Annex 15 and Annex 4
New and Proposed Amendments

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Annex 15 Amendment 35

- Definitions and new provisions relating to the provision of information on the status of navigations aids
- Performance-based navigation terminology
- Instrument flight procedures terminology
- Promulgation in the AIP of the status of aerodrome certification

Annex 15 Amendment 35

- ***Navigation specification***. A set of aircraft and flight crew requirements needed to support performance based navigation operations within a defined airspace. There are two kinds of navigation specifications:

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

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

- Note 1.— The Performance-based Navigation (PBN) Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.

- Note 2.— The term RNP, previously defined as “a statement of the navigation performance necessary for operation within a defined airspace”, has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.

Annex 15 Amendment 35

- New AD 1.5 Status of certification of aerodromes
- A list of aerodromes in the State, indicating the status of certification, including :
- 1) aerodrome name and ICAO location indicator;
- 2) date and if applicable, validity of certification ; and
- 3) remarks, if any.

Annex 15 Amendment 35

- Adopted 4 March 2009
- Effective 20 July 2009
- Applicable 19 November 2009

Annex 4 Amendment 55

- aligns the required RNP and RNAV terminology with the PBN concept (similar to Annex 15)

- provides for the publication of bearings and tracks additionally as True values on RNAV charts., e.g. 290° (294.9°T).

- 2.15.3 **Recommendation.—** For instrument procedure charts, the publication of a magnetic variation change should be completed within a maximum of six AIRAC cycles.

- 2.15.4 **Recommendation.—** In large terminal areas with multiple aerodromes, a single rounded value of magnetic variation should be applied so that the procedures that service multiple aerodromes use a single, common variation value.

Annex 4 Amendment 55

140	Wind turbine — Unlighted and lighted	
141	Wind turbines minor group and group in major area, lighted	

Annex 4 Amendment 55

- ***Reporting point.*** A specified (named) geographical location in relation to which the position of an aircraft can be reported.
  - *Note.— There are three categories of reporting points: ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids. A reporting point can be indicated as "on request" or as "compulsory".*

- ***Significant point.*** A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.
  - *Note.— There are three categories of significant points: ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids.*

Annex 4 Amendment 55
Hierarchy of symbols

- 2.4.2 To represent ground-based navigation aids, intersections and waypoints, the same basic symbol shall be used on all charts on which they appear, regardless of chart purpose.

- 2.4.3 The symbol used for significant points shall be based on a hierarchy of symbols and selected in the following order:
- ground-based navigation aid, intersection, waypoint symbol.
- A waypoint symbol shall be used only when a particular significant point does not already exist as either a ground-based navigation aid or intersection.

Annex 4 Amendment 55
Hierarchy of symbols

- 2.4.4 States shall ensure that as of 18 November 2010, symbols are shown in the manner specified in 2.4.2, 2.4.3 and Appendix 2 — ICAO Chart Symbols, symbol number 121.

- 2.4.5 **Recommendation.—** *States should ensure that symbols are shown in the manner specified in 2.4.2, 2.4.3 and Appendix 2 — ICAO Chart Symbols, symbol number 121.*

Annex 4 Amendment 55

			On request fly by	Compulsory fly by	On request flyover	Compulsory flyover
1.21	Reporting and fly by/flyover functionality	VFR reporting point				
		Intersection INT				
		VORTAC				
		TACAN				
		VOR				
		VOR/DME				
		NDB				
		Waypoint WPT				
	Note.– See 2.4.4 and 2.4.5					

Annex 4 Amendment 55

- Adopted 4 March 2009
- Effective 20 July 2009
- Applicable 19 November 2009
- except for paragraph 2.4.4 dealing with the hierarchy of symbols for significant points which has an applicability date of 18 November 2010.

Annex 15 Draft Amendment 36

- Quality Management
  - From AIS-AIMSG/1 Agreed Action1/8
  - Clarifies scope of QMS
  - One CRC for all integrity classifications
  - Human factors considerations
  - Use of Metadata

Annex 15 Draft Amendment 36

- 3.2.2 Recommendation.— The quality management system should be applicable to the whole aeronautical information data supply chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.

- *Note 1.— Quality management may be provided by a single quality management system or serial quality management systems.*

- *Note 2.— Letters of agreement concerning data quality between originator and distributor and between distributor and next intended user may be used to manage the aeronautical information data chain.*

Annex 15 Draft Amendment 36

- 3.2.5 Each quality management system shall include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable throughout the aeronautical information data chain so as to allow any data anomalies or errors detected in use to be identified by root cause, corrected and communicated to affected users.

- 3.2.12 Electronic aeronautical data sets shall be protected by the inclusion in the data sets of a 32-bit cyclic redundancy check (CRC) implemented by the application dealing with the data sets. This applies to the protection of all integrity levels of data sets as specified in 3.2.10.
- *Note 1.— The requirement in 3.2.12 does not apply to the communications systems used for the transfer of data sets.*
- *Note 2.— Guidance material on the use of a 32-bit CRC algorithm to implement a protection of electronic aeronautical data sets is contained in the Aeronautical Information Services Manual (Doc 8126).*

Annex 15 Draft Amendment 36

- **3.6.5 Use of automation**

- **Recommendation.—** *Automation in AIS enabling digital data exchange should be introduced with the objective of improving the speed, accuracy, quality, efficiency and cost-effectiveness of aeronautical information services.*

- *Note.— Guidance material on an aeronautical conceptual and data exchange model for the development of databases and the establishment of data exchange services is contained in Doc 8126.*

Annex 15 Draft Amendment 36

3.6.7 Human Factors considerations

- 3.6.7.1 The organization of the aeronautical information services as well as the design, contents, processing and distribution of aeronautical information/data shall take into consideration Human Factors principles which facilitate their optimum utilization.

- 3.6.7.2 Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified.
- *Note.— This may be accomplished through the design of systems, through operating procedures or through improvements in the operating environment.*

Annex 15 Draft Amendment 36

3.8 Metadata

- 3.8.1 Metadata shall be collected for aeronautical data processes and exchange points. This metadata collection shall be applied throughout the aeronautical information data chain, from survey/origin to distribution to the next intended user.

- 3.8.2 The metadata to be collected shall include, as a minimum:
- a) the name of the organization or entity performing the function;
- b) the function performed; and
- c) the date and time of operation.

- *Note.— The function performed indicates any action of originating, transmitting or manipulating the data.*

Annex 15 Draft Amendment 36

- **4.3 Specifications for AIP Amendments**

- . . .
- 4.3.4 Each AIRAC AIP Amendment page, including the cover sheet, shall display an effective date. When an effective time other than 0000 UTC is used, the effective time shall also be displayed on the cover sheet.
- . . .

- **4.4 Specifications for AIP Supplements**

- . . .
- 4.4.4 When an error occurs in an AIP Supplement or when the period of validity of an AIP Supplement is changed, a new AIP Supplement shall be published as a replacement.
- *Note.— The requirements for NOTAM origination apply when time constraints do not allow sufficient time for the distribution of the AIP Supplement.*

Annex 15 Draft Amendment 36

- **4.6 Electronic AIP (eAIP)**

- 4.6.1 **Recommendation.—** *The AIP, AIP Amendment, AIP Supplement and AIC should also be published in a format that allows for displaying on a computer screen and printing on paper.*
- *Note 1.— This composite electronic document is named "Electronic AIP" (eAIP) and may be based on a format that allows for digital data exchange.*
- *Note 2.— Guidance material for the production and provision of the eAIP is contained in Doc 8126.*
- 4.6.2 When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The eAIP shall include files that allow for printing a paper AIP.
- 4.6.3 **Recommendation.—** *When provided, the eAIP should be available on a physical distribution medium (CD, DVD, etc.) and /or online on the Internet.*
- *Note.— Guidance material on the use of the Internet is contained in Guidelines on the Use of the* Public Internet for Aeronautical Applications *(Doc 9855).*

Annex 15 Draft Amendment 36

6.2 Provision of information in paper copy form

6.2.1 In all instances, information provided under the AIRAC system shall be published in paper copy form and shall be distributed by the AIS unit at least 42 days in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date.

6.2.2 **Recommendation.**— *Whenever major changes are planned and where advance notice is desirable and practicable, information published in paper copy form should be distributed by the AIS unit at least 56 days in advance of the effective date. This should be applied to the establishment of, and premeditated major changes in, the circumstances listed in Appendix 4, Part 3, and other major changes if deemed necessary.*

Note.— Guidance on what constitutes a major change is included in Doc 8126.

PART 3

3. The establishment of, and premeditated major changes to:

3.1 New aerodromes for international IFR operations.

3.2 New runways for IFR operations at international aerodromes.

3.3 Design and structure of the air traffic services route network.

3.4 Design and structure of a set of terminal procedures (including change of procedure bearings due to magnetic variation change).

3.5 Circumstances listed in Part 1 if the entire State or any significant portion thereof is affected or if cross-border coordination is required.

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- **8.2 Automated aeronautical information systems**

- . . .
- 8.2.1 The civil aviation authority or the agency to which the authority to provide service has been delegated in accordance with 3.1.1 c) shall use automated pre-flight information systems to make aeronautical information/data available to operations personnel including flight crew members for self-briefing, flight planning and flight information service purposes. The information/data made available shall comply with the provisions of 8.1.2 and 8.1.3.

Annex 15 Draft Amendment 36

- NOTAM Format
  - revision of Item B) clarifies that in cases of NOTAMR and NOTAMC, the date-time group is the actual date and time of the NOTAM origination.
  - clarifies NOTAM numbering, qualifiers (item Q), designation of the start/end of day and the designation of upper and lower limits
  - consequential amendment made to the NOTAM Code in the PANS-ABC

Annex 15 Draft Amendment 36

- 9.3 **Recommendation**.— *Subject to availability, satisfactory operation and bilateral/multilateral and/or regional air navigation agreements, the use of public Internet should be permitted for exchange of non-time critical types of aeronautical information.*
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- *Note.— Guidance material on non-time critical types of aeronautical information and relevant aspects of the public Internet is provided in the* Guidelines on the Use of the Public Internet for Aeronautical Applications *(Doc 9855).*

Annex 15 Draft Amendment 36

- Electronic terrain and obstacle data
  - Many states indicate implementation difficulties with Annex 15, Chapter 10.
  - Difficulties are mostly with Areas 2 and 3
  - State letter AN 2/2.2-09/13
  - Proposal intended to reduce implementation difficulties associated with Annex 15, Chapter 10
  - ANC final review not complete at this time.

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- Proposed Area 2 sub-areas 2 a), b), c), and d)
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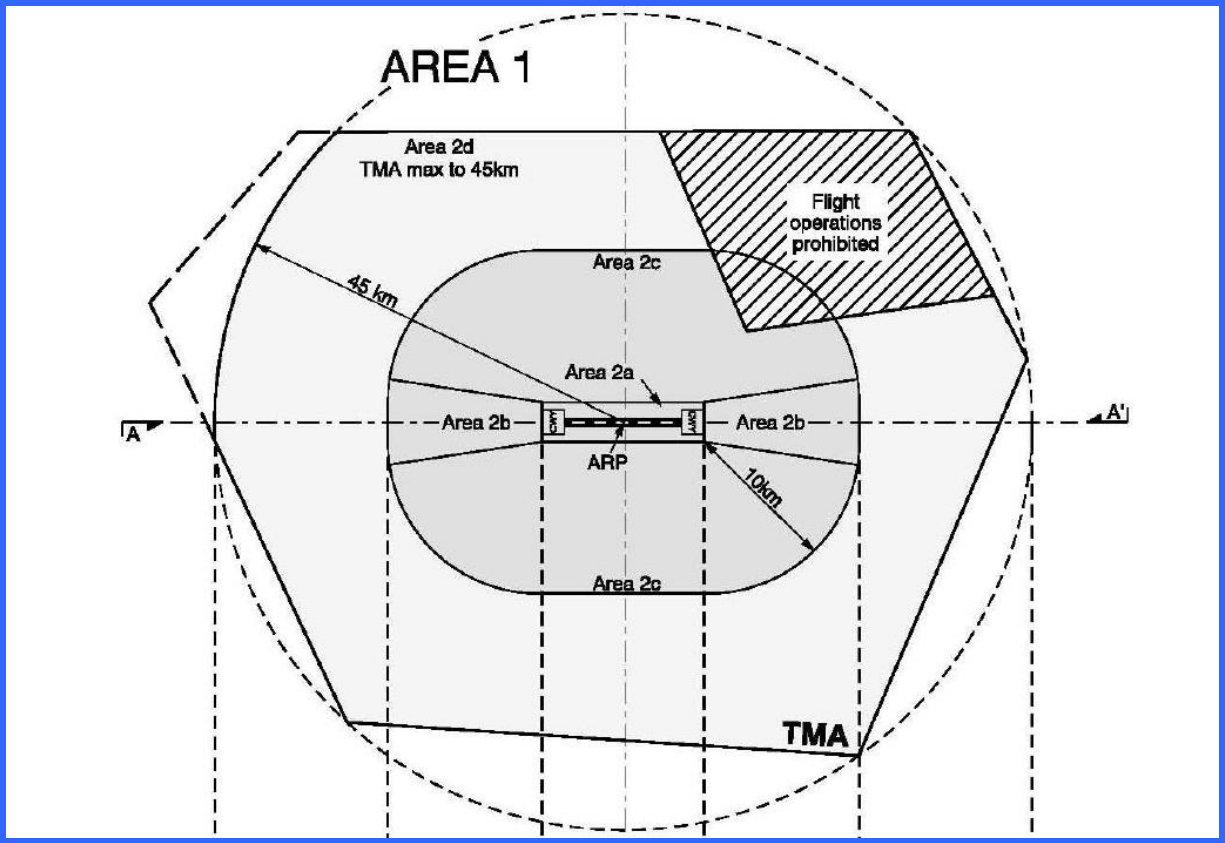

Annex 4 Draft Amendment 56

- Aligns quality system SARPs with changes in Annex 15
- Aligns the applicability of the Terrain and Obstacle Chart – ICAO (Electronic) with proposed Annex15 SARPs for electronic terrain and obstacle data
- Charting of instrument flight procedures
- Introduces provisions for the charting of helicopter point in space (PINs) procedures

Applicability

- Annex 15 Amendment 36 expected applicability:
  1) 18 November 2010
  2) eTOD Area 2: 14 November 2013 proposed

- Annex 4 Amendment 56 expected applicability:
  1) 18 November 2010
  2) Terrain and Obstacle Chart – ICAO (Electronic): 14 November 2013 proposed

- PANS-ABC (Doc 8400): 18 November 2010

Questions?