MEMORANDUM CIRCULAR NO. 023-2024

TO : **ALL CONCERNED**

FROM : **DIRECTOR GENERAL**

SUBJECT : **AMENDMENT TO PHILIPPINE CIVIL AVIATION REGULATIONS – AIR NAVIGATION SERVICES (CAR-ANS) PART 15 ADOPTING AMENDMENT 43 TO ICAO ANNEX 15 – AERONAUTICAL INFORMATION SERVICES**

REFERENCES

1) Philippine Civil Aviation Regulations- Air Navigation Services Part 15 Aeronautical Information Service
2) ICAO Annex 15, Amendment 43
3) CAAP Regulations Amendment Procedures
4) 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 ICAO Annex 15 Amendment 43 to the Philippine Civil Aviation Regulations – Air Navigation Services (CAR-ANS) Part 15.

ORIGINAL REGULATIONS SUBJECT FOR REVIEW AND REVISION:

CAR-ANS PART 15 AERONAUTICAL INFORMATION SERVICE

. . .

CHAPTER 1. GENERAL

. . .

15.1.2 Common reference systems for air navigation

15.1.2.1 Horizontal reference system

. . .

15.1.2.1.2 *In precise geodetic applications and some air navigation applications, temporal changes in the tectonic plate motion and tidal effects on the Earth's crust ~~should~~ shall be modelled and estimated. To reflect the temporal effect, an epoch ~~should~~ shall be included with any set of absolute station coordinates.*

Note 1.— The ~~epoch~~ latest version of the WGS-84 (~~G873~~ G2139) reference frame is realized through coordinates of 17 GPS tracking stations which are part of the GPS Control Segment. They are aligned to IGb14 (considered to be equivalent to ITRF2014

(International Terrestrial Reference System 2014)) at epoch 2005.0 ~~1997.0 while the epoch of the latest updated WGS-84 (G1150) reference frame, which includes a plate motion model, is 2001.0. (G indicates that the coordinates were obtained through Global Positioning System (GPS) techniques, and the number following G indicates the GPS week when these coordinates were implemented in the United States' National Geospatial-Intelligence Agency's precise ephemeris estimation process.)~~

~~Note 2.— The set of geodetic coordinates of globally distributed permanent GPS tracking stations for the most recent realization of the WGS-84 reference frame (WGS-84 (G1150)) is provided in Doc 9674. For each permanent GPS tracking station, the accuracy of an individually estimated position in WGS-84 (G1150) has been in the order of 1 cm (1σ).~~

Note ~~3~~2.— Another precise worldwide terrestrial coordinate system is the International Earth Rotation Service (IERS) Terrestrial Reference System (ITRS), and the realization of ITRS is the IERS Terrestrial Reference Frame (ITRF). Guidance material regarding the ITRS is provided in Appendix C of ICAO Document 9674. ~~The most current realization of WGS-84 (G1150) is referenced to the ITRF 2000 epoch.~~ WGS-84 (~~G1150~~ G2139) is consistent with ITRF ~~2000~~ 2014 and in practical realization the difference between these two systems is ~~in the one to two centimetre range worldwide~~ statistically insignificant for most applications, meaning WGS-84 (~~G1150~~ G2139) and ITRF ~~2000~~ 2014 are essentially identical.

. . .

15.1.3 Miscellaneous specifications

. . .

15.1.3.3 Units of measurement used in the origination, processing and distribution of aeronautical data and aeronautical information ~~should~~ shall be consistent to the table contained in CAR-ANS Part 5 ~~AIP Philippines GEN 2.1~~.

. . .

15.2.3 Exchange of aeronautical data and aeronautical information

. . .

~~15.2.3.2 Formal arrangements should be established between AIS Philippines and their users 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).~~

. . .

~~15.2.3.6 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.~~

. . .

~~15.2.3.8 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.~~
Editorial Note.— Renumber subsequent provisions.

15.3. AERONAUTICAL INFORMATION MANAGEMENT

. . .

15.3.2 Data quality ~~specifications~~ requirements

. . .

15.3.2.3 Data integrity

. . .

15.3.2.3.2 Based on the applicable integrity classification, procedures shall be put in place in order to:

. . .

b) for essential data: ~~assure~~ ensure corruption does not occur at any stage of the ~~entire process~~ data processing life cycle (such as collection, processing, storing, integration, exchange and delivery) and include additional ~~processes~~ measures or steps as needed to address potential risks in the overall ~~system architecture~~ processing of aeronautical data to further ~~assure~~ ensure data integrity at this level; and

c) for critical data: ~~assure~~ ensure corruption does not occur at any stage of the ~~entire process~~ data processing life cycle (such as collection, processing, storing, integration, exchange and delivery) and include additional data integrity assurance processes to ~~fully~~ mitigate the ~~effects of faults~~ risk of errors ~~identified by thorough analysis of the overall system architecture as potential data integrity risks.~~

Note.— Guidance concerning measures to ensure data integrity is contained in the Aeronautical Information Service Manual *(ICAO Document 8126), Part II, 4.1 and 6.2.*

15.3.3 Aeronautical data and aeronautical information verification and validation

15.3.3.1 ~~Material to be issued~~ Aeronautical data and aeronautical information to be published as part of an aeronautical information product shall be ~~thoroughly~~ checked by a competent individual before ~~it is~~ being submitted to the AIS in order to ensure that all necessary information has been included and that it is correct ~~in detail~~.

. . .

15.3.6 Quality management system

. . .

15.3.6.4 Within the context of the established quality management system, the competencies and the associated knowledge, skills and ~~abilities~~ attitudes required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of

personnel shall be used as a means to detect and correct shortfalls in knowledge, skills and ~~abilities~~ attitudes.

15.3.6.5 The training methodology established in accordance with 15.3.6.4 shall follow the competency-based training and assessment (CBTA) methodology.

Note 1.— Provisions related to the CBTA methodology are contained in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Document 9868) and in the Manual of Standards for Aeronautical Information Services (MOS-AIS).

Note 2.— Additional guidance concerning a CBTA methodology to ensure the competency of personnel in accordance with the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Document 9868) is contained in the Manual on Aeronautical Information Services Training (ICAO Document 9991).

Editorial Note.— Renumber subsequent paragraphs.

. . .

15.5. AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

. . .

15.5.2 Aeronautical information in a standardized presentation

. . .

15.5.2.1.2 The AIP, AIP Amendment, AIP Supplement and AIC when provided as an electronic document (eAIP) ~~should~~ shall allow for both displaying on electronic devices and printing on paper.

. . .

15.5.2.5 Aeronautical charts

15.5.2.5.1 The aeronautical charts listed below shall, when available for designated international aerodromes/heliports, form part of the AIP, or be provided separately to recipients of the AIP:

. . .

m) Visual Approach Chart — ICAO.

~~*Note.— A page pocket may be used in the AIP to include the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) on appropriate electronic media.*~~

15.5.2.5.2 The En-route Chart — ICAO shall, when available, form part of the AIP, or be provided separately to recipients of the AIP.

. . .

~~15.5.2.5.4 Electronic aeronautical charts should be provided based on digital databases and the use of geographic information systems.~~

Editorial Note.— Renumber subsequent provisions.

. . .

15.5.3.2 AIP data set

. . .

~~15.5.3.2.1 An AIP data set should be provided covering the extent of information as provided in the AIP.~~

~~15.5.3.2.2 When it is not possible to provide a complete AIP data set, the data subset(s) that are available should be provided.~~

. . .

Editorial Note.— Renumber subsequent *provisions*.

. . .

15.5.3.3 Terrain and obstacle data sets

. . .

~~15.5.3.3.2 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.~~

. . .

~~15.5.3.3.3.4 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.~~

~~15.5.3.3.3.5 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.~~

~~15.5.3.3.3.6 For those aerodromes located near territorial boundaries, arrangements should be made among States concerned to share terrain data.~~

~~15.5.3.3.3.7 For aerodromes regularly used by international civil aviation, terrain data should be provided for Area 3.~~

. . .

~~15.5.3.3.3.9 Where additional terrain data is collected to meet other aeronautical requirements, the terrain data sets should be expanded to include this additional data.~~

Editorial Note.— Renumber subsequent provisions.

. . .

~~15.5.3.3.4.6 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.~~

~~15.5.3.3.4.7 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.~~

~~15.5.3.3.4.8 For those aerodromes located near territorial boundaries, arrangements should be made with States concerned to share obstacle data.~~

~~15.5.3.3.4.9 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.~~

. . .

~~15.5.3.3.4.11 Where additional obstacle data is collected to meet other aeronautical requirements, the obstacle data sets should be expanded to include this additional data.~~

Editorial Note.— Renumber subsequent paragraphs.

15.5.3.4 Aerodrome mapping data sets

. . .

~~15.5.3.4.2 Aerodrome mapping data sets should be made available for aerodromes regularly used by international civil aviation.~~

. . .

15.5.4 Distribution services

. . .

15.5.4.1.3 Global communication networks such as the Internet shall ~~should~~, whenever practicable, be employed for the provision of aeronautical information products.

. . .

15.5.4.2.7 Selective distribution lists shall ~~should~~ be used when practicable.

Note.— Guidance material relating to selective distribution lists is contained in the Aeronautical Information Services Manual (ICAO Document 8126).

. . .

15.5.4.3 Data set information services

15.5.4.3.1 When provided, the digital data sets specified in 15.5.3 shall be made available through information services.

Note 1.— In the context of system-wide information management, the notion of information service addresses machine-to-machine interaction in a service-oriented architecture.

Note 2. — Procedures on information services are contained in the Procedures for Air Navigation Services - Information Management (PANS-IM, ICAO Document 10199).

Note 3.— Guidance material on information services can be found in the Manual on System-wide Information Management Implementation (ICAO Document 10203).

15.5.4.3.1.1 A data set information service shall provide, as a minimum, the ability to query and retrieve as a whole each of the digital data sets specified in 15.5.3.

15.5.4.3.1.2 A data set information service shall provide the ability to query and retrieve selected elements of the digital data sets specified in 15.5.3.

Note.— Guidance material on how to query digital data sets is contained in the Aeronautical Information Services Manual (ICAO Document 8126), Part IV.

15.5.4.3.1.3 A data set information service shall provide the option to subscribe to notifications on data set updates.

. . .

15.6.3.3 Data set updates

. . .

15.6.3.3.3 When made available as a completely reissued data set, the differences from the previously issued complete data set ~~should~~ shall be indicated.

. . .

15.6.3.3.4 When temporary changes of short duration are made available as digital data (digital NOTAM), they ~~should~~ shall use the same aeronautical information model as the complete data set.

. . .

Editorial Note.— Renumber subsequent provisions.

NEW / AMENDED REGULATIONS:

CHAPTER 1. GENERAL

. . .

15.1.2 Common reference systems for air navigation

15.1.2.1 Horizontal reference system

. . .

15.1.2.1.2 *In precise geodetic applications and some air navigation applications, temporal changes in the tectonic plate motion and tidal effects on the Earth's crust shall be modelled and estimated. To reflect the temporal effect, an epoch shall be included with any set of absolute station coordinates.*

Note 1.— The latest version of the WGS-84 (G2139) reference frame is realized through coordinates of 17 GPS tracking stations which are part of the GPS Control Segment. They are aligned to IGb14 (considered to be equivalent to ITRF2014 (International Terrestrial Reference System 2014)) at epoch 2005.0

Note 2.— Another precise worldwide terrestrial coordinate system is the International Earth Rotation Service (IERS) Terrestrial Reference System (ITRS), and the realization of ITRS is the IERS Terrestrial Reference Frame (ITRF). Guidance material regarding the ITRS is provided in Appendix C of ICAO Document 9674. WGS-84 (G2139) is consistent with ITRF 2014 and in practical realization the difference between these two systems is statistically insignificant for most applications, meaning WGS-84 (G2139) and ITRF 2014 are essentially identical.

. . .

15.1.3 Miscellaneous specifications

. . .

15.1.3.3 Units of measurement used in the origination, processing and distribution of aeronautical data and aeronautical information shall be consistent to the table contained in CAR-ANS Part 5.

. . .

15.2.3 Exchange of aeronautical data and aeronautical information

. . .

Editorial Note.— Renumber subsequent paragraphs.

. . .

15.3. AERONAUTICAL INFORMATION MANAGEMENT

. . .

15.3.2 Data quality requirements

. . .

15.3.2.3 Data integrity

. . .

15.3.2.3.2 Based on the applicable integrity classification, procedures shall be put in place in order to:

. . .

b) for essential data: ensure corruption does not occur at any stage of the data processing life cycle (such as collection, processing, storing, integration, exchange and delivery) and include additional measures or steps as needed to address potential risks in the overall processing of aeronautical data to further ensure data integrity at

this level; and

c) for critical data: ensure corruption does not occur at any stage of the data processing life cycle (such as collection, processing, storing, integration, exchange and delivery) and include additional data integrity assurance processes to mitigate the risk of errors.

Note.— Guidance concerning measures to ensure data integrity is contained in the Aeronautical Information Service Manual *(ICAO Document 8126), Part II, 4.1 and 6.2.*

15.3.3 Aeronautical data and aeronautical information verification and validation

15.3.3.1 Aeronautical data and aeronautical information to be published as part of an aeronautical information product shall be checked by a competent individual before being submitted to the AIS in order to ensure that all necessary information has been included and that it is correct.

. . .

15.3.6 Quality management system

. . .

15.3.6.4 Within the context of the established quality management system, the competencies and the associated knowledge, skills and attitudes required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls in knowledge, skills and attitudes.

15.3.6.5 The training methodology established in accordance with 15.3.6.4 shall follow the competency-based training and assessment (CBTA) methodology.

Note 1.— Provisions related to the CBTA methodology are contained in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Document 9868) and in the Manual of Standards for Aeronautical Information Services (MOS-AIS).

Note 2.— Additional guidance concerning a CBTA methodology to ensure the competency of personnel in accordance with the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Document 9868) is contained in the Manual on Aeronautical Information Services Training (ICAO Document 9991).

Editorial Note.— Renumber subsequent paragraphs.

. . .

15.5. AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

. . .

15.5.2 Aeronautical information in a standardized presentation

. . .

15.5.2.1.2 The AIP, AIP Amendment, AIP Supplement and AIC when provided as an electronic document (eAIP) shall allow for both displaying on electronic devices and printing on paper.

. . .

15.5.2.5 Aeronautical charts

15.5.2.5.1 The aeronautical charts listed below shall, when available for designated international aerodromes/heliports, form part of the AIP, or be provided separately to recipients of the AIP:

. . .

m) Visual Approach Chart — ICAO.

15.5.2.5.2 The En-route Chart — ICAO shall, when available, form part of the AIP, or be provided separately to recipients of the AIP.

Editorial Note.— Renumber subsequent paragraphs.

. . .

15.5.3.2 AIP data set

. . .

Editorial Note.— Renumber subsequent paragraphs.

15.5.3.3 Terrain and obstacle data sets

. . .

Editorial Note.— Renumber subsequent paragraphs.

15.5.4 Distribution services

. . .

15.5.4.1.3 Global communication networks such as the Internet shall, whenever practicable, be employed for the provision of aeronautical information products.

. . .

15.5.4.2.7 Selective distribution lists shall be used when practicable.

Note.— Guidance material relating to selective distribution lists is contained in the Aeronautical Information Services Manual (ICAO Document 8126).

. . .

15.5.4.3 Data set information services

15.5.4.3.1 When provided, the digital data sets specified in 15.5.3 shall be made available through information services.

Note 1.— In the context of system-wide information management, the notion of information service addresses machine-to-machine interaction in a service-oriented architecture.

Note 2. — Procedures on information services are contained in the Procedures for Air Navigation Services-Information Management (PANS-IM, ICAO Document 10199).

Note 3.— Guidance material on information services can be found in the Manual on System-wide Information Management Implementation (ICAO Document 10203).

15.5.4.3.1.1 A data set information service shall provide, as a minimum, the ability to query and retrieve as a whole each of the digital data sets specified in 15.5.3.

15.5.4.3.1.2 A data set information service shall provide the ability to query and retrieve selected elements of the digital data sets specified in 15.5.3.

Note.— Guidance material on how to query digital data sets is contained in the Aeronautical Information Services Manual (ICAO Document 8126), Part IV.

15.5.4.3.1.3 A data set information service shall provide the option to subscribe to notifications on data set updates.

. . .

15.6.3.3 Data set updates

. . .

15.6.3.3.3 When made available as a completely reissued data set, the differences from the previously issued complete data set shall be indicated.

15.6.3.3.4 When temporary changes of short duration are made available as digital data (digital NOTAM), they shall use the same aeronautical information model as the complete data set.

. . .

Editorial Note.— Renumber subsequent paragraphs.

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 Civil Aviation Regulations – Air Navigation Services (CAR-ANS) Part 15.

Signed this 08 day of OCT 2024, at the Civil Aviation Authority of the Philippines, MIA Road, Pasay City.

CAPTAIN MANUEL ANTONIO L. TAMAYO
Director General