title of the product;

(b) a brief narrative summary of the content purpose, and spatial resolution if appropriate;

(c) the geographic area covered by the data product; and

(d) supplemental information.

(7) Content information of feature-based terrain data sets or of feature-based obstacle data sets shall each be described in terms of an application schema and a feature catalogue.

(8) Application schema shall provide a formal description of the data structure and content of data sets.

(9) Feature catalogue shall provide the semantics of all feature types and their attributes and attribute value domains, association types between feature types and feature operations, inheritance relations and constraints.

(10) Both terrain and obstacle data product specifications shall identify clearly the coverage and imagery they include and shall provide a narrative description of each of them.

Note: Coverage is considered a subtype of a feature and can be derived from a collection of features that have common attributes.

(11) Both terrain data product specifications and obstacle data product specifications shall include—

(a) information that identifies the reference system used in the data product;

(b) the spatial reference system and temporal reference system;

(c) the data quality requirements for each data product;

(d) a statement on acceptable conformance quality levels and corresponding data quality measures that cover all the data quality elements and data quality sub-elements, even if only to state that a specific data quality element or sub-element is not applicable.

(12) Terrain data product specifications shall include a data capture statement that is a general description of the sources and of processes applied for the capture of terrain data.

(13) The principles and criteria applied in the maintenance of terrain data sets and obstacle data sets shall also be provided with the data specifications, including the frequency with which data products are updated.

Note: Of particular importance shall be the maintenance information of obstacle data sets and an indication of the principles, methods and criteria applied for obstacle data maintenance.

(14) Terrain data product specifications shall contain information on how data held with data sets is presented, such as a graphic output, as a plot or as an image.

(15) The product specifications for both terrain and obstacles data shall also contain data product delivery information which shall include delivery formats and delivery medium information.

(16) The core terrain and obstacle metadata elements shall be included in the data product specifications.

(17) Any additional metadata items required to be supplied shall be stated in each product specification together with the format and encoding of the metadata.

APPENDIX
TERRAIN AND OBSTACLE DATA REQUIREMENTS

(Part H of Schedule 2)

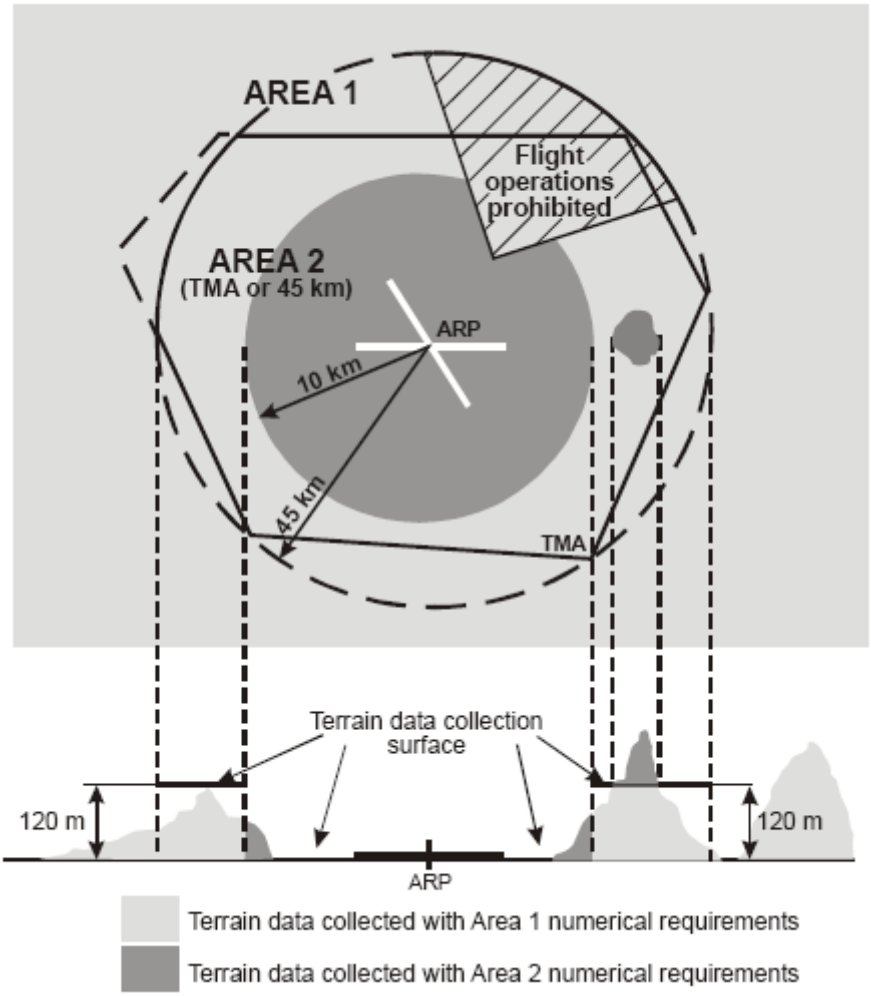

Figure 1. Terrain data collection surfaces – Area 1 and Area 2

1. Within the area covered by a 10-km radius from the ARP, terrain data shall be collected and recorded in accordance with the Area 2 numeric requirements.

2. In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller), data on terrain that penetrates the horizontal plan 120 m above the lowest runway elevation shall be collected and recorded in accordance with the Area 2 numerical requirements.

3. In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller) data on terrain that does not penetrate the horizontal plane 120 m above the lowest runway elevation shall be collected and recorded in accordance with the Area 1 numerical requirements.

4. In those portions of Area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, terrain data shall only be collected and recorded in accordance with the Area 1 numerical requirements.

Note: Terrain data numerical requirements for Areas 1 and 2 are specified in Table 1of the Appendix

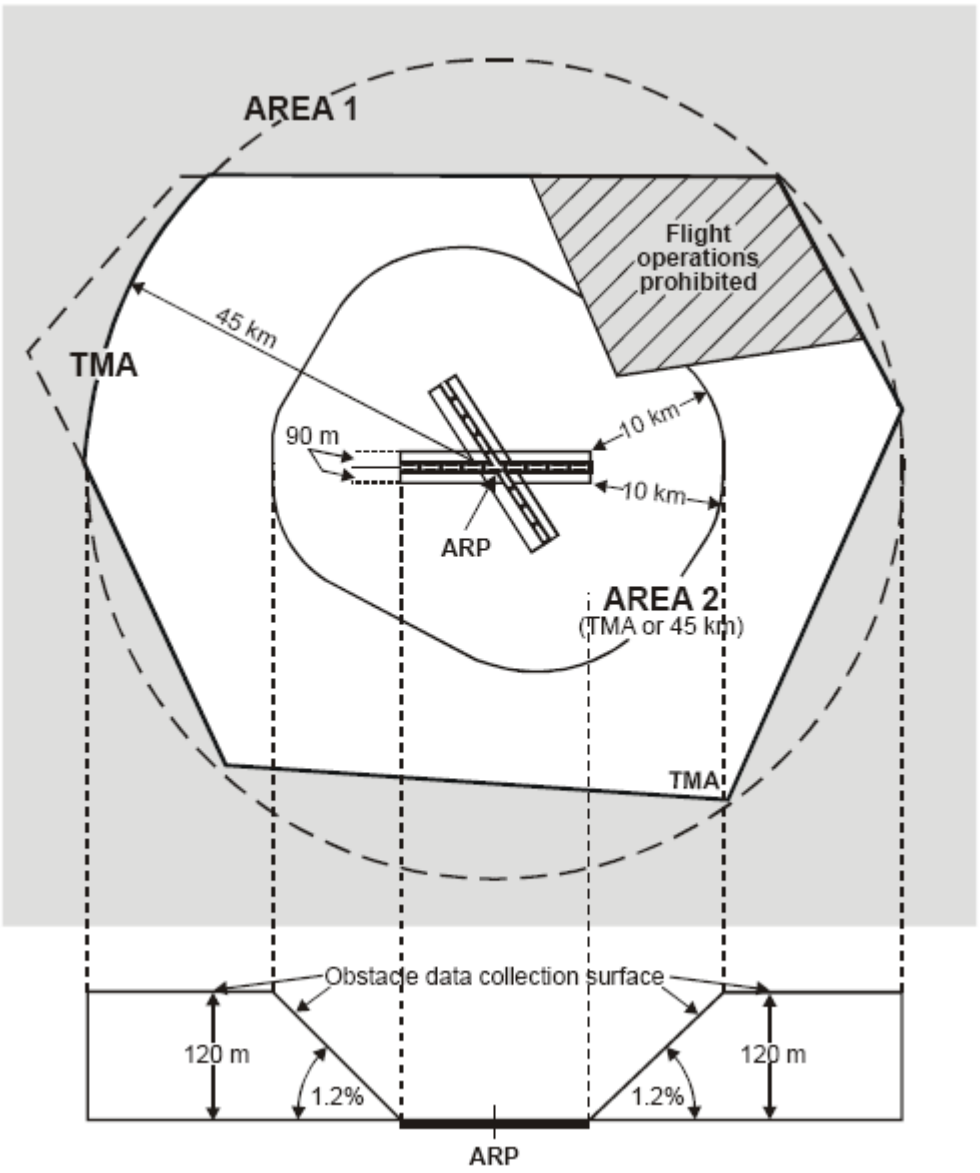

Figure 2. Obstacle data collection surfaces – Area 1 and Area 2

1. Obstacle data shall be collected and recorded in accordance with the Area 2 numerical requirements specified in Table 2 of the Appendix:

(a) any obstacle that penetrates the conical surface whose origin is at the edges of the 180-m wide rectangular area and at the nearest runway elevation measured along the runway centre line, extending at 1.2 per cent slope until it reaches 120 m above the lowest runway elevation of all operational runways at the aerodrome (1.2 per cent slope reaches 120 m at 10 km); in the remainder of Area 2 (between 10 km and the TMA boundary or 45-k radius, whichever is smaller), the horizontal surface 120 m above the lowest runway elevation; and

(b) in those portions of Area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, obstacle data shall be collected and recorded in accordance with the Area 1 requirements.

2. Data on every obstacle within Area 1 whose height above the ground is 100 m or higher shall be collected and recorded in the database in accordance with the Area 1 numerical requirements specified in Table 2 of the Appendix.

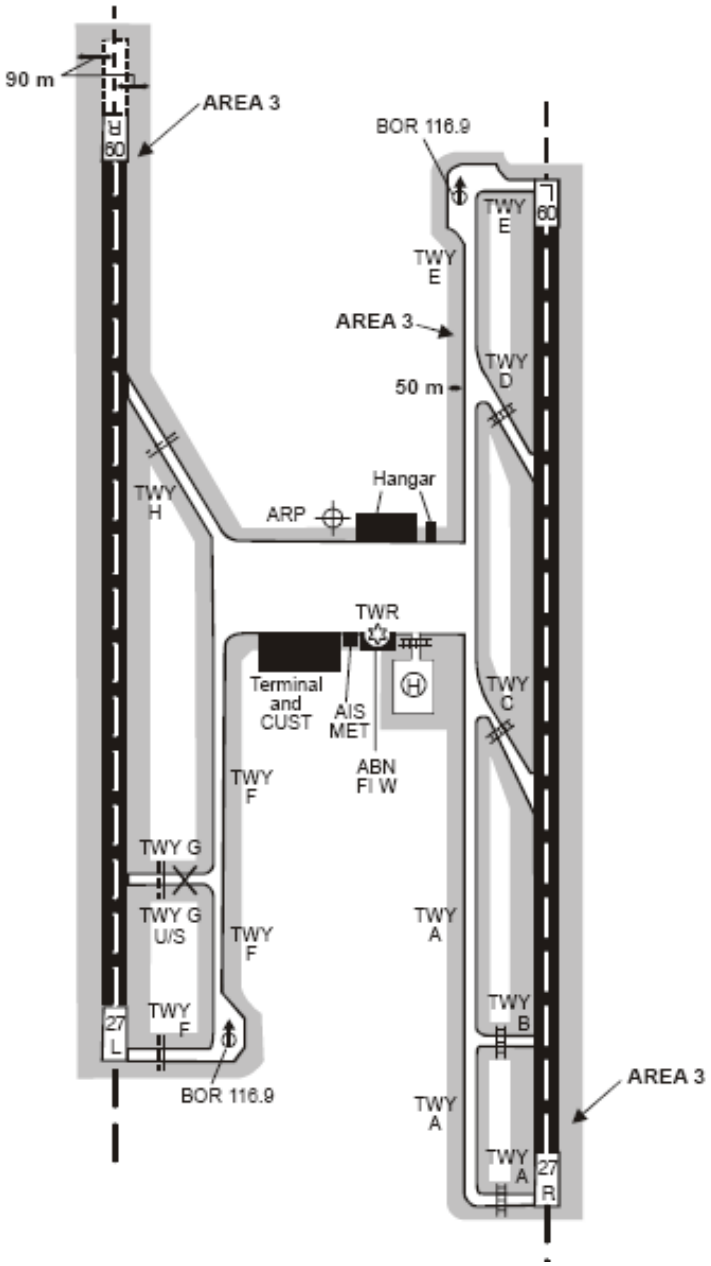

Figure 3. Terrain and obstacle data collection surface – Area 3

1. Data on terrain and obstacles that extend more than a half-metre (0.5m) above the horizontal plane passing through the nearest point on the aerodrome/heliport movement area shall be collected and recorded.

2. Terrain and obstacle data in Area 3 shall be collected and recorded in accordance with numerical requirements specified in Table 1 and Table 2 of the Appendix, respectively.

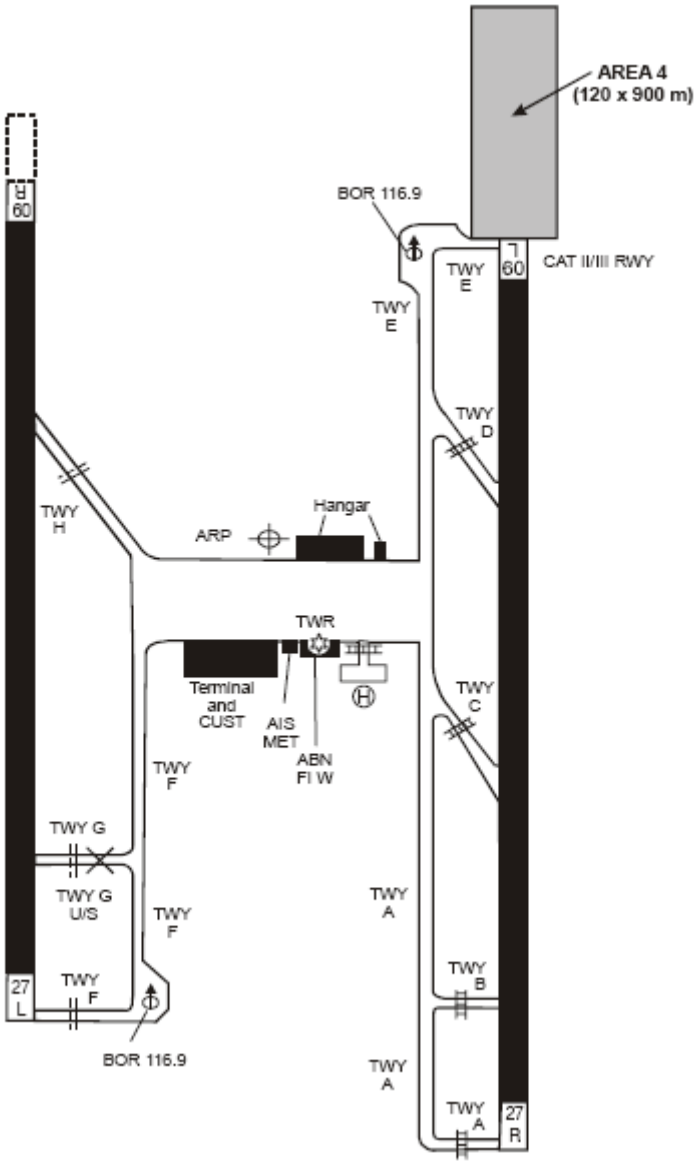

Figure 4. Terrain data collection surface – Area 4

Only terrain data shall be collected and recorded in Area 4 in accordance with the numerical requirements specified in Table 1 of the Appendix.

Table 1 – Terrain data numerical requirements

	Area 1	Area 2	Area 3	Area 4
Post spacing	3 arc seconds (approx. 90 m)	1 arc second (approx. 30 m)	0.6 arc seconds (approx. 20 m)	0.3 arc seconds (approx. 9 m)
Vertical accuracy	30 m	3 m	0.5 m	1 m
Vertical resolution	1 m	0.1 m	0.01 m	0.1 m
Horizontal accuracy	50 m	5 m	0.5 m	2.5 m
Confidence level	90%	90%	90%	90%
Data classification Integrity level	routine 1×10^{-3}	essential 1×10^{-5}	essential 1×10^{-5}	essential 1×10^{-5}
Maintenance period	as required	as required	as required	as required

Table 2 – Obstacle data numerical requirements

	Area 1	Area 2	Area 3
Vertical accuracy	30 m	3 m	0.5 m
Vertical resolution	1 m	0.1 m	0.01 m
Horizontal accuracy	50 m	5 m	0.5 m
Confidence level	90%	90%	90%
Data classification Integrity level	routine 1×10^{-3}	essential 1×10^{-5}	essential 1×10^{-5}
Maintenance period	as required	as required	as required

Table 3 – Terrain attributes

Terrain attribute	***Mandatory/Optional***
Area of coverage	Mandatory
Data originator identifier	Mandatory
Acquisition method	Mandatory
Post spacing	Mandatory
Horizontal reference system	Mandatory
Horizontal resolution	Mandatory
Horizontal accuracy	Mandatory
Horizontal confidence level	Mandatory
Horizontal position	Mandatory
Elevation	Mandatory
Elevation reference	Mandatory
Vertical reference system	Mandatory
Vertical resolution	Mandatory
Vertical accuracy	Mandatory
Vertical confidence level	Mandatory
Surface type	Mandatory
Recorded surface	Mandatory
Penetration level	Optional
Known variations	Optional
Integrity	Mandatory
Date and time stamp	Mandatory
Unit of measurement used	Mandatory

Table 4 – Obstacle attributes

Obstacle attribute	***Mandatory/Optional***
Area of coverage	Mandatory
Data originator identifier	Mandatory
Obstacle identifier	Mandatory
Horizontal accuracy	Mandatory
Horizontal confidence level	Mandatory
Horizontal position	Mandatory
Horizontal resolution	Mandatory
Horizontal extent	Mandatory
Horizontal reference system	Mandatory
Elevation	Mandatory
Vertical accuracy	Mandatory
Vertical confidence level	Mandatory
Elevation reference	Mandatory
Vertical resolution	Mandatory
Vertical reference system	Mandatory
Obstacle type	Mandatory
Geometry type	Mandatory
Integrity	Mandatory
Date and time stamp	Mandatory
Unit of measurement used	Mandatory
Operations	Optional
Effectivity	Optional
Lighting	Mandatory
Marking	Mandatory