'AMC and GM to Part-FPD — Issue 1, Amendment 1'

Annex XI to Decision 2017/001/R is amended as follows:

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

(a) deleted text is ~~struck through~~;

(b) new or amended text is highlighted in blue;

(c) an ellipsis […] indicates that the rest of the text is unchanged.

Table of contents

AMC/GM TO PART-~~ASD~~FPD

SPECIFIC REQUIREMENTS FOR PROVIDERS OF FLIGHT PROCEDURE DESIGN SERVICES

~~*Reserved*~~

SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR PROVIDERS OF FLIGHT PROCEDURE DESIGN SERVICES (FPD.OR)

Section 1 — General requirements

AMC1 FPD.OR.100 Flight procedure design (FPD) services

SOURCE

The FPD provider should use data coming from authoritative sources. If the data used is not formally made available by an authoritative source or does not meet the applicable data quality requirements (DQRs), but is required by end users, the FPD provider may use data from other (non-authoritative) sources, provided such data has been verified and validated by the FPD provider itself and/or other ATM/ANS providers to conform with the relevant standards and DQRs.

GM1 FPD.OR.100 Flight procedure design (FPD) services

GENERAL

(a) If the flight procedure(s) or a change thereto result in a change to the functional system of an ATS provider, a safety assessment of the change to the functional system in accordance with ATS.OR.205 needs to be carried out by that ATS provider before the deployment of that flight procedure.

(b) In other situations, the organisations that perform the safety assessment may vary. For instance, the safety assessment of the a change of flight procedure(s) at an aerodrome may be performed by the aerodrome operator as per ADR.OR.B.040(f) of Commission Regulation (EU) No 139/2014 or as per national legislation for aerodromes that are not certified in accordance with Commission Regulation (EU) No 139/2014.

(c) An approval may not be required, when there are minor changes, including but not limited to:

(1) publication of new standard instrument departures (SIDs), as a result of shortening already published SIDs;

(2) incorporation in existing standard instrument arrivals (STARs) routes of segments already published in other STARs, with altitudes equal to or higher than those published;

(3) change in the procedure approach chart identification: transition planning for change to instrument flight procedure approach chart identification from RNAV to RNP, according to ICAO Circular 353; and

(4) removal of segments of SID or STAR to the flight procedures.

GM2 FPD.OR.100 Flight procedure design (FPD) services

DESIGN AND DOCUMENTATION

Design and documentation of flight procedures includes maintenance and periodic review activities.

In reference to periodic review, please refer to AMC1 Article 3(9) Provision of ATM/ANS and design of airspace structures 'PERIODIC REVIEW'.

GM3 FPD.OR.100 Flight procedure design (FPD) services

VALIDATION OF AERONAUTICAL DATA

The processes for validating the aeronautical data by the FPD provider should meet the standards specified in EUROCAE ED-76A/RTCA DO-200B 'Standards for Processing Aeronautical Data', dated June 2015, especially Section 2.4.1 (6) and Appendix C, in particular points C.2.1 and C.2.2. EUROCAE ED-76/RTCA DO-200A may be also used for the demonstration of compliance.

GM1 to AMC1 FPD.OR.100 Flight procedure design (FPD) services

NON-AUTHORITATIVE SOURCE

(a) A non-authoritative source may be an organisation other than those defined in point 32 of Annex I, but providing and/or publishing data derived from data gathering or measuring performed (e.g. by aircraft operators, air crew, DAT providers, or other similar operational organisations, or a combination thereof), transforming various sources to provide aeronautical data which conform to relevant standards and DQRs as specified by the airspace end users.

(b) When validating data from a non-authoritative source, the FPD provider should proceed by using either additional information sources to validate this data (like satellite imagery, data or manuals from other providers, users, military, etc.), or data which has been tested and confirmed through operations.

(c) The first known FPD provider that uses data coming from other (non-authoritative) sources in the aeronautical data chain accepts the responsibility of the data originator (i.e. ensuring that the data meets the DQRs).

GM1 FPD.OR.105 Management system

GENERAL

ICAO Doc 9906 Volume 1 'Flight Procedure Design Quality Assurance System' provides guidance for a flight procedure design process.

GM1 FPD.OR.105(a) Management system

DATA ACQUISITION

The flight procedure design process starts with the verification of input data in coordination with affected stakeholders. The following aspects should be addressed:

(a) aerodrome, navigation aids, obstacles and terrain data;

(b) airspace data and associated requirements;

(c) user requirements, i.e. airspace users and air traffic services provider;

(d) airport infrastructure and equipment;

(e) environmental considerations (e.g. population likely to be significantly affected by aircraft noise); and

(f) any other information as potentially specified by the competent authority.

AMC1 FPD.OR.105(c) Management system

FLIGHT PROCEDURE DESIGN DOCUMENTATION

Flight procedure design documentation should be kept at least during the lifetime of the flight procedure, unless otherwise specified by the competent authority.

GM1 FPD.OR.105(e) Management system

GENERAL

(a) Validation is the necessary final quality assurance step in the flight procedure design. Validation may consist of ground validation and/or flight validation. ICAO Doc 9906 Volume 5 'Validation of Instrument Flight Procedures' provides guidance for conducting the validation process for instrument flight procedures, including safety, ability to be flown and verification of data accuracy and completeness. Ground validation is always undertaken, but flight validation may not always be required.

(b) The flight procedure may be validated using one or more of the following methods as deemed necessary for the intended use:

(1) airspace modelling;

(2) ATC simulation;

(3) live trials;

(4) flight simulation;

(5) data analytical tools;

(6) statistical analysis;

(7) collision risk modelling; and/or

(8) noise and emissions modelling.

AMC1 FPD.OR.105(e) Management system

GROUND VALIDATION

(a) Ground validation should be always undertaken to ensure compliance with applicable requirements, i.e. to detect errors in criteria and documentation, and evaluate on the ground, to the extent possible, those elements that could be evaluated in a flight validation whenever necessary.

Ground validation should be performed by a person trained in flight procedure design as per FPD.OR.115 other than the one who designed the flight procedure and with appropriate knowledge of flight validation issues.

(b) Ground validation should include a systematic review of the steps and calculation involved in the flight procedure design and its impact, aiming at:

(1) providing assurance that adequate obstacle and terrain clearances have been provided;

(2) verifying that the navigation data (e.g. tracks, distances and altitudes to be flown) to be published are correct;

(3) conducting an assessment of fly-ability to determine that the procedure can be safely flown; and

(4) evaluating the charting, obstacle clearance and other operational factors.

AMC2 FPD.OR.105(e) Management system

FLIGHT VALIDATION

(a) Based on the results from the ground validation as per AMC1 FPD.OR.105(e), the flight validation should:

(1) verify that the navigation data to be published is correct;

(2) verify that all required infrastructure supports the procedure (e.g. runway markings, lighting, communications and navigation sources);

(3) verify the fly-ability of the procedure; and

(4) evaluate the draft charting, obstacle and terrain clearances and other operational factors.

(b) Flight validation should be required if new navigation aids or minimum obstacle clearance reduction is affected by a change of an existing procedure.

(c) For the airways with lower limit equal to or higher than FL145, the flight validation is not required, when the ground validation is completed and satisficed.

GM2 FPD.OR.105(e) Management system

FLIGHT VALIDATION

(a) Flight validation may be required if:

(1) the fly-ability of a procedure cannot be determined by other means;

(2) the procedure contains non-standard design elements (deviations from criteria e.g. non-standard approach angles/gradients, non-standard segment lengths, speeds, bank angles, etc.);

(3) the accuracy and/or integrity of obstacle and terrain data cannot be determined by other means;

(4) new procedures differ significantly from existing procedures; and

(5) helicopter PinS procedures are to be deployed.

(b) ICAO Doc 9906 Volume 5 'Validation of Instrument Flight Procedures' provides further guidance for the flight validation.

AMC1 FPD.OR.115(a)(1) Technical and operational competence and capability

TRAINING

The training should provide the flight procedure designers with:

(a) knowledge of technical rules for the design and the establishment of instrument flight procedures;

(b) knowledge of design criteria;

(c) knowledge of the data catalogue, including the applicable DQRs; and

(d) competence in designing flight procedures with the selected tools in accordance with the design criteria.

GM1 FPD.OR.115(a)(1) Technical and operational competence and capability

TRAINING

In addition to the PANS-OPS design training, the training should consider:

(a) Commission Implementing Regulation (EU) 2017/373 laying down common requirements for service providers and the oversight in air traffic management/air navigation services and other air traffic management network functions;

(b) Commission Implementing Regulation (EU) No 923/2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation;

(c) design criteria defined in FPD.TR.100;

(d) ICAO Annex 4 'Aeronautical Charts';

(e) ICAO Doc 9613 'Performance-based Navigation (PBN) Manual;

(f) ICAO Doc 9906 'Quality Assurance Manual for Flight Procedure Design'; and

(g) tools used in the design, which may be acquired as part of the on-the-job training.

GM2 FPD.OR.115(a)(1) Technical and operational competence and capability

TRAINING

The FPD provider's personnel involved in the flight procedure charting and/or coding should have successfully completed a training course that provides a basic level of competency in charting and/or coding.

GM3 FPD.OR.115(a)(1) Technical and operational competence and capability

TRAINING

ICAO Doc 9906 Volume 2 'Flight Procedure Designer Training' provides guidance for the establishment of flight procedure designer training and possible content.

AMC1 FPD.OR.115(a)(2) Technical and operational competence and capability

FLIGHT PROCEDURE DESIGNER EXPERIENCE

In order for flight procedure designers to show that they are suitably experienced to successfully apply the theoretical knowledge, they should be prove that they have either:

(a) worked in flight procedure design work over a period of time specified by the competent authority; or

(b) undergone sufficient on-the-job training. In doing so, the procedure designer should have undergone a minimum of time on-the-job PANS-OPS design training until demonstrating adequate competency in the practical application of design criteria.

GM1 to AMC1 FPD.OR.115(a)(2) Technical and operational competence and capability

DURATION OF THE ON-THE-JOB TRAINING

The on-the-job training is recommended to be minimum 2 years. This period may be substantially reduced in cases where the designer has experience in flight procedures.

GM1 FPD.OR.115(a)(3) Technical and operational competence and capability

CONTINUATION TRAINING

Continuation training aims at addressing changes in the applicable design criteria and regulations.

ICAO Doc 9906 Volume 2 'Flight Procedure Designer Training' provides guidance for the establishment of flight procedure designer training.

GM1 FPD.OR.115(b) Technical and operational competence and capability

COMPETENT PILOT

ICAO Doc 9906 Volume 6 'Flight Validation Pilot Training and Evaluation' provides guidance for the establishment of flight procedure validation pilot training.

GM1 FPD.OR.120 Required interfaces

FORMAL ARRANGEMENTS

(a) Formal arrangements could be in, but not limited to, the form of a service-level agreement (SLA), a contract or a memorandum of understanding (MoU) that should specify the scope of aeronautical data and aeronautical information to be received/provided.

(b) The FPD provider should demonstrate that formal arrangements with the aeronautical data sources are implemented. In this context, procedures should be established to communicate and address instances of erroneous, inconsistent or missing data.

(c) The FPD provider's procedures should confirm that effective controls are in place to ensure that an unsafe product is not released and that such concerns are communicated to other service providers, aerodrome operators and/or aircraft operators.

(d) The FPD provider should demonstrate that formal arrangements with the next intended user are in place to confirm that its requests are clearly defined and subject to review.

SUBPART B — TECHNICAL REQUIREMENTS FOR PROVIDERS OF FLIGHT PROCEDURE DESIGN SERVICES (FPD.TR)

Section 1 — General requirements

AMC1 FPD.TR.100 Flight procedure design requirements

DESIGN CRITERIA

(a) The design criteria determined by the competent authority should be based on ICAO Doc 8168 (PANS-OPS) Volume II 'Construction of Visual and Instrument Flight Procedures', as last amended, so as to ensure safe aircraft operations.

(b) As regards the required navigation performance authorisation required (RNP AR) procedure, the design criteria should be based on ICAO Doc 9905 'Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual', as last amended.

APPENDIX 1 TO ANNEX XI (PART-FPD)

REQUIREMENTS FOR AIRSPACE STRUCTURES AND FLIGHT PROCEDURES CONTAINED THEREIN

SECTION I

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

AMC1 SECTION I — (a) FLIGHT INFORMATION REGIONS

LIMITED BY AN UPPER FLIGHT INFORMATION REGION

When limited by an upper flight information region, the lower limit specified for the upper flight information region should constitute the upper vertical limit of the flight information region and should coincide with a VFR cruising level as specified in the tables in Appendix 3 to Commission Implementing Regulation (EU) No 923/2012.

AMC1 SECTION I — (b) CONTROL AREAS

UPPER LIMITS

When established, the upper limits of a control area should coincide with a VFR cruising level of the tables in Appendix 3 to Commission Implementing Regulation (EU) No 923/2012.

GM1 SECTION I — (b) CONTROL AREAS

GENERAL

(a) When the lower limit of a control area is above 900 m (3 000 ft) mean sea level (MSL), it should coincide with a VFR cruising level as specified in the tables in Appendix 3 to Commission Implementing Regulation (EU) No 923/2012.

(b) In a given control area, the lower limit may be established non-uniformly.

(c) The selected VFR cruising level of the lower limit of a control area should be such that expected local atmospheric pressure variations do not result in a lowering of this limit to a height of less than 200 m (700 ft) above ground or water.

(d) In a control area other than one formed by a system of airways, a system of routes may be established to facilitate the provision of air traffic control.

AMC1 SECTION I — (c) CONTROL ZONES

HORIZONTAL LIMITS

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

GM1 SECTION I — (c) CONTROL ZONES

GENERAL

(a) If a control zone is located outside of the horizontal limits of a control area, an upper limit should be established.

(b) An upper limit higher than the lower limit of the overlying control area may be established when desired.

(c) If it is desired to establish the upper limit of a control zone at a level higher than the lower limit of the control area established above it, or if the control zone is located outside of the lateral limits of a control area, its upper limit should be established at a level which can easily be identified by pilots. When this limit is above 900 m (3 000 ft) MSL, it should coincide with a VFR cruising level as specified in the tables in Appendix 3 to Commission Implementing Regulation (EU) No 923/2012.

(d) The selected VFR cruising level of the upper limit of a control zone should be such that the expected local atmospheric pressure variations do not result in a lowering of this limit to a height of less than 200 m (700 ft) above ground or water.

(e) A control zone may include two or more aerodromes situated close together.

(f) When designing the lateral limits of control zones, aircraft holding in the vicinity of aerodromes are considered as arriving aircraft.

SECTION II

Identification of ATS routes other than standard departure and arrival routes

AMC1 SECTION II

GENERAL

Controlled, advisory and uncontrolled ATS routes, with the exception of standard arrival and departure routes should be identified as follows:

(a) The basic designator should consist of one letter of the alphabet followed by a number from 1 to 999. The selection of the letter should be made from those listed hereunder:

(1) ‘A’, ‘B’, ‘G’, ‘R’ for routes which form part of the regional networks of ATS routes and are not area navigation routes;

(2) ‘L’, ‘M’, ‘N’, ‘P’ for area navigation routes which form part of the regional networks of ATS routes;

(3) ‘H’, ‘J’, ‘V’, ‘W’ for routes which do not form part of the regional networks of ATS routes and are not area navigation routes; and

(4) ‘Q’, ‘T’, ‘Y’, ‘Z’ for area navigation routes which do not form part of the regional networks of ATS routes.

(b) The ATS route designator should consist of a basic designator supplemented, if necessary, by:

(1) one prefix; where applicable, one supplementary letter may be added as a prefix to the basic designator in accordance with the following:

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

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

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

(2) one additional letter; when prescribed by the competent authority or on the basis of regional air navigation agreements, a supplementary letter may be added after the basic designator of the ATS route in question in order to indicate the type of service provided in accordance with the following:

(i) 'F' to indicate that on the route or portion thereof only advisory service is provided; and

(ii) 'G' to indicate that on the route or portion thereof only flight information service is provided.

(c) The number of characters required to compose the designator should not exceed six.

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

GM1 SECTION II

GENERAL

(a) Guidance material on the establishment of ATS routes and procedures is contained in ICAO Doc 9426 'Air Traffic Services Planning Manual'.

(b) Guidance material on the establishment of ATS routes defined by omni-directional range (VOR) is contained in Attachment A to ICAO Annex 11.

(c) Guidance material on ICAO Codes and Routes Designators (ICARD) is contained in the ICAO Five-Letter Name-Codes (5LNC) Guidelines.

(d) The spacing between parallel tracks or between parallel ATS route centre lines based on performance-based navigation should be dependent upon the relevant navigation specification required.

(e) When warranted by density, complexity or nature of the traffic, special routes should be established for use by low-level traffic, including helicopters operating to and from helidecks on the high seas. When determining the horizontal spacing between such routes, account should be taken of the navigational means available and the navigation equipment carried on helicopters' board.

SECTION III

Identification of standard departure and standard arrival routes and associated procedures

AMC1 SECTION III — (a)(1)

SYSTEM OF DESIGNATORS

The system of designators should:

(a) make a clear distinction between:

(1) departure routes and arrival routes;

(2) departure or arrival routes and other ATS routes; and

(3) routes requiring navigation by reference to ground-based radio aids or self-contained airborne aids, and routes requiring navigation by visual reference to the ground;

(b) be compatible with ATS and aircraft data processing and display requirements;

(c) be of utmost brevity in its operational application;

(d) avoid redundancy; and

(e) provide sufficient possibility for extension to cater for any future requirements without the need for fundamental changes.

GM1 to AMC1 SECTION III — (a)(1)

SYSTEM OF DESIGNATORS

The term ‘route’ is used in the meaning of ‘route and associated procedures’.

AMC1 SECTION III — (a)(2)

PLAIN LANGUAGE DESIGNATOR

A plain language designator of a standard departure or arrival route should consist of:

(a) a basic indicator followed by;

(b) a validity indicator followed by;

(c) a route indicator, where required, followed by;

(d) the word ‘departure’ or ‘arrival’ followed by;

(e) the word ‘visual’, if the route has been established for use by aircraft operating in accordance with the visual flight rules (VFR) or in accordance with the instrument flight rules (IFR) under visual meteorological conditions (VMC).

AMC1 SECTION III — (b)(2)

BASIC INDICATOR

The basic indicator should be considered the name or name-code of the significant point where a standard departure route terminates or a standard arrival route begins.

AMC1 SECTION III — (b)(5)

CODED DESIGNATOR

The coded designator of a standard departure or standard arrival route, instrument or visual, should consist of:

(a) the coded designator or name-code of the significant point followed by;

(b) the validity indicator followed by;

(c) the route indicator, where required.

GM1 SECTION III

GENERAL

(a) Guidance material relating to the establishment of standard departure and arrival routes and associated procedures is contained in ICAO Doc 9426 'Air Traffic Services Planning Manual'.

(b) The flight procedure naming convention is contained in ICAO Doc 8168 (PANS-OPS) Volume II 'Construction of Visual and Instrument Flight Procedures', as last amended.

(c) The plain language designator used for the phraseology is contained in ICAO Doc 4444 (PANS-ATM) 'Air Traffic Management', as last amended.

(d) The runway designator detailed requirements are contained in ICAO Annex 14 Volume I, Section 5.2.2.

(e) Examples of plain language and coded designators for standard departure and arrival routes and associated procedures

(1) Example 1: Standard departure route — instrument

Plain language designator: BRECON ONE DEPARTURE

Coded designator: BCN 1

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

(2) Example 2: Standard arrival route — instrument

Plain language designator: KODAP TWO ALPHA ARRIVAL

Coded designator: KODAP2A

Meaning: This designator identifies a standard instrument arrival route which begins at the significant point KODAP (basic indicator). KODAP is a significant point not marked by the site of a radio navigation facility and therefore assigned a five-letter name-code in accordance with Appendix 2 to ICAO Annex 11. The validity indicator TWO (2) signifies that a change has been made from the previous version ONE (1) to the now effective

version TWO (2). The route indicator ALPHA (A) identifies one of several routes established with reference to KODAP and is a specific character assigned to this route.

(3) Example 3: Standard departure route — visual

Plain language designator: ADOLA FIVE BRAVO DEPARTURE VISUAL

Coded designator: ADOLA 5 B

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

(f) Examples of plain language and coded designators for approach procedures

(1) Example 1: Instrument approach to a runway

Plain language designator: RNP ZULU APPROACH RUNWAY ONE EIGHT

Coded designator: RNP Z RWY18

Meaning: The designator identifies an RNAV approach procedure to runway 18. The suffix letter ZULU (Z) identifies one of several RNAV approaches established on runway 18 and is a specific character assigned to this procedure.

(2) Example 2: Instrument approach to a runway

Plain language designator: ILS ZULU APPROACH RUNWAY THREE TWO

Coded designator: ILS Z RWY32

Meaning: The designator identifies an ILS approach procedure to runway 32. The suffix letter ZULU (Z) identifies one of several ILS approaches established on runway 32 and is a specific character assigned to this procedure.

(3) Example 3: Instrument approach to a helipad (PinS)

Plain language designator: RNP APPROACH TWO THREE TWO

Coded designator: RNP 232

Meaning: The designator identifies an RNAV approach procedure to a helipad for which the final approach track is equal to 232°.

(g) In this section, the term ‘route’ is used in the meaning of ‘route and associated procedures’.

SECTION IV

Establishment and identification of significant points

AMC1 SECTION IV

GENERAL

(a) The significant points should, whenever possible, be established with reference to ground-based or space-based radio navigation aids. Where such ground-based or space-based radio

navigation aids do not exist, significant points should be established at a location which can be determined by self-contained airborne navigation aids, or, where navigation by visual reference to the ground is to be effected, by visual observation. Specific points may be designated as 'transfer of control' points by agreement between adjacent air traffic control units or control positions concerned.

(b) The designator for a significant point should be marked by the site of a radio navigation aid.

(1) Plain language name for significant points marked by the site of a radio navigation aid

(i) Whenever practicable, significant points should be named with reference to an identifiable and preferably prominent geographical location.

(ii) In selecting a name for the significant point, care should be taken to ensure that the following conditions are met:

(A) the name should not create difficulties in pronunciation for pilots or ATS personnel when speaking in the language used in ATS communications. Where the name of a geographical location in the national language selected for designating a significant point gives rise to difficulties in pronunciation, an abbreviated or contracted version of this name, which retains as much of its geographical significance as possible, should be selected (for example, FUERSTENFELDBRUCK = FURSTY);

(B) the name should be easily recognisable in voice communications and should be free of ambiguity with those of other significant points in the same general area. In addition, the name should not create confusion with respect to other communications exchanged between air traffic services and pilots;

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

(D) the selected name should be the same for both the significant point and the radio navigation aid marking it.

(2) Composition of coded designators for significant points marked by the site of a radio navigation aid

(i) The coded designator should be the same as the radio identification of the radio navigation aid. It should be so composed, if possible, as to facilitate association with the name of the point in plain language.

(ii) Coded designators should not be duplicated within 1 100 km (600 NM) of the location of the radio navigation aid concerned, except as noted hereunder.

(iii) States' requirements for coded designators should be notified to the Regional Offices of ICAO for coordination.

(c) The designator for a significant point not marked by the site of a radio navigation aid

(1) Where a significant point is required at a position not marked by the site of a radio navigation aid, and is used for ATC purposes, it should be designated by a unique five-

letter pronounceable 'name-code'. This name-code designator then serves both as the name as well as the coded designator of the significant point.

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

Examples: ADOLA, KODAP

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

(4) The unique five-letter pronounceable name-code designator assigned to a significant point should not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator should be chosen. In cases when a State wishes to keep the allocation of specific name-codes for reuse at a different location, such name-codes should not be used until after a period of at least 6 months.

(5) States' requirements for unique five-letter pronounceable name-code designators should be notified to the Regional Offices of ICAO for coordination.

(6) In areas where no system of fixed routes is established or where the routes followed by aircraft vary depending on operational considerations, significant points should be determined and reported in terms of World Geodetic System — 1984 (WGS-84) geographical coordinates, except that permanently established significant points serving as exit and/or entry points into such areas should be designated.

(d) The significant points are used for reporting purposes

(1) In order to permit ATS to obtain information regarding the progress of aircraft in flight, selected significant points may need to be designated as reporting points.

(2) In establishing such points, consideration should be given to the following factors:

(i) the type of air traffic services provided;

(ii) the amount of traffic normally encountered;

(iii) the accuracy with which aircraft are capable of adhering to the current flight plan;

(iv) the speed of the aircraft;

(v) the separation minima applied;

(vi) the complexity of the airspace structure;

(vii) the control method(s) employed;

(viii) the start or end of significant phases of a flight (climb, descent, change of direction, etc.);

(ix) transfer of control procedures;

(x) safety and search and rescue aspects;

(xi) the cockpit and air-ground communication workload.

(3) Reporting points should be established either as 'compulsory' or as 'on-request'.

(4) In establishing 'compulsory' reporting points, the following principles should apply:

(i) compulsory reporting points should be limited to the minimum necessary for the routine provision of information to air traffic services units on the progress of aircraft in flight, bearing in mind the need to keep cockpit and controller workload and air-ground communications load to a minimum;

(ii) the availability of a radio navigation aid at a location should not necessarily determine its designation as a compulsory reporting point; and

(iii) compulsory reporting points should not necessarily be established at flight information region or control area boundaries.

(5) The designation of compulsory and on-request reporting points should be reviewed regularly with a view to keeping the requirements for routine position reporting to the minimum necessary to ensure efficient air traffic services.

GM1 SECTION IV

GENERAL

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

(b) 'On-request' reporting points may be established in relation to the requirements of air traffic services for additional position reports when traffic conditions so demand.

(c) The ICAO International Codes and Routes Designators (ICARD) system is used to manage the allocation of unique five-letter name-codes (5LNC) for significant points. They are notified to the Regional Offices of ICAO for coordination and registration on the 'ICAO five-letter name-codes and route designators (ICARD)' data base system.

(d) Additional details on the use of the ICARD system and associated database can be found in the 'ICAO codes and route designators. Five-Letter Name-Codes. Guidelines'.

(e) To avoid confusion, the significant point designator should not be reused for a period of at least 6 months after cancellation of the point to which they refer.

SECTION V

Minimum flight altitudes

GM1 SECTION V

GENERAL

(a) An altitude determined and published for each segment of the route provides the required minimum obstacle clearance (MOC) above obstacles contained inside the obstacle clearance areas.

(b) Procedure altitude/height is used in defining the vertical profile of the flight procedure at or above the minimum obstacle clearance altitude/height, where established.

SECTION VI

Identification and delineation of prohibited, restricted and danger areas

AMC1 SECTION VI

IDENTIFICATION OF PROHIBITED, RESTRICTED AND DANGER AREAS

(a) The identification should be used to identify the area in all subsequent notifications pertaining to that area.

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

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

(2) the letter ‘P’ for prohibited area, the letter ‘R’ for restricted area, and the letter ‘D’ for danger area as appropriate;

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

(c) To avoid confusion, identification numbers should not be reused for a period of at least 1 year after cancellation of the area to which they refer.

GM1 SECTION VI

PROHIBITED, RESTRICTED AND DANGER AREAS

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

(b) Nationality letters are those contained in ICAO Doc 7910 ‘Location Indicators’.