

PROPOSAL FOR THE AMENDMENT OF DOCUMENT SA-CATS 175 ISSUED UNDER THE CIVIL AVIATION REGULATIONS, 2011

A. PROPOSER

South African Civil Aviation Authority

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B. PROPOSER'S INTEREST

The proposer has been established in terms of the Civil Aviation Act, 2009 (Act No.13 of 2009), to control and regulate Civil Aviation in South Africa and to oversee the functioning and development of the Civil Aviation industry, and, in particular, to control, regulate and promote Civil Aviation Safety and Security.

C. GENERAL EXPLANATORY NOTE

Words in **[bold and solid square bracket]** indicate deletions from the existing regulations.

Words underlined with a solid line indicate insertions in the existing regulations.

1. PROPOSAL FOR THE AMENDMENT OF DOCUMENT SA-CATS 175

1.1 It is hereby proposed to amend Technical Standard 175.03.2 of the Technical Standards by —

- (a) the substitution in Technical Standard 175.03.2, section 2, for subsection (1) of the following subsection:

“2. Data quality specifications

(1) **[The order of data accuracy and resolution]** Data quality specifications shall be in accordance with the Aeronautical Data Catalogue. It provides a general description of the AIM data scope and consolidates data that shall be collected and maintained by an AIS provider. It also provides a reference for aeronautical data origination and publication requirements as contained in **[the Procedures for Air Navigation Services- Aeronautical Management (PANS=AIM, DOC 10066)]** appendixes A to J attached to this Technical Standard.

Appendix A - Table A1-1 Aerodrome data;

Appendix B - Table A1-2 Airspace data;

Appendix C - Table A1-3 ATS and other routes data;

Appendix D - Table A1-4 Instrument flight procedure data;

Appendix E - Table A1-5 Radio navigation aids/systems data;

Appendix F - Table A1-6 Obstacle data;

Appendix G - Table A1-7 Geographic data;

Appendix H - Table A1-8 Terrain data;

Appendix I - Table A1-9 Data types; and

Appendix J - Table A1-10 Information about national and local regulation, services and procedures.”;

1.2 It is hereby proposed to amend Technical Standard 175.03.4 by—

- (a) the substitution in Technical Standard 175.03.4, Section 6, of subsection (2), paragraph (d) of the following paragraph:

“SA-CATS 175.03.4 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

6. NOTAM

- (1) The Director shall designate an International NOTAM Office responsible for the provision of a NOTAM service and for the exchange of NOTAM internationally.
- (2) NOTAM service shall –
- (a) operate the NOF on a 24-hour basis;
 - (b) establish agreements with other international NOF for the exchange of;
 - (c) ensure that –
 - (i) the NOF is connected to the ATN;
 - (ii) the ATN connection provides for printed communication;
 - (iii) the NOF has appropriate facilities to issue and receive NOTAM distributed by means of telecommunication;
 - (d) promptly issue a NOTAM **[that is in accordance with PANS AIM (DOC 10066) and Annex 15,]** whenever information is received under technical standard **[175.03.1] 175.03.5, section 3,** which requires the issuance of a NOTAM; and
 - (e) at intervals of not more than one month, issue a checklist over the AFS of the NOTAM and AIP Amendments that are currently in force, and latest published AIP Supplement and AIC.”

- (b) the substitution in Technical Standard 175.03.4, section 9, subsection (5)(b) for subparagraphs (iii) and (iv) of the following subparagraphs:

“SA-CATS 175.03.4 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

9. Digital data sets

- (5) Contents of digital data sets shall include:
- (b) Terrain data sets which shall—

- (i) provide a terrain grid which shall be angular or linear and shall be of regular or irregular shape;
- (ii) include spatial (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, and permanent ice and snow, and exclude obstacles. Depending on the acquisition method used, this shall represent the continuous surface that exists at the bare Earth, the top of the canopy or something in-between, also known as “first reflective surface”;
- (iii) provide only one feature type, i.e., terrain, in terrain data sets. Feature attributes describing terrain **[shall be those listed in Appendix 6, Table A6-1 of the PANS-AIM, Doc 10066.]** are listed in Table 1 below and **[The terrain feature attributes listed in Appendix 6, Table A6-1 of the PANS-AIM, Doc 10066]** represent the minimum set of terrain attributes, and those annotated as mandatory shall be recorded in the terrain data set[;]:

Table 1:
Terrain attributes

<u>Terrain attribute</u>	<u>Mandatory/Optional</u>
<u>Area of coverage</u>	<u>Mandatory</u>
<u>Data originator identifier</u>	<u>Mandatory</u>
<u>Data source identifier</u>	<u>Mandatory</u>
<u>Acquisition method</u>	<u>Mandatory</u>
<u>Post spacing</u>	<u>Mandatory</u>
<u>Horizontal reference system</u>	<u>Mandatory</u>
<u>Horizontal resolution</u>	<u>Mandatory</u>
<u>Horizontal accuracy</u>	<u>Mandatory</u>
<u>Horizontal confidence level</u>	<u>Mandatory</u>
<u>Horizontal position</u>	<u>Mandatory</u>
<u>Elevation</u>	<u>Mandatory</u>
<u>Elevation reference</u>	<u>Mandatory</u>
<u>Vertical reference system</u>	<u>Mandatory</u>
<u>Vertical resolution</u>	<u>Mandatory</u>
<u>Vertical accuracy</u> Mandatory	<u>Vertical accuracy</u> Mandatory
<u>Vertical confidence level</u>	<u>Mandatory</u>
<u>Surface type</u>	<u>Optional</u>
<u>Recorded surface</u>	<u>Mandatory</u>
<u>Penetration level</u>	<u>Optional</u>
<u>Known variations</u>	<u>Optional</u>
<u>Integrity</u>	<u>Mandatory</u>
<u>Date and time stamp</u>	<u>Mandatory</u>
<u>Unit of measurement used</u>	<u>Mandatory</u>

- (iv) conform to the applicable numerical requirements in **[Appendix 1 of the PANS-AIM, Doc 10066.]** table 2 below:

Table 2:

Terrain data numerical requirements.

	<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>	<u>Area 4</u>
<u>Post spacing</u>	<u>3 arc seconds</u>	<u>1 arc second</u>	<u>0.6 arc seconds</u>	<u>0.3 arc seconds</u>
	<u>(approx. 90 m)</u>	<u>(approx. 30 m)</u>	<u>(approx. 20 m)</u>	<u>(approx. 9 m)</u>
<u>Vertical accuracy</u>	<u>30 m</u>	<u>3 m</u>	<u>0.5 m</u>	<u>1 m</u>
<u>Vertical resolution</u>	<u>1 m</u>	<u>0.1 m</u>	<u>0.01 m</u>	<u>0.1 m</u>
<u>Horizontal accuracy</u>	<u>50 m</u>	<u>5 m</u>	<u>0.5 m</u>	<u>2.5 m</u>
<u>Confidence level</u>	<u>90%</u>	<u>90%</u>	<u>90%</u>	<u>90%</u>
<u>Integrity classification</u>	<u>routine</u>	<u>essential</u>	<u>essential</u>	<u>essential</u>
<u>Maintenance period</u>	<u>as required</u>	<u>as required</u>	<u>as required</u>	<u>as required</u>

- (c) the substitution in Technical Standard 175.03.4, section 9 (5) (c) for section 9 (5)(c) subparagraphs (ii), (iii) and (iv) of the following subparagraphs:

CATS 175.03.4 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

9. Digital data sets

(5) Contents of digital data sets shall include:

“(c) Obstacle data set which shall:

- (ii) define obstacle feature types which shall be provided and described **[according to the list of mandatory attributes provided in Appendix 6, Table A6-2 of the PANS-AIM, Doc 10066;]** in accordance with Table 3 below.

Table 3:

Obstacle attributes

<u>Obstacle attribute</u>	<u>Mandatory/Optional</u>
<u>Area of coverage</u>	<u>Mandatory</u>
<u>Data originator identifier</u>	<u>Mandatory</u>
<u>Data source identifier</u>	<u>Mandatory</u>
<u>Obstacle identifier</u>	<u>Mandatory</u>
<u>Horizontal accuracy</u>	<u>Mandatory</u>
<u>Horizontal confidence level</u>	<u>Mandatory</u>
<u>Horizontal position</u>	<u>Mandatory</u>
<u>Horizontal resolution</u>	<u>Mandatory</u>
<u>Horizontal extent</u>	<u>Mandatory</u>

<u>Horizontal reference system</u>	<u>Mandatory</u>
<u>Elevation</u>	<u>Mandatory</u>
<u>Height</u>	<u>Optional</u>
<u>Vertical accuracy</u>	<u>Mandatory</u>
<u>Vertical confidence level</u>	<u>Mandatory</u>
<u>Vertical resolution</u>	<u>Mandatory</u>
<u>Vertical reference system</u>	<u>Mandatory</u>
<u>Obstacle type</u>	<u>Mandatory</u>
<u>Geometry type</u>	<u>Mandatory</u>
<u>Integrity</u>	<u>Mandatory</u>
<u>Date and time stamp</u>	<u>Mandatory</u>
<u>Unit of measurement used</u>	<u>Mandatory</u>
<u>Operations</u>	<u>Optional</u>
<u>Effectivity</u>	<u>Optional</u>
<u>Lighting</u>	<u>Mandatory</u>

(iii) conform to the applicable numerical requirements contained in Table 4 below **[Appendix 1 of the PANS-AIM, Doc 10066;]** and

(iv) include the obstacle data product specification, supported by geographical coordinates for each aerodrome included within the data set, shall describe the following areas:

(aa) areas 2a, 2b, 2c, 2d;

(bb) the take-off flight path area; and

(cc) the obstacle limitation surfaces.

Table 4:

Obstacle data numerical requirements.

Property: Horizontal position of obstacle

	<u>Accuracy</u>	<u>Integrity</u>	<u>Originatio n type</u>	<u>Publicatio n resolution</u>	<u>Chart resolutio n</u>
<u>Obstacles in Area 1</u>	<u>50 m</u>	<u>routine</u>	<u>surveyed</u>	<u>1 sec</u>	<u>as plotted</u>
<u>Obstacles in Area 2 (including 2a, 2b, 2c, 2d, take-off flight path area and obstacle limitation surfaces)</u>	<u>5 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>1/10 sec</u>	<u>1/10 sec</u>
<u>Obstacles in Area 3</u>	<u>0.5 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>1/10 sec</u>	<u>1/10 sec</u>
<u>Obstacles in Area 4</u>	<u>2.5 m</u>	<u>essentia l</u>	<u>surveyed</u>	-	-

Property: Height of obstacle above ground

	<u>Accuracy</u>	<u>Integrity</u>	<u>Originatio n type</u>	<u>Publicatio n resolution</u>	<u>Chart resolutio n</u>
<u>Obstacles in Area 1</u>	<u>30 m</u>	<u>routine</u>	<u>surveyed</u>	<u>1 m or 1 ft</u>	<u>3 m (10 ft)</u>
<u>Obstacles in Area 2 (including 2a, 2b, 2c, 2d, take-off flight path area and obstacle limitation surfaces)</u>	<u>3 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>1 m or 1 ft</u>	<u>1 m or 1 ft</u>
<u>Obstacles in Area 3</u>	<u>0.5 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>0.1 m or 0.1 ft 0.01 m</u>	<u>1m or 1 ft</u>
<u>Obstacles in Area 4</u>	<u>1 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>0.1 m</u>	-

Elevation of the highest point of the obstacle.

	<u>Accuracy</u>	<u>Integrity</u>	<u>Originatio n type</u>	<u>Publicatio n resolution</u>	<u>Chart resolutio n</u>
<u>Obstacles in Area 1</u>	<u>30 m</u>	<u>routine</u>	<u>surveyed</u>	<u>1 m or 1 ft</u>	<u>3 m (10 ft)</u>
<u>Obstacles in Area 2 (including 2a, 2b, 2c, 2d, take-off flight path area and obstacle limitation surfaces)</u>	<u>3 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>1 m or 1 ft</u>	<u>1 m or 1 ft</u>
<u>Obstacles in Area 3</u>	<u>0.5 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>0.1 m or 0.1 ft 0.01 m</u>	<u>1m or 1 ft</u>
<u>Obstacles in Area 4</u>	<u>1 m</u>	<u>essentia l</u>	<u>surveyed</u>	<u>0.1 m</u>	-

- (d) the substitution in Technical Standard 175.03.5, section 3, for subsection (2) of the following subsection:

CATS 175.03.5 AERONAUTICAL INFORMATION UPDATES

3. NOTAM

“(2) [Detailed specifications concerning the Trigger NOTAM are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066).]

(a) The Trigger NOTAM shall come into force on the same effective date and time as the amendment or supplement and shall remain valid in the pre-flight information bulletin for a period of fourteen days.

(b) In the case of an AIP Supplement, the Trigger NOTAM shall remain valid for a period of fourteen days.

(c) In the case of an AIP Supplement that is valid for less than fourteen days, the Trigger NOTAM shall remain valid for the complete validity period of the AIP Supplement.

(d) In the case of an AIP Supplement that is valid for fourteen days or more, the Trigger NOTAM shall remain valid for at least fourteen days.”.

Motivation

The proposal seeks to amend the SA-CATs by specifying those standards to be complied with instead of referencing ICAO documents where these standards are published.

The submission seeks to incorporate the relevant ICAO standards into the Regulations, which will ensure clarity and limit the need to refer to other documents.

Data Catalogue requirements stipulated in SA-CATS 175.03.2 however is proposed to be included as appendixes to the Technical Standard.

The amendment does not introduce new requirements as it is already contained in the Technical Standards as ICAO referenced documents.