MEMORANDUM CIRCULAR NO. 025-2024

TO : ALL CONCERNED

FROM : DIRECTOR GENERAL

SUBJECT : AMENDMENT TO THE MANUAL OF STANDARDS FOR AERONAUTICAL INFORMATION SERVICES (MOS-AIS) ADOPTING AMENDMENT 3 TO PANS AIM AND OTHER SUPPLEMENTAL AMENDMENTS TO MOS-AIS

REFERENCES

1) Philippine Civil Aviation Regulations- Air Navigation Services Part 4 Aeronautical Charts
2) Philippine Civil Aviation Regulations- Air Navigation Services Part 15 Aeronautical Information Services
3) Manual of Standards for Aeronautical Information Service
4) PANS-AIM
5) CAAP Regulations Amendment Procedures
6) Board Resolution No. 2012-054 dated 28 September 2012

Pursuant to the powers vested in me under the Republic Act 9497, otherwise known as the Civil Aviation Authority Act of 2008, and in accordance with the Regulations Amendment Procedure with Board Resolution No. 2012-054 dated 28 September 2012, I hereby approve the adoption of PANS-AIM Amendment 3 to the Manual of Standards for Aeronautical Information Services (MOS-AIS).

ORIGINAL REGULATIONS SUBJECT FOR REVIEW AND REVISION:

MANUAL OF STANDARDS FOR AERONAUTICAL INFORMATION SERVICES

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INTRODUCTION

1 Manual of Standards for Aeronautical Information Services (MOS-AIS)

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1.2 This document is divided into the following sections:

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Appendix 1 presents the scope of data and information to be collected and maintained by an AIS. The ~~A~~aeronautical ~~D~~data ~~C~~catalogue symbolizes the shift from product-centric to data-centric environments, is considered the point of reference for all provisions related to aeronautical data origination and publication, and represents

the common ~~language~~ data description for data originators and the AIS. Data element properties, sub-properties and descriptions and quality requirements (accuracy, resolution, integrity) are contained in Appendix 1.

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1.3 ~~The material in t~~This manual ~~are~~ is based on ICAO Document 10066, *Procedures for Air Navigation Services – Aeronautical Information Management* (PANSAIM) and in part on ICAO Document 8126, *Aeronautical Information Services Manual* and ICAO Document 9839, *Manual on the Quality Management System for Aeronautical Information Services,* Some recommendations from ICAO Annexes 4 and 15. Although the MOS-AIS is generally directed to providers of Aeronautical Information Services, data originators, commercial data houses of aeronautical data and aeronautical information and other users should be familiar with the procedures contained in this manual.

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2. Differences Published in AIP

A list of significant differences between the MOS-AIS and ICAO Document 10066, *Procedures for Air Navigation Services – Aeronautical Information Management* (PANS-AIM) shall be included and published in AIP Philippines.

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4. Related documents

The users of MOS-AIS are invited to read the following documents for guidance and additional information:

a) CAAP Advisory Circular on Aeronautical Information Services (AC ANS 15.1)

b) ICAO Document 7030 – Regional Supplementary Procedures

c) ICAO Document 8126 – Aeronautical Information Services Manual

d) ICAO Document 8697 – Aeronautical Chart Manual

e) ICAO Document 9674 – World Geodetic System – 1984 (WGS-84) Manual

f) ICAO Document 9839 – Manual on the Quality Management System for Aeronautical Information Services

g) Aeronautical Information Publication (AIP) – Philippines

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CHAPTER 1 DEFINITIONS

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Flight and flow — information for a collaborative environment (FF-ICE). Information necessary for planning, coordination, and notification of flights, exchanged in a standardized format between members of the ATM community, including those involved in flight operations and aerodrome operations.

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Flight and flow — information for a collaborative environment (FF-ICE) services. A set of services established for the purposes of facilitating the exchange of FF-ICE, accurate assessment of demands, appropriate resource planning, and optimizing flight planning and execution.

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SNOWTAM ~~*(Applicable as of 04 November 2021).*~~ A special series NOTAM given in a standard format providing a surface condition report notifying the presence or cessation of hazardous conditions due to snow, ice, slush, frost, standing water or water associated with snow, slush, ice or frost on the movement area.

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CHAPTER 2 AERONAUTICAL INFORMATION MANAGEMENT

2.1 INFORMATION MANAGEMENT REQUIREMENTS

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2.1.1 Collection

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2.1.1.6 Appendix 1 shall be considered as a reference for aeronautical data and aeronautical information origination and publication requirements.

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Note 2.— Appendix 1 provides a common ~~*language*~~ *data description that can be used by data originators and the AIS.*

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2.1.3 Quality control

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2.1.3.2 ~~When the same data is duplicated in different aeronautical information products,~~ The service provider shall ensure the consistency of aeronautical data ~~checks should be undertaken~~ contained in different aeronautical information products.

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2.2 DATA INTEGRITY MONITORING AND ASSURANCE

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2.2.1 Data integrity should be assured by employing cryptographic technologies (e.g. hash functions, message authentication codes, asymmetric and symmetric encryption, and digital certificates).

Note.— Guidance material in respect to the processing of aeronautical data and aeronautical information is contained in RTCA DO-200B/EUROCAE ED-76A — Standards for Processing Aeronautical Data.

2.2.2 The ~~technical means~~ technique used for data error detection should be based on the use of systematic ~~cycling~~ cyclic codes.

Note.— The means to implement systematic ~~*cycling*~~ *cyclic codes include the use of hash functions and cyclic redundancy check (CRC).*

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CHAPTER 3

QUALITY AND TRAINING MANAGEMENT

Note 1.— This ~~chapter~~ section provides general requirements on the quality management system (QMS) related to aeronautical information management (AIM) processes.

Note 2.— Detailed guidance can be found in the Manual on the Quality Management System for Aeronautical Information Management *(Document 9839).*

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3.8.3 Quality Policy

3.8.3.1 A quality policy shall be established by the top management and shall be in writing and visible to all staff. The quality policy forms an important element for the work of the AIM, and establishes:

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Editorial Note: - Renumbering of the subsequent provisions

3.8.4 Commitment To Quality

3.8.~~9~~4.1 AIS top management shall take an active responsibility in the establishment and maintenance of a quality system. This role includes:

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3.8.5 Customer Focus

3.8.~~10~~5.1 Meeting customer and regulatory requirements is AIM's primary business. To ensure that these requirements are met, and that customer confidence is maintained, AIM must have a clear understanding and defined specifications in the form of user requirements. Measurement and analysis of outcomes will be difficult, if not impossible without this specification.

3.8.6 Planning

3.8.~~11~~6.1 The step that follows the publication of the quality policy is the setting of objectives, strategies and targets that will show how the organization expects to implement the quality policy. Targets need to be realistic, relate to the customer's statement of requirements and measurable. The plan must include details of the continual improvement ~~programme~~ program.

3.9 RESOURCE MANAGEMENT

3.9.1 Provision of Resources

3.9.1.1 Organizations are required under the International Standards to determine and provide in a timely manner, the resources needed to:

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Editorial Note: - Renumbering of the subsequent provisions.

3.9.2 Human Resources

3.9.42.1 Staff who is assigned responsibilities defined in the QMS must be competent on the basis of applicable education, training, skills and experience.

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Editorial Note: - Renumbering of the subsequent provisions.

~~**Training, Awareness and Competency**~~

~~3.9.11 This part of the standard requires an organization to:~~

~~a) determine competency needs for personnel performing activities affecting conformity to product requirements ;~~

~~b) where applicable provide training to achieve the necessary competence;~~

~~c) evaluate the effectiveness of the training provided;~~

~~d) ensure that its employees are aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives; and~~

~~e) maintain appropriate records of education, experience, training and qualifications.~~

~~**Checking Competence and Training**~~

~~3.9.12 AIM needs to regularly review the competence, experience, qualifications, capabilities and abilities of its staff to ensure that any skills and qualifications needed by the AIM are available for the tasks to be completed.~~

~~3.9.13 Training is required when deficiencies are noted, or when new employees start work. Any training that is required may be carried out in stages, and may be in the workplace, in-house or at an external location.~~

~~3.9.14 The scope of the training and checking is largely a matter for the organization to determine, but generally, training for AIM would include the following topics:~~

~~a) principles of the AIS;~~

~~b) organization of AIM;~~

~~c) responsibilities and functions of AIM:~~
~~— ICAO documents;~~
~~— AIM products;~~
~~— responsibilities and limitations;~~

~~d) the IAIP;~~

~~e) relationships with external agencies;~~

~~f) change management;~~
~~— applicable policies and procedures;~~
~~— standard operating procedures;~~
~~— quality processes;~~
~~— coordination requirements;~~
~~— collation and processing;~~
~~— data entry and verification;~~
~~— data structures;~~
~~— formats to be used;~~
~~— checking procedures and processes;~~
~~— file management;~~
~~— record keeping;~~
~~— publication and production;~~
~~— distribution;~~

~~g) AIM automation.~~

~~3.9.15 Records should be maintained to show what competences staff possess, and to show what training has been carried out, and the results of that training. Records that demonstrate successful completion, i.e. effectiveness, of a training program and the competence of staff can and should be kept simple.~~

3.9.3 Facilities and the Work Environment

3.9.~~16~~3.1 In addition to adequate numbers of suitably experienced and competent personnel, AIM also requires appropriate accommodation and adequate facilities to get the work done and so provide quality services.

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Editorial Note: - Renumbering of the subsequent provisions.

3.10 MEASUREMENT, ANALYSIS AND IMPROVEMENT

3.10.1 Control of Non-conformity

3.10.1.1 AIM shall ensure that products that do not conform to requirements are identified and controlled to prevent unintended use or delivery. These activities shall be defined in a documented procedure. Non-conforming products shall be corrected

and subject to re-verification after correction to demonstrate conformity. When non-conforming products are detected after delivery or use has started, the organization shall take appropriate action regarding the consequences of the non-conformity.

3.10.2 Analysis of Data

3.10.2.1 This part of the Standard requires AIM to collect and analyse appropriate data to determine the suitability and effectiveness of the QMS and to identify improvements that can be made. This includes data generated by measuring and monitoring activities and other relevant sources. In this regard, the AIM must analyse data to provide information on:

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3.10.3 Do the measurements reveal any trends?

3.10.3.1 As a result of the measuring and monitoring activities, AIM probably will have collected significant amounts of data, which can be analysed to indicate any trends. Any trends that AIM may find could suggest where there are problems in the QMS, which indicates areas where improvement is needed. AIM may also find activities that, although effective as they are now performed, could be improved further. AIM may find that statistical techniques are useful tools for the analysis process. The Standard identifies four areas where analysis is to be applied but AIM can extend data analysis to whatever areas provide AIM with useful information.

3.10.4 Planning for Continual Improvement

3.10.4.1 Understandably, AIM must plan and manage the processes necessary for the continual improvement of the QMS to facilitate the continual improvement of the QMS through the use of the quality policy, objectives, audit results, analysis of data, corrective and preventive action and management review.

3.10.5 What improvements does AIM plan to make?

3.10.5.1 Continual improvement of the QMS is now a mandatory requirement. It is important to understand that continual improvement doesn't mean that it occurs without a break or without ceasing. Instead, improvement should be interpreted as a repeated activity to be implemented as each opportunity is identified and there is justification for proceeding. The standard lists a number of tools and inputs that AIM can use to both plan and actually implement improvement.

3.10.6 Corrective Action

3.10.6.1 AIM shall take corrective action to eliminate the cause of non-conformities in order to prevent recurrence. Corrective action must be appropriate to the impact of the problems encountered. The documented procedure for corrective action must define requirements for:

...

3.10.7 Preventive Action

3.10.7.1 AIM must identify preventive action to eliminate the causes of potential nonconformities to prevent occurrence. Preventive actions taken shall be appropriate to the impact of the potential problems. The documented procedure for preventive action must define requirements for:

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3.10.8 Fixing the Causes of Problems

3.10.8.1 Both corrective and preventive action can be seen as steps in a quality improvement cycle. The need for corrective action can arise when an internal nonconformity (product and/or service or QMS) occurs, or from external sources such as a customer complaint or warranty claim, or problems encountered with a supplier. Corrective action involves finding the cause of the particular problem and then putting in place the necessary actions to prevent the problem recurring. Preventive action starts with considering and analysing the data from all the incidences of nonconformities, all the customer complaints, all the warranty claims, all the problems with suppliers as well as any other sources of problems to find out if any trend is occurring. Where this analysis shows that the potential for problems exists, preventive action then involves putting in place the necessary steps to eliminate these potential causes. The documented procedures for both corrective and preventive actions should define the responsibilities and authorities for these activities.

3.10.9 Fixing the Cause of Known Problems

3.10.9.1 There is a difference between carrying out corrective action and fixing a non-conformity. Fixing a non-conformity is about making good the problem either by reworking, replacing or any of the other activities described in the guidance material. A corrective action is concerned with finding out why the non-conformity occurred and making sure that the problem does not occur again. The need for corrective action could be indicated by a number of factors, some of which could be:

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Editorial Note: - Renumbering of subsequent provisions.

3.10.10 Fixing the Cause of Potential Problems

3.10.~~11~~10.1 AIM should use your records to see if any trends exist which show a potential problem could arise. Typical examples of where information might be found and used for such analysis are from such sources as:

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Editorial Note: - Renumbering of subsequent provisions

3.10.11 Customer Satisfaction

3.10.~~14~~.11.1 The Standards require AIM to monitor information on customer satisfaction and/or dissatisfaction as one of the measurements of the performance of

the QMS. The methodologies for obtaining and using this information must be determined.

3.10.12 How satisfied are the customers?

3.10.~~15~~.12.1 AIM is required to monitor its performance as a supplier to the customers. More specifically, AIM is required to monitor information on satisfaction or dissatisfaction. To do this AIM will need to find out how satisfied their customers are.

3.10.13 Monitoring Satisfaction

3.10.~~16~~.13.1 In the framework of the QMS, a user feedback system shall be defined and implemented.

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~~*Note 4.— Guidance material concerning a training methodology to ensure the competency of personnel is contained in the Aeronautical Information Management Training Development Manual (Doc 9991).*~~

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Editorial Note: - Renumbering of subsequent paragraphs.

3.10.14 Satisfaction as a Measure of the System Performance

3.10.~~18~~.14.1 AIM is to use customer satisfaction as a measure of the performance of the QMS. At its simplest, this could be the percentage of dissatisfied, satisfied and delighted customers. In reality, it tends to be more complicated than that. One customer may be both satisfied and dissatisfied. He or she may be satisfied with the product and/or service but dissatisfied with the delivery performance, for example. Therefore, AIM needs to think it through and come up with a practical measure. Perhaps AIM could ask the customers to rate the performance on a scale from 1 to 10. Alternatively, perhaps it would be worthwhile measuring several aspects of the business, for example, appearance, delivery performance, packaging, functionality, and value for money.

3.10.15 Internal Audit

3.10.~~19~~.15.1 AIS internal quality auditors (IQA) shall conduct periodic internal audits to determine whether the QMS:

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Editorial Note: - Renumbering of succeeding provisions.

3.10.16 What Is the Internal Audit?

3.10.~~22~~.16.1 Audits are about getting information, in a planned way, from a variety of sources and comparing it all to confirm that things are being done properly. The steps of gathering this information should include:

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3.12 TRAINING MANAGEMENT

Note 1.— This section provides general competency-based training and assessment (CBTA) requirements related to aeronautical information management (AIM).

Note 2.— Detailed guidance concerning the CBTA methodology implementation is contained in the Manual on Aeronautical Information Services Training *(ICAO Document 9991).*

3.12.1 The general requirements for the establishment of processes for CBTA within the context of the established QMS shall be to:

a) analyze training needs based on requirements (e.g. legislative, regulatory, operational, technical and organizational);

b) identify required competencies and associated knowledge, skills and attitudes;

c) design, develop and implement a CBTA program and associated training material;

d) train and assess assigned personnel to demonstrate required competencies;

e) monitor competencies and associated knowledge, skills and attitudes;

f) evaluate and update training to be consistent with emerging requirements and feedback; and

g) maintain and retain training records.

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3.12.2 Training, Awareness and Competency

~~3.9.11~~ 3.12.2.1 This part of the standard requires an organization to:

a) determine competency needs for personnel performing activities affecting conformity to product requirements;

b) where applicable provide training to achieve the necessary competence

c) evaluate the effectiveness of the training provided;

d) ensure that its employees are aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives; and

e) maintain appropriate records of education, experience, training and qualifications.

3.12.3 Checking Competence and Training

~~3.9.12~~ 3.12.3.1 AIM needs to regularly review the competence, experience, qualifications, capabilities and abilities of its staff to ensure that any skills and qualifications needed by the AIM are available for the tasks to be completed.

~~3.9.13~~ 3.12.3.2 Training is required when deficiencies are noted, or when new employees start work. Any training that is required may be carried out in stages, and may be in the workplace, in-house or at an external location.

~~3.9.14~~ 3.12.3.3 The scope of the training and checking is largely a matter for the organization to determine, but generally, training for AIM would include the following topics:

a) principles of the AIS;
b) organization of AIM;
c) responsibilities and functions of AIM:
- ICAO documents;
- AIM products;
- responsibilities and limitations;

d) the AIP;
e) relationships with external agencies;
f) change management;
- applicable policies and procedures;
- standard operating procedures;
- quality processes;
- coordination requirements;
- collation and processing;
- data entry and verification;
- data structures;
- formats to be used;
- checking procedures and processes;
- file management;
- record keeping;
- publication and production;
- distribution;

g) AIM automation.

~~3.9.15~~ 3.12.3.4 Records should be maintained to show what competences staff possess, and to show what training has been carried out, and the results of that training. Records that demonstrate successful completion, i.e. effectiveness, of a training program and the competence of staff can and should be kept simple.

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CHAPTER 5 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

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5.1 GENERAL

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5.1.3.1 In aeronautical information products that are distributed on paper, the identification should be done with an asterisk following the coordinate value concerned.

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5.2 AERONAUTICAL INFORMATION IN A STANDARDIZED PRESENTATION

5.2.1 Aeronautical Information Publication (AIP)

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~~5.2.1.1.3 Until 3 November 2021, when the AIP data set (as specified in 5.3.3.1) is provided, the following sections of the AIP may be omitted and reference to the data set availability shall be provided:~~

~~a) GEN 2.5 List of radio navigation aids;~~

~~b) ENR 2.1 FIR, UIR, TMA and CTA;~~

~~c) ENR 3.1 Lower ATS routes;~~

~~d) ENR 3.2 Upper ATS routes;~~

~~e) ENR 3.3 Area navigation routes;~~

~~f) ENR 3.4 Helicopter routes;~~

~~g) ENR 3.5 Other routes;~~

~~h) ENR 3.6 En-route holding;~~

~~i) ENR 4.1 Radio navigation aids — en-route;~~

~~j) ENR 4.2 Special navigation systems;~~

~~k) ENR 4.4 Name-code designators for significant points;~~

~~l) ENR 4.5 Aeronautical ground lights – en-route;~~

~~m) ENR 5.1 Prohibited, restricted and danger areas;~~

~~n) ENR 5.2 Military exercise and training areas and air defence identification zone (ADIZ);~~

~~o) ENR 5.3.1 Other activities of a dangerous nature;~~

~~p) ENR 5.3.2 Other potential hazards;~~

~~q) ENR 5.5 Aerial sporting and recreational activities;~~

~~r) ****AD 2.17 Air traffic services airspace;~~

~~s) **** AD 2.19 Radio navigation and landing aids;~~

~~t) **** AD 3.16 Air traffic services airspace; and~~

~~u) **** AD 3.18 Radio navigation and landing aids.~~

~~*5.2.1.1.3*~~ 5.2.1.1.3 ~~As of 4 November 2021,~~ ~~w~~When the AIP Data Set (as specified in 5.3.3.1) is provided, the following sections of the AIP may be omitted and a reference to the data set availability shall be provided:

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5.2.1.2 General specification

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~~5.2.1.2.3 Each AIP shall not duplicate information within itself or from other sources.~~

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Editorial Note: - Renumbering of succeeding provisions.

5.2.1.2.~~6~~5 Charts, maps or diagrams should be used to complement or as a substitute for the tabulations or text of AIP.

Note.— Where appropriate, charts produced in conformity with CAR-ANS Part 4 may be used to fulfil this requirement. ~~Guidance material as to the specifications of index maps and diagrams included in AIP is contained in AC.ANS 15.1~~

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5.2.1.3 Specifications for AIP Amendments

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5.2.1.3.4 Each AIP Amendment shall be allocated a serial number, which shall be consecutive and based on the calendar year.

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5.2.3 Printed products

5.2.3.1 Printed AIP

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5.2.3.1.5 Each AIP Amendment page, ~~including the cover sheet,~~ shall contain a publication date ~~and~~ or, when applicable, an effective date. The cover sheet shall contain the publication date and, when applicable, an effective date.

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5.2.4 Electronic AIP (eAIP)

Note.— Guidance material for the production and provision of the eAIP is contained in ICAO Document 8126.

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5.2.5.1.4 ~~As of 4 November 2021,~~ ~~i~~Information concerning standing water on the

movement area shall be disseminated by means of a SNOWTAM, and shall contain the information in the order shown in the SNOWTAM Format in Appendix 4.

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5.3 DIGITAL DATA

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5.3.3 Data sets

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5.3.3.1.3 An AIP data set should be provided covering the extent of information as provided in the AIP.

5.3.3.1.4 When it is not possible to provide a complete AIP data set, the data subset(s) that are available should be provided.

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5.3.3.2 Terrain and obstacle data sets

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5.3.3.2.1 *Terrain data sets*

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5.3.3.2.1.5 Where the terrain at a distance greater than 900 m (3 000 ft) from the runway threshold is mountainous or otherwise significant, the length of Area 4 should be extended to a distance not exceeding 2 000 m (6 500 ft) from the runway threshold.

5.3.3.2.1.6 For aerodromes regularly used by international civil aviation, additional terrain data should be provided within Area 2 as follows:

a) in the area extending to a 10-km radius from the ARP; and
b) within the area between 10 km and the TMA boundary or a 45-km radius (whichever is smaller), where terrain penetrates a horizontal terrain data collection surface specified as 120 m above the lowest runway elevation.

5.3.3.2.1.7 Arrangements should be made for coordinating the provision of terrain data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same terrain is correct.

5.3.3.2.1.8 For those aerodromes located near territorial boundaries, arrangements should be made among States concerned to share terrain data.

5.3.3.2.1.9 For aerodromes regularly used by international civil aviation, terrain data should be provided for Area 3.

5.3.3.2.1.10 Where additional terrain data is collected to meet other aeronautical requirements, the terrain data sets should be expanded to include this additional data.

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5.3.3.2.2 *Obstacle data set*

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5.3.3.2.2.5 For aerodromes regularly used by international civil aviation, obstacle data should be provided for Areas 2b, 2c and 2d for obstacles that penetrate the relevant obstacle data collection surface specified as follows:

a) Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side. The Area 2b obstacle collection surface has a 1.2 per cent slope extending from the ends of Area 2a at the elevation of the runway end in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;

b) Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The Area 2c obstacle collection surface has a 1.2 per cent slope extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The initial elevation of Area 2c has the elevation of the point of Area 2a at which it commences; and

c) Area 2d: an area outside Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest. The Area 2d obstacle collection surface has a height of 100 m above ground;

except that data need not be collected for obstacles less than a height of 3 m above ground in Area 2b and less than a height of 15 m above ground in Area 2c.

5.3.3.2.2.6 Arrangements should be made for coordinating the provision of obstacle data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same obstacle is correct.

5.3.3.2.2.7 For those aerodromes located near territorial boundaries, arrangements should be made with States concerned to share obstacle data.

5.3.3.2.2.8 For aerodromes regularly used by international civil aviation, obstacle data should be provided for Area 3 for obstacles that penetrate the relevant obstacle data collection surface extending a half-meter (0.5 m) above the horizontal plane passing through the nearest point on the aerodrome movement area.

5.3.3.2.2.9 Where additional obstacle data is collected to meet other aeronautical requirements, the obstacle data sets should be expanded to include this additional data.

5.3.3.3 Aerodrome mapping data sets

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5.3.3.3.2 Aerodrome mapping data sets should be made available for aerodromes regularly used by international civil aviation.

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5.6 Exchange of aeronautical data and aeronautical information

5.6.1 Formal arrangements should be established between AIS Philippines and those parties from other States providing aeronautical data and aeronautical information in relation to the provision of the service.

Note.— Guidance material on such formal arrangements is contained in the Aeronautical Information Services Manual (ICAO Document 8126).

5.6.2 The exchange of more than one copy of the elements of aeronautical information products, and other air navigation documents, including those containing air navigation legislation and regulations, should be subject to bilateral agreement between the participating Contracting States and entities.

5.6.3 The procurement of aeronautical data and aeronautical information, including the elements of aeronautical information products, and other air navigation documents, including those containing air navigation legislation and regulations, by States other than Contracting States and by other entities should be subject to separate agreement between the participating States and entities.

Chapter 6 AERONAUTICAL INFORMATION UPDATES

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6.1.5 Specifications for digital data updates

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6.1.5.2 Data sets that have been made available in advance (according to the AIRAC cycle) shall be updated with the non-AIRAC changes that occur between the publication and the effective date.

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CHAPTER 7 RECOMMENDED PRACTICES FOR AERONAUTICAL CHARTS

7.1.1 General Specifications

7.1.1.1 Magnetic Variation

7.1.1.1.1 When magnetic variation is shown on a chart, the values shown should be those for the year nearest to the date of publication that is divisible by 5, i.e. 1980, 1985 etc. In exceptional cases where the current value would be more than one degree different, after applying the calculation for annual change, an interim date and value should be quoted.

Note —The date and the annual change may be shown.

7.1.1.1.2 For instrument procedure charts, the publication of a magnetic variation change should be completed within a maximum of six AIRAC cycles.

7.1.1.1.3 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.

7.1.2 Aerodrome Obstacle Chart — ICAO Type A (Operating Limitations)

7.1.2.1 Format

7.1.2.1.1 The vertical grid should have intervals of 30 m (100 ft) and the horizontal grid should have intervals of 300 m (1,000 ft).

7.1.3 Precision Approach Terrain Chart — ICAO

7.1.3.1 Scale

7.1.3.1.1 The horizontal scale should be 1:2,500, and the vertical scale 1:500.

7.1.3.1.2 When the chart includes a profile of the terrain to a distance greater than 900 m (3,000 ft) from the runway threshold, the horizontal scale should be 1:5,000.

7.1.4 Enroute Chart — ICAO

7.1.4.1 Magnetic variation

7.1.4.1.1 Isogonals should be indicated and the date of the isogonic information given.

7.1.5 Visual Approach Chart — ICAO

7.1.5.1 Scale

7.1.5.1.1 The scale should not be smaller than 1: 500,000.

Note - A scale of 1:250,000 or 1:200,000 is preferred.

7.1.5.1.2 When an Instrument Approach Chart is available for a given aerodrome, the Visual Approach Chart should be drawn to the same scale.

7.1.6 AERODROME/HELIPORT CHART — ICAO

7.1.6.1 Aerodrome/heliport data

7.1.6.1.1 For aerodromes accommodating aeroplanes with folding wing tips, the areas where it is safe for aeroplanes with folding wing tips to operate with wing tips extended, should be shown on the chart.

7.1.7 AERODROME GROUND MOVEMENT CHART — ICAO

7.1.7.1 Aerodrome data

7.1.7.1.1 For aerodromes accommodating aeroplanes with folding wing tips, the areas where it is safe for aeroplanes with folding wing tips to operate with wing tips extended, should be shown on the chart.

7.1.8 ATC Surveillance Minimum Altitude Chart — ICAO

7.1.8.1 Coverage and scale

7.1.8.1.1 The chart should be drawn to the same scale as the associated Area Chart — ICAO

7.1.9 Electronic Aeronautical Charts

7.1.9.1 Electronic aeronautical charts should be provided based on digital databases and the use of geographic information systems.

Appendix 1 AERONAUTICAL DATA CATALOGUE

~~*Note 1.— The Aeronautical Data Catalogue is available electronically and provided as part of the MOS-AIS.*~~

Note 1.— The Appendix 1 (Aeronautical Data Catalogue) is available electronically and may be downloaded at CAAP official website www.caap.gov.ph

...

Note 4.— The Aeronautical Data Catalogue contains the aeronautical data subjects, properties and sub-properties organized in:

Table A1-1 Aerodrome data;

Table A1-2 Airspace data;

Table A1-3 ATS and other routes data;

Table A1-4 Instrument flight procedure data;

Table A1-5 Radio navigation aids/systems data;

Table A1-6 Obstacle data;

Table A1-7 Geographic data;

Table A1-8 Terrain data;

Table A1-9 Data types; and

Table A1-10 Information about national and local regulation, services and procedures.

Note ~~4.~~ 5.— The Aeronautical Data Catalogue provides detailed descriptions of all subjects, properties and sub-properties, the data quality requirements and the data types.

Note ~~5.~~ 6.— The data types describe the nature of the property and sub-property and specify the data elements to be collected.

Note ~~6.~~ 7.— The tables of the Aeronautical Data Catalogue are composed of the following columns:

...

~~The Aeronautical Data Catalogue shall contain the aeronautical data subjects, properties and sub-properties as shown in the following tables:~~

Editorial Note: - Tables A1-1 to A1-10 will be deleted and be posted as a separate document in the CAAP Official Website.

Appendix 2 CONTENTS OF THE AERONAUTICAL INFORMATION PUBLICATION (AIP)

PART 1 — GENERAL (GEN)

...

GEN 2. TABLES AND CODES

GEN 2.1 Measuring system, aircraft markings, holidays

...

GEN 2.1.2 Temporal reference system

Description of the temporal reference system (calendar and time 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 3. SERVICES

...

GEN 3.7 Information services

GEN 3.7.1 System-wide Information Management (SWIM) Registry(ies)/Information Service Overview(s)

When SWIM registries are used, the corresponding Uniform Resource Locator (URL) of each registry is provided. Otherwise, a list of the URLs where information service overviews can be found is provided.

Note.— SWIM registries provide a list of available information services with corresponding information service overviews.

...

PART 2 — EN-ROUTE (ENR)

ENR 1 GENERAL RULES AND PROCEDURES

...

ENR 1.10 Flight planning

The requirement is to indicate 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:

1) procedures for the submission of a flight plan;

2) repetitive flight plan system; ~~and~~

3) changes to the submitted flight plan~~.~~; and

4) if applicable, description of available flight and flow — information for a collaborative environment (FF-ICE) services, and associated procedures.

Note. — Provisions concerning FF-ICE services are contained in the Manual of Standards for Air Traffic Service (MOS-ATS) and the guidance material is contained in the Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE) (*ICAO Document 9965*).

ENR 1.11 Addressing of flight plan messages

The requirement is for an indication, in tabular form, of the addresses allocated to flight plans, showing:

1) category of flight (IFR, VFR or both);

2) route (into or via FIR and/or TMA); ~~and~~

3) message address~~.~~; and

4) if applicable, addressing instructions for FF-ICE services.

...

~~**ENR 3.1 Lower ATS routes** *(Applicable until 3 November 2021)*~~

~~*#AIP-DS#* Detailed description of lower ATS routes, including:~~

~~1. route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes 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, geodesic distance to the nearest tenth of a kilometer 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 or minimum en-route altitudes, to the nearest higher 50 m or 100 ft, and airspace classification;

4. lateral limits and minimum obstacle clearance altitudes;

5. direction of cruising levels;

6. the navigation accuracy requirement for each PBN (RNAV or RNP) route segment; and

7. remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

Note.— In relation to CAR-ANS Part 11, Appendix 11.1, and for flight planning purposes, defined navigation specification is not considered to be an integral part of the route designator.

ENR 3.2 Upper ATS routes *(Applicable until 3 November 2021)*

#AIP-DS# Detailed description of upper ATS routes, including:

1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes 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, geodesic distance to the nearest tenth of a kilometer 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) lateral limits;

5) direction of cruising levels;

6) the navigation accuracy requirement for each PBN (RNAV or RNP) route segment; and

7) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

Note.— In relation to CAR-ANS Part 11, Appendix 11.1, and for flight planning purposes, defined navigation specification is not considered to be an integral part of the route designator.

ENR 3.3 Area navigation routes *(Applicable until 3 November 2021)*

#AIP-DS# Detailed description of PBN (RNAV and RNP) routes, including:

1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes 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 an area navigation route, additionally as applicable:

a) station identification of the reference VOR/DME;
b) bearing to the nearest degree and the distance to the nearest tenth of a kilometer or tenth of a nautical mile from the reference VOR/DME, if the waypoint is not collocated with it; and
c) elevation of the transmitting antenna of DME to the nearest 30 m (100 ft);

3) magnetic bearing to the nearest degree, geodesic distance to the nearest tenth of a kilometer 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;

6) the navigation accuracy requirement for each PBN (RNAV or RNP) route segment; and

7) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

Note.— In relation to CAR-ANS Part 11, Appendix 11.1, and for flight planning purposes, defined navigation specification is not considered to be an integral part of the route designator.

ENR 3.4 Helicopter routes *(Applicable until 3 November 2021)*

#AIP-DS# Detailed description of helicopter routes, including:

1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes 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, geodesic distance to the nearest tenth of a kilometer 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 m or 100 ft;

5) the navigation accuracy requirement for each PBN (RNAV or RNP) route segment; and

6) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

Note.— In relation CAR-ANS Part 11, Appendix 11.1, and for flight planning purposes, defined navigation specification is not considered to be an integral part of the route designator

ENR 3.5 Other routes *(Applicable until 3 November 2021)*

#AIP-DS# The requirement is to describe other specifically designated routes which are compulsory within specified area(s).

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

ENR 3.6 En-route holding *(Applicable until 3 November 2021)*

#AIP-DS# The requirement is for a detailed description of en-route holding procedures, containing:

1) holding identification (if any) 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/distance outbound; and~~

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

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

~~***ENR 3.1*** **ENR 3.1 Conventional navigation routes** *(Applicable as of 4 November 2021)*~~

...

~~***ENR 3.2*** **ENR 3.2 Area navigation routes** *(Applicable as of 4 November 2021)*~~

...

~~***ENR 3.3*** **ENR 3.3 Other routes** *(Applicable as of 4 November 2021)*~~

...

~~***ENR 3.4*** **ENR 3.4 En-route holding** *(Applicable as of 4 November 2021)*~~

...

APPENDIX 3 NOTAM FORMAT

...

4 Item A)

Insert the ICAO location indicator as contained in ICAO Document 7910 of the aerodrome or FIR in which the facility, airspace, or condition being reported on is located. More than one FIR/UIR may be indicated when appropriate. If there is no available ICAO location indicator, use the ICAO nationality letter as given in ICAO Document 7910, Part 2, plus "XX" and followed up in Item E) by the name, in plain language.

...

Appendix 4 SNOWTAM FORMAT

SNOWTAM FORMAT

(see Chapter 5, 5.2.5.1.4)

...

INSTRUCTIONS FOR THE COMPLETION OF THE SNOWTAM FORMAT

...

a) The abbreviated heading "TTAAiiii CCCC MM~~YY~~DDGGgg (BBB)" is included to

facilitate the automatic processing of SNOWTAM messages in computer data banks. The explanation of these symbols is:

...

MM~~YY~~DDGGgg = date/time of observation/measurement, whereby:
MM = month, e.g. January = 01, December = 12
~~YY~~DD = day of the month

...

APPENDIX 6 TERRAIN AND OBSTACLE ATTRIBUTES PROVISION REQUIREMENTS

...

Table A6-2. Obstacle attributes

Obstacle attribute	Mandatory/Optional
...	
Lighting	Mandatory
Marking	Mandatory

...

NEW / AMENDED REGULATIONS:

INTRODUCTION

1 Manual of Standards for Aeronautical Information Services (MOS-AIS)

...

1.2 This document is divided into the following sections:

...

Appendix 1 presents the scope of data and information to be collected and maintained by an AIS. The Aeronautical Data Catalogue symbolizes the shift from product-centric to data-centric environments, is considered the point of reference for all provisions related to aeronautical data origination and publication, and represents the common data description for data originators and the AIS. Data element properties, sub-properties and descriptions and quality requirements (accuracy, resolution, integrity) are contained in Appendix 1.

...

1.3 This manual is based on ICAO Document 10066, *Procedures for Air Navigation Services – Aeronautical Information Management* (PANSAIM) and in part on ICAO Document 8126, *Aeronautical Information Services Manual* and ICAO Document 9839, *Manual on the Quality Management System for Aeronautical Information Services,* Some recommendations from ICAO Annexes 4 and 15. Although the MOS-AIS is generally directed to providers of Aeronautical Information Services, data originators, commercial data houses of aeronautical data and aeronautical information and other users should be familiar with the procedures contained in this manual.

...

2. Differences Published in AIP

A list of significant differences between the MOS-AIS and ICAO Document 10066, *Procedures for Air Navigation Services – Aeronautical Information Management* (PANS-AIM) shall be included and published in AIP Philippines.

...

4. Related documents

The users of MOS-AIS are invited to read the following documents for guidance and additional information:

a) CAAP Advisory Circular on Aeronautical Information Services (AC ANS 15.1)

b) ICAO Document 7030 – Regional Supplementary Procedures

c) ICAO Document 8126 – Aeronautical Information Services Manual

d) ICAO Document 8697 – Aeronautical Chart Manual

e) ICAO Document 9674 – World Geodetic System – 1984 (WGS-84) Manual

f) ICAO Document 9839 – Manual on the Quality Management System for Aeronautical Information Services

g) Aeronautical Information Publication (AIP) – Philippines

...

CHAPTER 1 DEFINITIONS

...

Flight and flow — information for a collaborative environment (FF-ICE). Information necessary for planning, coordination, and notification of flights, exchanged in a standardized format between members of the ATM community, including those involved in flight operations and aerodrome operations.

...

Flight and flow — information for a collaborative environment (FF-ICE) services. A set of services established for the purposes of facilitating the exchange of FF-ICE, accurate assessment of demands, appropriate resource planning, and optimizing flight planning and execution.

...

SNOWTAM. A special series NOTAM given in a standard format providing a surface condition report notifying the presence or cessation of hazardous conditions due to snow, ice, slush, frost, standing water or water associated with snow, slush, ice or frost on the movement area.

...

CHAPTER 2 AERONAUTICAL INFORMATION MANAGEMENT

2.1 INFORMATION MANAGEMENT REQUIREMENTS

...

2.1.1 Collection

...

2.1.1.6 Appendix 1 shall be considered as a reference for aeronautical data and aeronautical information origination and publication requirements.

...

Note 2.— Appendix 1 provides a common data description that can be used by data originators and the AIS.

...

2.1.3 Quality control

...

2.1.3.2 The service provider shall ensure the consistency of aeronautical data contained in different aeronautical information products.

...

2.2 DATA INTEGRITY MONITORING AND ASSURANCE

...

2.2.1 Data integrity should be assured by employing cryptographic technologies (e.g. hash functions, message authentication codes, asymmetric and symmetric encryption, and digital certificates).

Note.— Guidance material in respect to the processing of aeronautical data and aeronautical information is contained in RTCA DO-200B/EUROCAE ED-76A — Standards for Processing Aeronautical Data.

2.2.2 The technique used for data error detection should be based on the use of systematic cyclic codes.

Note.— The means to implement systematic cyclic codes include the use of hash functions and cyclic redundancy check (CRC).

...

CHAPTER 3

QUALITY AND TRAINING MANAGEMENT

Note 1.— This section provides general requirements on the quality management system (QMS) related to aeronautical information management (AIM) processes.

Note 2.— Detailed guidance can be found in the Manual on the Quality Management System for Aeronautical Information Management *(Document 9839).*

...

3.8.3 Quality Policy

3.8.3.1 A quality policy shall be established by the top management and shall be in writing and visible to all staff. The quality policy forms an important element for the work of the AIM, and establishes:

...

Editorial Note: - Renumbering of the subsequent provisions

3.8.4 Commitment To Quality

3.8.4.1 AIS top management shall take an active responsibility in the establishment and maintenance of a quality system. This role includes:

...

3.8.5 Customer Focus

3.8.5.1 Meeting customer and regulatory requirements is AIM's primary business. To ensure that these requirements are met, and that customer confidence is maintained, AIM must have a clear understanding and defined specifications in the form of user requirements. Measurement and analysis of outcomes will be difficult, if not impossible without this specification.

3.8.6 Planning

3.8.6.1 The step that follows the publication of the quality policy is the setting of objectives, strategies and targets that will show how the organization expects to implement the quality policy. Targets need to be realistic, relate to the customer's statement of requirements and measurable. The plan must include details of the continual improvement program.

3.9 RESOURCE MANAGEMENT

3.9.1 Provision of Resources

3.9.1.1 Organizations are required under the International Standards to determine and provide in a timely manner, the resources needed to:

...

Editorial Note: - Renumbering of the subsequent provisions.

3.9.2 Human Resources

3.9.2.1 Staff who is assigned responsibilities defined in the QMS must be competent on the basis of applicable education, training, skills and experience.

...

Editorial Note: - Renumbering of the subsequent provisions.

3.9.3 Facilities and the Work Environment

3.9.3.1 In addition to adequate numbers of suitably experienced and competent personnel, AIM also requires appropriate accommodation and adequate facilities to get the work done and so provide quality services.

...

Editorial Note: - Renumbering of the subsequent provisions.

3.10 MEASUREMENT, ANALYSIS AND IMPROVEMENT

3.10.1 Control of Non-conformity

3.10.1.1 AIM shall ensure that products that do not conform to requirements are identified and controlled to prevent unintended use or delivery. These activities shall be defined in a documented procedure. Non-conforming products shall be corrected and subject to re-verification after correction to demonstrate conformity. When non-conforming products are detected after delivery or use has started, the organization shall take appropriate action regarding the consequences of the non-conformity.

3.10.2 Analysis of Data

3.10.2.1 This part of the Standard requires AIM to collect and analyse appropriate data to determine the suitability and effectiveness of the QMS and to identify improvements that can be made. This includes data generated by measuring and monitoring activities and other relevant sources. In this regard, the AIM must analyse data to provide information on:

...

3.10.3 Do the measurements reveal any trends?

3.10.3.1 As a result of the measuring and monitoring activities, AIM probably will have collected significant amounts of data, which can be analysed to indicate any trends. Any trends that AIM may find could suggest where there are problems in the QMS, which indicates areas where improvement is needed. AIM may also find activities that, although effective as they are now performed, could be improved further. AIM may find that statistical techniques are useful tools for the analysis process. The Standard identifies four areas where analysis is to be applied but AIM can extend data analysis to whatever areas provide AIM with useful information.

3.10.4 Planning for Continual Improvement

3.10.4.1 Understandably, AIM must plan and manage the processes necessary for the continual improvement of the QMS to facilitate the continual improvement of the QMS through the use of the quality policy, objectives, audit results, analysis of data, corrective and preventive action and management review.

3.10.5 What improvements does AIM plan to make?

3.10.5.1 Continual improvement of the QMS is now a mandatory requirement. It is important to understand that continual improvement doesn't mean that it occurs without a break or without ceasing. Instead, improvement should be interpreted as a repeated activity to be implemented as each opportunity is identified and there is justification for proceeding. The standard lists a number of tools and inputs that AIM can use to both plan and actually implement improvement.

3.10.6 Corrective Action

3.10.6.1 AIM shall take corrective action to eliminate the cause of non-conformities in order to prevent recurrence. Corrective action must be appropriate to the impact of the problems encountered. The documented procedure for corrective action must define requirements for:

...

3.10.7 Preventive Action

3.10.7.1 AIM must identify preventive action to eliminate the causes of potential nonconformities to prevent occurrence. Preventive actions taken shall be appropriate to the impact of the potential problems. The documented procedure for preventive action must define requirements for:

...

3.10.8 Fixing the Causes of Problems

3.10.8.1 Both corrective and preventive action can be seen as steps in a quality improvement cycle. The need for corrective action can arise when an internal nonconformity (product and/or service or QMS) occurs, or from external sources such as a customer complaint or warranty claim, or problems encountered with a supplier. Corrective action involves finding the cause of the particular problem and then putting in place the necessary actions to prevent the problem recurring. Preventive action starts with considering and analysing the data from all the incidences of nonconformities, all the customer complaints, all the warranty claims, all the problems with suppliers as well as any other sources of problems to find out if any trend is occurring. Where this analysis shows that the potential for problems exists, preventive action then involves putting in place the necessary steps to eliminate these potential causes. The documented procedures for both corrective and preventive actions should define the responsibilities and authorities for these activities.

3.10.9 Fixing the Cause of Known Problems

3.10.9.1 There is a difference between carrying out corrective action and fixing a non-conformity. Fixing a non-conformity is about making good the problem either by reworking, replacing or any of the other activities described in the guidance material. A corrective action is concerned with finding out why the non-conformity occurred and making sure that the problem does not occur again. The need for corrective action could be indicated by a number of factors, some of which could be:

...

Editorial Note: - Renumbering of subsequent provisions.

3.10.10 Fixing the Cause of Potential Problems

3.10.10.1 AIM should use your records to see if any trends exist which show a potential problem could arise. Typical examples of where information might be found and used for such analysis are from such sources as:

...

Editorial Note: - Renumbering of subsequent provisions

3.10.11 Customer Satisfaction

3.10.11.1 The Standards require AIM to monitor information on customer satisfaction and/or dissatisfaction as one of the measurements of the performance of the QMS. The methodologies for obtaining and using this information must be determined.

3.10.12 How satisfied are the customers?

3.10.12.1 AIM is required to monitor its performance as a supplier to the customers. More specifically, AIM is required to monitor information on satisfaction or dissatisfaction. To do this AIM will need to find out how satisfied their customers are.

3.10.13 Monitoring Satisfaction

3.10.13.1 In the framework of the QMS, a user feedback system shall be defined and implemented.

...

Editorial Note: - Renumbering of subsequent paragraphs.

3.10.14 Satisfaction as a Measure of the System Performance

3.10.14.1 AIM is to use customer satisfaction as a measure of the performance of the QMS. At its simplest, this could be the percentage of dissatisfied, satisfied and delighted customers. In reality, it tends to be more complicated than that. One customer may be both satisfied and dissatisfied. He or she may be satisfied with the product and/or service but dissatisfied with the delivery performance, for example. Therefore, AIM needs to think it through and come up with a practical measure. Perhaps AIM could ask the customers to rate the performance on a scale from 1 to 10. Alternatively, perhaps it would be worthwhile measuring several aspects of the business, for example, appearance, delivery performance, packaging, functionality, and value for money.

3.10.15 Internal Audit

3.10.15.1 AIS internal quality auditors (IQA) shall conduct periodic internal audits to determine whether the QMS:

...

Editorial Note: - Renumbering of succeeding provisions.

3.10.16 What Is the Internal Audit?

3.10.16.1 Audits are about getting information, in a planned way, from a variety of sources and comparing it all to confirm that things are being done properly. The steps of gathering this information should include:

...

3.12 TRAINING MANAGEMENT

Note 1.— This section provides general competency-based training and assessment (CBTA) requirements related to aeronautical information management (AIM).

Note 2.— Detailed guidance concerning the CBTA methodology implementation is contained in the Manual on Aeronautical Information Services Training *(ICAO Document 9991).*

3.12.1 The general requirements for the establishment of processes for CBTA within the context of the established QMS shall be to:

a) analyze training needs based on requirements (e.g. legislative, regulatory, operational, technical and organizational);

b) identify required competencies and associated knowledge, skills and attitudes;

c) design, develop and implement a CBTA program and associated training material;

d) train and assess assigned personnel to demonstrate required competencies;

e) monitor competencies and associated knowledge, skills and attitudes;

f) evaluate and update training to be consistent with emerging requirements and feedback; and

g) maintain and retain training records.

...

3.12.2 Training, Awareness and Competency

3.12.2.1 This part of the standard requires an organization to:

a) determine competency needs for personnel performing activities affecting conformity to product requirements;

b) where applicable provide training to achieve the necessary competence

c) evaluate the effectiveness of the training provided;

d) ensure that its employees are aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives; and

e) maintain appropriate records of education, experience, training and qualifications.

3.12.3 Checking Competence and Training

3.12.3.1 AIM needs to regularly review the competence, experience, qualifications, capabilities and abilities of its staff to ensure that any skills and qualifications needed by the AIM are available for the tasks to be completed.

3.12.3.2 Training is required when deficiencies are noted, or when new employees start work. Any training that is required may be carried out in stages, and may be in the workplace, in-house or at an external location.

3.12.3.3 The scope of the training and checking is largely a matter for the organization to determine, but generally, training for AIM would include the following topics:

a) principles of the AIS;
b) organization of AIM;
c) responsibilities and functions of AIM:
- ICAO documents;
- AIM products;
- responsibilities and limitations;
d) the AIP;
e) relationships with external agencies;
f) change management;
- applicable policies and procedures;
- standard operating procedures;
- quality processes;
- coordination requirements;
- collation and processing;
- data entry and verification;
- data structures;
- formats to be used;
- checking procedures and processes;
- file management;
- record keeping;
- publication and production;
- distribution;
g) AIM automation.

3.12.3.4 Records should be maintained to show what competences staff possess, and to show what training has been carried out, and the results of that training. Records that demonstrate successful completion, i.e. effectiveness, of a training program and the competence of staff can and should be kept simple.

...

CHAPTER 5 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

...

5.1 GENERAL

...

5.1.3.1 In aeronautical information products that are distributed on paper, the identification should be done with an asterisk following the coordinate value concerned.

...

5.2 AERONAUTICAL INFORMATION IN A STANDARDIZED PRESENTATION

5.2.1 Aeronautical Information Publication (AIP)

...

5.2.1.1.3 When the AIP Data Set (as specified in 5.3.3.1) is provided, the following sections of the AIP may be omitted and a reference to the data set availability shall be provided:

...

5.2.1.2 General specification

...

Editorial Note: - Renumbering of succeeding provisions.

5.2.1.2.5 Charts, maps or diagrams should be used to complement or as a substitute for the tabulations or text of AIP.

Note.— Where appropriate, charts produced in conformity with CAR-ANS Part 4 may be used to fulfil this requirement.

...

5.2.1.3 Specifications for AIP Amendments

...

5.2.1.3.4 Each AIP Amendment shall be allocated a serial number, which shall be consecutive and based on the calendar year.

...

5.2.3 Printed products

5.2.3.1 Printed AIP

...

5.2.3.1.5 Each AIP Amendment page, shall contain a publication date or, when applicable, an effective date. The cover sheet shall contain the publication date and, when applicable, an effective date.

...

5.2.4 Electronic AIP (eAIP)

Note.— Guidance material for the production and provision of the eAIP is contained in ICAO Document 8126.

...

5.2.5.1.4 Information concerning standing water on the movement area shall be disseminated by means of a SNOWTAM, and shall contain the information in the order shown in the SNOWTAM Format in Appendix 4.

...

5.3 DIGITAL DATA

...

5.3.3 Data sets

...

5.3.3.1.3 An AIP data set should be provided covering the extent of information as provided in the AIP.

5.3.3.1.4 When it is not possible to provide a complete AIP data set, the data subset(s) that are available should be provided.

...

5.3.3.2 Terrain and obstacle data sets

...

5.3.3.2.1 *Terrain data sets*

...

5.3.3.2.1.5 Where the terrain at a distance greater than 900 m (3 000 ft) from the runway threshold is mountainous or otherwise significant, the length of Area 4 should be extended to a distance not exceeding 2 000 m (6 500 ft) from the runway threshold.

5.3.3.2.1.6 For aerodromes regularly used by international civil aviation, additional terrain data should be provided within Area 2 as follows:

a) in the area extending to a 10-km radius from the ARP; and

b) within the area between 10 km and the TMA boundary or a 45-km radius (whichever is smaller), where terrain penetrates a horizontal terrain data collection surface specified as 120 m above the lowest runway elevation.

5.3.3.2.1.7 Arrangements should be made for coordinating the provision of terrain data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same terrain is correct.

5.3.3.2.1.8 For those aerodromes located near territorial boundaries, arrangements should be made among States concerned to share terrain data.

5.3.3.2.1.9 For aerodromes regularly used by international civil aviation, terrain data should be provided for Area 3.

5.3.3.2.1.10 Where additional terrain data is collected to meet other aeronautical requirements, the terrain data sets should be expanded to include this additional data.

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5.3.3.2.2 *Obstacle data set*

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5.3.3.2.2.5 For aerodromes regularly used by international civil aviation, obstacle data should be provided for Areas 2b, 2c and 2d for obstacles that penetrate the relevant obstacle data collection surface specified as follows:

a) Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side. The Area 2b obstacle collection surface has a 1.2 per cent slope extending from the ends of Area 2a at the elevation of the runway end in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;

b) Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The Area 2c obstacle collection surface has a 1.2 per cent slope extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The initial elevation of Area 2c has the elevation of the point of Area 2a at which it commences; and

c) Area 2d: an area outside Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest. The Area 2d obstacle collection surface has a height of 100 m above ground;

except that data need not be collected for obstacles less than a height of 3 m above ground in Area 2b and less than a height of 15 m above ground in Area 2c.

5.3.3.2.2.6 Arrangements should be made for coordinating the provision of obstacle data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same obstacle is correct.

5.3.3.2.2.7 For those aerodromes located near territorial boundaries, arrangements should be made with States concerned to share obstacle data.

5.3.3.2.2.8 For aerodromes regularly used by international civil aviation, obstacle data should be provided for Area 3 for obstacles that penetrate the relevant obstacle data collection surface extending a half-meter (0.5 m) above the horizontal plane passing through the nearest point on the aerodrome movement area.

5.3.3.2.2.9 Where additional obstacle data is collected to meet other aeronautical requirements, the obstacle data sets should be expanded to include this additional data.

5.3.3.3 Aerodrome mapping data sets

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5.3.3.3.2 Aerodrome mapping data sets should be made available for aerodromes regularly used by international civil aviation.

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5.6 Exchange of aeronautical data and aeronautical information

5.6.1 Formal arrangements should be established between AIS Philippines and those parties from other States providing aeronautical data and aeronautical information in relation to the provision of the service.

Note.— Guidance material on such formal arrangements is contained in the Aeronautical Information Services Manual (ICAO Document 8126).

5.6.2 The exchange of more than one copy of the elements of aeronautical information products, and other air navigation documents, including those containing air navigation legislation and regulations, should be subject to bilateral agreement between the participating Contracting States and entities.

5.6.3 The procurement of aeronautical data and aeronautical information, including the elements of aeronautical information products, and other air navigation documents, including those containing air navigation legislation and regulations, by States other than Contracting States and by other entities should be subject to separate agreement between the participating States and entities.

Chapter 6 AERONAUTICAL INFORMATION UPDATES

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6.1.5 Specifications for digital data updates

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6.1.5.2 Data sets that have been made available in advance (according to the AIRAC cycle) shall be updated with the non-AIRAC changes that occur between the publication and the effective date.

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CHAPTER 7 RECOMMENDED PRACTICES FOR AERONAUTICAL CHARTS

7.1.1 General Specifications

7.1.1.1 Magnetic Variation

7.1.1.1.1 When magnetic variation is shown on a chart, the values shown should be those for the year nearest to the date of publication that is divisible by 5, i.e. 1980, 1985 etc. In exceptional cases where the current value would be more than one degree different, after applying the calculation for annual change, an interim date and value should be quoted.

Note —The date and the annual change may be shown.

7.1.1.1.2 For instrument procedure charts, the publication of a magnetic variation change should be completed within a maximum of six AIRAC cycles.

7.1.1.1.3 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.

7.1.2 Aerodrome Obstacle Chart — ICAO Type A (Operating Limitations)

7.1.2.1 Format

7.1.2.1.1 The vertical grid should have intervals of 30 m (100 ft) and the horizontal grid should have intervals of 300 m (1,000 ft).

7.1.3 Precision Approach Terrain Chart — ICAO

7.1.3.1 Scale

7.1.3.1.1 The horizontal scale should be 1:2,500, and the vertical scale 1:500.

7.1.3.1.2 When the chart includes a profile of the terrain to a distance greater than 900 m (3,000 ft) from the runway threshold, the horizontal scale should be 1:5,000.

7.1.4 Enroute Chart — ICAO

7.1.4.1 Magnetic variation

7.1.4.1.1 Isogonals should be indicated and the date of the isogonic information given.

7.1.5 Visual Approach Chart — ICAO

7.1.5.1 Scale

7.1.5.1.1 The scale should not be smaller than 1: 500,000.

Note - A scale of 1:250,000 or 1:200,000 is preferred.

7.1.5.1.2 When an Instrument Approach Chart is available for a given aerodrome, the Visual Approach Chart should be drawn to the same scale.

7.1.6 AERODROME/HELIPORT CHART — ICAO

7.1.6.1 Aerodrome/heliport data

7.1.6.1.1 For aerodromes accommodating aeroplanes with folding wing tips, the areas where it is safe for aeroplanes with folding wing tips to operate with wing tips extended, should be shown on the chart.

7.1.7 AERODROME GROUND MOVEMENT CHART — ICAO

7.1.7.1 Aerodrome data

7.1.7.1.1 For aerodromes accommodating aeroplanes with folding wing tips, the areas where it is safe for aeroplanes with folding wing tips to operate with wing tips extended, should be shown on the chart.

7.1.8 ATC Surveillance Minimum Altitude Chart — ICAO

7.1.8.1 Coverage and scale

7.1.8.1.1 The chart should be drawn to the same scale as the associated Area Chart — ICAO

7.1.9 Electronic Aeronautical Charts

7.1.9.1 Electronic aeronautical charts should be provided based on digital databases and the use of geographic information systems.

Appendix 1 AERONAUTICAL DATA CATALOGUE

Note 1.— The Appendix 1 (Aeronautical Data Catalogue) is available electronically and may be downloaded at CAAP official website www.caap.gov.ph

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Note 4.— The Aeronautical Data Catalogue contains the aeronautical data subjects, properties and sub-properties organized in:

Table A1-1 Aerodrome data;

Table A1-2 Airspace data;

Table A1-3 ATS and other routes data;

Table A1-4 Instrument flight procedure data;
Table A1-5 Radio navigation aids/systems data;

Table A1-6 Obstacle data;

Table A1-7 Geographic data;

Table A1-8 Terrain data;

Table A1-9 Data types; and

Table A1-10 Information about national and local regulation, services and procedures.

Note 5.— The Aeronautical Data Catalogue provides detailed descriptions of all subjects, properties and sub-properties, the data quality requirements and the data types.

Note 6.— The data types describe the nature of the property and sub-property and specify the data elements to be collected.

Note 7.— The tables of the Aeronautical Data Catalogue are composed of the following columns:

...

Editorial Note: - Tables A1-1 to A1-10 will be deleted and be posted as a separate document in the CAAP Official Website.

Appendix 2 CONTENTS OF THE AERONAUTICAL INFORMATION PUBLICATION (AIP)

PART 1 — GENERAL (GEN)

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GEN 2. TABLES AND CODES

GEN 2.1 Measuring system, aircraft markings, holidays

...

GEN 2.1.2 Temporal reference system

Description of the temporal reference system (calendar and time 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 3. SERVICES

...

GEN 3.7 Information services

GEN 3.7.1 System-wide Information Management (SWIM) Registry(ies)/Information Service Overview(s)

When SWIM registries are used, the corresponding Uniform Resource Locator (URL) of each registry is provided. Otherwise, a list of the URLs where information service overviews can be found is provided.

Note.— SWIM registries provide a list of available information services with corresponding information service overviews.

...

PART 2 — EN-ROUTE (ENR)

ENR 1 GENERAL RULES AND PROCEDURES

...

ENR 1.10 Flight planning

The requirement is to indicate 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:

1) procedures for the submission of a flight plan;

2) repetitive flight plan system;

3) changes to the submitted flight plan; and

4) if applicable, description of available flight and flow — information for a collaborative environment (FF-ICE) services, and associated procedures.

Note. — Provisions concerning FF-ICE services are contained in the Procedures for Air Navigation Services — (PANS-ATM, ICAO Document 4444) and the guidance material is contained in the Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE) (*ICAO Document 9965*).

ENR 1.11 Addressing of flight plan messages

The requirement is for an indication, in tabular form, of the addresses allocated to flight plans, showing:

1) category of flight (IFR, VFR or both);

2) route (into or via FIR and/or TMA);

3) message address; and

4) if applicable, addressing instructions for FF-ICE services.

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ENR 3.1 Conventional navigation routes

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ENR 3.2 Area navigation routes

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ENR 3.3 Other routes

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ENR 3.4 En-route holding

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APPENDIX 3 NOTAM FORMAT

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4 Item A)

Insert the ICAO location indicator as contained in ICAO Document 7910 of the aerodrome or FIR in which the facility, airspace, or condition being reported on is located. More than one FIR/UIR may be indicated when appropriate. If there is no available ICAO location indicator, use the ICAO nationality letter as given in ICAO Document 7910, Part 2, plus "XX" and followed up in Item E) by the name, in plain language.

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Appendix 4 SNOWTAM FORMAT

SNOWTAM FORMAT
(see Chapter 5, 5.2.5.1.4)
...
INSTRUCTIONS FOR THE COMPLETION OF THE SNOWTAM FORMAT
...
f) The abbreviated heading "TTAAiiii CCCC MMDDGGgg (BBB)" is included to facilitate the automatic processing of SNOWTAM messages in computer data banks. The explanation of these symbols is:
...
MMDDGGgg = date/time of observation/measurement, whereby:
MM = month, e.g. January = 01, December = 12
DD = day of the month
...
APPENDIX 6 TERRAIN AND OBSTACLE ATTRIBUTES
PROVISION REQUIREMENTS
...
Table A6-2. Obstacle attributes

Obstacle attribute	Mandatory/Optional
...	
Lighting	Mandatory
Marking	Mandatory
...	

xxx

"End of Amendment"

Separability Clause. **-** If for any reason, any provision of this Memorandum Circular is declared invalid or unconstitutional, the other part or parts thereof which are not affected thereby shall continue to be in full force and effect.

Repealing Clause. **-** All orders, rules, regulations, and issuances, or parts thereof which are inconsistent with this Memorandum Circular are hereby repealed, superseded, or modified accordingly.

Determination of changes. – To highlight the amendments and/or revisions in the Memorandum Circular, the deleted text shall be shown with strikethrough and the newly inserted text shall be highlighted with grey shading, as illustrated below:

1. Text deleted: ~~Text to be deleted is shown with a line through it~~.
2. New text inserted: New text is highlighted with grey shading.
3. New text replacing existing text: ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.

Effectivity Clause. **-** This Memorandum Circular shall take effect fifteen (15) days following completion of its publication in a newspaper of general circulation or the Official Gazette and a copy filed with the U.P. Law Center - Office of the National Administrative Register. These amendments shall be incorporated into the Philippine Manual of Standards for Aeronautical Information Services (MOS-AIS).

Signed this 28 day of OCT 2024, at the Civil Aviation Authority of the Philippines, MIA Road, Pasay City.

CAPTAIN MANUEL ANTONIO L. TAMAYO
Director General