



International Civil Aviation Organization

**The Ninth Meeting of the Asia/Pacific Aeronautical Information Services –
Aeronautical Information Management Implementation Task Force (AAITF/9)**

Pattaya, Thailand, 24 – 27 June 2014

Agenda Item 4: AIS-AIM Updates

QUALITY, DATA QUALITY AND DATA INTEGRITY MONITORING

(Presented by Australia)

SUMMARY

This paper presents an overview of Airservices Australia's progress towards the Roadmap for the Transition from AIS to AIM Phase 1 (Consolidation) and Phase 2 (Going Digital) in respect to Quality Management including experience and lessons learnt with the introduction of AIXM.

1. INTRODUCTION

1.1 The Airservices AIM business unit (AIM) recognises that the quality of its systems and services is essential to safety, commercial competitiveness, customer satisfaction, employee satisfaction and its long term success. It is committed, through its professional management of products and services, to establishing a reputation within the International Civil Aviation Organisation (ICAO) as one of the world's leading AIS providers.

1.2 AIM management practices will ensure and provide objective evidence that the quality of AIM systems and services is suitable for the customer's intended purpose and conforms to agreed specifications and performance standards.

1.3 The AIM business management system is based on the requirements of the Australian Standard AS/NZS ISO series of standards and guidelines for quality management systems. AIM ensures that Quality objectives are established and routinely reviewed as part of the ongoing management review process with internal auditing scheduled through Airservices Audit and Assurance Branch.

1.4 AIM is committed to making ongoing improvements through the business system with a focus on quality as well as compliance with both the ICAO and Civil Aviation Safety Authority (CASA) regulations.

2. DISCUSSION

2.1 The AIM business unit strives to continually improve the effectiveness and efficiency of the management and production systems and utilises various services, initiatives and processes to do so, including:

- **Business improvement and performance**

The Business Improvement and Performance Group works closely with Business Groups to analyse and measure performance against business plan objectives. The aim of Business Performance is to support the delivery of our objectives through a measurable performance framework.

- **Leadership model implementation strategy**

AIM actively participates in the Airservices Leaders Leading Program. This program implementation aims to reinforce the Airservices leadership principles. All managers are accountable for the continuous improvement of their teams over time and creating the conditions/environment for their direct reports to be successful. Therefore they are accountable for facilitating workshops for their teams, encouraging the flow of open communication and applying the leadership principles to the unique systems/functions of their area.

- **Management review**

AIM application of this management review activity enables timely evaluation of the need for changes to the documented management systems - including policies, instructions, processes and objectives.

- **New staff induction and training**

Airservices has structured and comprehensive Induction procedures to provide new AIM staff with a positive experience.

- **Risk Management**

The Airservices Safety Management Group requires the use of the risk assessment methodology known as 'Bow-Tie'. AIM utilises the 'Bow-Tie' to assist with the development of a robust risk baseline.

- **System enhancements**

A program of improvements to current systems based on Customer Feedback, Internal Reviews, Error Analysis and improvements in technology.

- **Embracing new technology**

The introduction of new or replacement systems to improve current procedures or introduce new capabilities.

Phase 1 – Consolidation – P-17 Quality

2.2 The Airservices AIM Quality Management System is certified under ISO 9001:2008.

2.3 The AIM Quality Manual describes the quality management procedures for all stages of the data process which consists of, but is not limited to:

- Initial check phase – receive, evaluate raw data, process raw data, authorise/approve
- Prepare phase – store, choose publication method, select, assemble, translate, quality check
- Issue phase – print, collate, final quality check, distribute
- Error management phase - detect, remediate, prevent
- Source traceability

2.4 Major quality improvements include:

- The introduction of a Staging environment in the current database which allows data to be validated before it is included in any product.
- Using a database to capture the aeronautical data allows parameters with limitations for data.
- Checklists were developed to ensure that the data received suits the intended use and adheres to data standards.

2.5 Challenges:

- Limited tools to validate data
- Sourcing data is a pull function, it is preferred that data originators supply data on time
- Electronic data is gaining preference, sufficient notification is required from data originators for AIM to action changes
- Surveyors are not surveying critical information that is required for AIM; Thresholds vice Runway ends.

Phase 2 – Going Digital – P-01 Data Quality Monitoring and P-02 Data Integrity Monitoring

2.6 Airservices is in the process of replacing the current Aeronautical Data Management System with data centric integrated software. This transition is allowing Airservices to automate most of the Data Quality and Integrity Monitoring and the ability to exchange electronic datasets with other ANSPs. The Statement of Requirements for the acquisition of the new software included integrated data quality abilities to be included within the software, to ensure accuracy, resolution and integrity of data;

- Validation rules (Structural and Operative) based on AIXM,
- Data quality requirements; ADQ, RTCA DO-201A/EUROCAE ED-77, Annex 15
- Standard data formats; ARINC 424, AIXM 4.5 and AIXM 5.1

2.7 Major data quality monitoring improvements include:

- Data Quality System
- System checks; minimal data, consistency
- CRC
- System attribute limitations or restrictions
- Validation rules; if/then scenario based on recommended practices/Annex
- Application of Eurocontrol's AIXM business rules

2.8 Major data integrity monitoring improvements include:

- CASR P175 – Data Product Specifications based on accuracy and confidence levels as described in Annex 15 and RTCA DO-201A
- Adoption of the AICM
- Standard business rules developed by Eurocontrol

2.9 Challenges:

- AIXM business rules needed some human intervention (still under development)
- Minimal users are capable to do electronic data exchange
- The AICM is not well represented in Australia and minimal training is available
- New system – experience limited

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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