NACC/WG/7 — WP/22
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Seventh North American, Central American and Caribbean Working Group Meeting (NACC/WG/7)
ICAO NACC Regional Office, Mexico City, 30 August - 1 September 2022

Agenda Item 3:   **Follow-up of the Activities of the NACC/WG Task Forces**
        3.1   Progress of the NACC/WG on Aeronautical Information Management (AIM), Air Traffic Management (ATM) and Communications, Navigation and Surveillance (CNS)

AIM DEFICIENCIES

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This Working Paper presents relevant information about the implementation and periodic review to update of WGS-84 and AIS Quality Management System (QMS) in CAR Region that are two deficiencies identified in the Aeronautical Information Management (AIM) field. It aims to demonstrate to the CAR/SAM Planning and Implementation Regional Group (GREPECAS), that it is important to complete the work necessary to rectify those two significant deficiencies in all CAR States.	
Action:	Suggested actions are presented in Section 3.
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency
References:	• GAND deficiencies database • GREPECAS 19 Report • Annex 15 • Annex 4 • Annex 14 • PANS AIM • PANS OPS • ICAO Doc. 9674 • ICAO Doc. 9839

1.   Introduction

1.1   The information contained in this paper is developed to inform that CAR Region States and Territories need to complete the work necessary to rectify AIM deficiencies identified by the user's community. Related to Safety issues detected by some International Organisations in particular IATA that presented during the last Scrutiny Working Group (GTE) Meeting information in order to take some actions by GREPECAS, those are mainly the WGS-84 periodic review to update system coordinates and the AIS/AIM Quality Management System (QMS) full implementation, processes, and procedures.

1.2   This issue is being coordinated with RASG-PA for their comments and actions that will be taken jointly with GREPECAS through communications to the States for their attention and resolution.

2.   Discussion

WGS84 Implementation (periodic review and survey to update the coordinates system)

2.1   CAR Region established WGS84 implementation (Doc, 9674), some years ago. Now it aims to evaluate and improve the quality of geographic coordinates and vertical datum (Geoid Undulation)to meet the ICAO's specification in Annexes 4, 11, 14 and, 15 as well as Doc 9674 even though the existing survey points have already been conducted to comply with ICAO's specification on WGS84 standard and requirements. In this regard, CAR WGS84 implementation prescribed all detailed activities including executing body and target of implementation dates. CAR Region has obtained success in several steps according to the initial plan, nevertheless at this new stage, will be necessary to establish a periodic review of the Primary and Secondary Airport Control Points of the coordinates WGS84 network, in order to maintain the precision of data for PBN requirements.

2.2   At this new stage, ICAO will propose to review the current declared WGS84 coordinates in the AIPs in the Region by each State in order to create a survey questionnaire to collect the status of the coordinates to ensure that all existing coordinates are updated conforming to the WGS84 reference system and data quality control. While establishing the national regulations to promulgate the required WGS84 standards and other necessary requirements as described in 9674 Manual and Annexes 4 and 14 of ICAO for Aerodrome Standards.

2.3   Moreover, a number of workshops were conducted some years ago, to explicate survey procedure and guidance for aerodrome surveyors, airspace coordinates information (Fixes, FIR limits, En-route Way Points, etc.), Nav-Aids, data originators, and related Areas to ensure the understanding of all procedures and processes of WGS84 and data quality requirement. Related stakeholders need to have reviewed its procedure, resurveyed, and confirmed the surveyed, declared, and calculated airspace points by applying the methodology in accordance with applicable regulations and recommendations from the WGS84 Manual. Because of this, all coordinate points in AIPs, in the Region, require to be updated and revised by related data originators, while AIS/AIM applied quality control measures as prescribed in the applicable documentation and regulations.

2.4   From that time onwards, AIS/AIM ensures that all coordinates systems on the terrain and airspace comply with data quality requirements and their periodically updates coordinates in accordance with ICAO, in order to guarantee the safety considerations for conventional and/or PBN air navigation.

2.5   Some potential safety risks were identified by the User community for RNAV-PBN Navigation projects, especially precision approaches, and other aspects of navigation and controlled airspace, etc. It would seek to propose a joint Action Plan at the Regional and Inter-Regional levels, in order to resolve the deficiency, considering a set of geodetic surveys and the associated post-processes for new updated coordinate data.

AIS/AIM Quality Management System Implementation (Processes and Procedures)

2.6   ICAO recognizes the importance of adequate, quality and timely aeronautical information and data necessary for the safety, regularity and efficiency of air navigation. To achieve this,

Aeronautical Information Service (AIS) implements efficient Quality Management System (QMS - ICAO Doc. 9839) as classified in three phases as following:

Phase I – Planning

- The planning phase is to review the existing quality system within AIS/AIM unit and to identify gaps where there is a need to develop and expand existing features of the QM system. This 'GAP Analysis' will reveal where additional procedures and documentation will be required. AIS/AIM will perform 'GAP Analysis' by implementing the following:

    a. Review current situation, and what elements of a QMS were in place:
    - AIS/AIM organization structures;
    - Process documents and procedures;
    - Checklists, logs, forms and records;
    - Duties and responsibilities

    b. Identify required items that are not in place:
    - Management engagement;
    - Quality policy and Quality representative within AIS/AIM Unit;
    - Some process documents and necessary records;
    - An internal Quality Audit process;
    - A formal management review process;
    - A continual improvement process;
    - A formal arrangement between AIS/AIM and its data originators.

    c. Reassure successful implementation by planning the following items:
    - Identify resources;
    - Plan and assign related activities;
    - Make time scales and documentation;
    - Allocate responsibilities;
    - Monitor progress regularly.

Phase II – Design

- In this Phase, AIS/AIM describes existing processes and designs new processes as needed. Such activities include explicating the processes in detail, check to streamline the process undertaken and interfaces;

- Additionally, AIS/AIM develop the procedures to carry out processes that define how a process is performed in the following way:

    - Establish current practice;
    - Document current practice;
    - Review current practice;
    - Prepare procedure;
    - Review and approve;

· Issue procedure while collaborating and deploying AIM system, which has data quality control in placed;

- Furthermore, Air Navigation Services Standards (ANS) under of Civil Aviation Authority (CAA) promulgate ANS regulations stating the QMS requirement in accordance with Annex 15 and PANS-AIM (Doc 10066) to regulate the implementation of QMS;

- As the implementation of the provisions set forth in ANS regulations, AIS/AIM develop QMS manual based on QMS framework, by completing the following activities:
  · Develop the quality policy;
  · Establish resource management e.g. recruitment and training procedure;
  · Identify all necessary processes, procedures and work instructions relevant to AIM system; and
  · Establish performance evaluation and continuous improvement procedures.

Phase III – Deployment and Implementation

- The implementation of the QMS includes quality documentation, quality procedures, deployment of quality functions, result monitoring and measurement, and initiation of the improvement actions.

- The quality policy and quality objectives calls for documentation and quality records of each AIS/AIM functional stages of AIS/AIM Products and services, which will be communicated to all AIS/AIM staff and stakeholder beginning year 2019 by doing holding a regular meeting, seminar or workshop conducted by AIS/AIM

- To ensure robustness, quality management procedures are developed, implemented and used by all originators and publishers of aeronautical information; Service Level Agreement (SLA) between AIS/AIM and its data originators has been initiated and discussed to ensure timeliness and data quality. Currently, the full implementation of SLA with ATS /CNS/instrument flight procedure design services (IFPDS – PANS OPS Doc. 8168 Vol. II) is completed and will be followed by the completion of SLA with two major aerodrome operators, covering all airports under the management of both Airports of CAR Region and Civil Aviation Authorities.

3.   Suggested actions

3.1   The meeting is invited to:

a) note the information contained in this paper;
b) present to GREPECAS a solution proposal for these deficiencies;
c) develop and implement a survey questionnaire to collect the status of the coordinates as is mentioned in 2.2; and
d) discuss any relevant matters as appropriate.

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