ICAO RBIS QMS PROJECT

QUALITY MANAGEMENT SYSTEM

(ISO 9001:2015)

AFI AIM RBIS QMS PROCEDURE FOR CONTROL OF PRODUCTION OF AERONAUTICAL DATA, AERONAUTICAL INFORMATION AND SERVICE PROVISION TEMPLATE

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1 PURPOSE

The purpose of this procedure is to describe the system that provides controlled conditions under which State AIM/AIS aeronautical data and aeronautical information processes are performed, and system for identification and traceability of AIM/AIS products and services.

2 SCOPE

This procedure applies to the process controls required to meet the objectives of the Quality Management System (QMS). It also applies to identification and traceability, control of changes and preservation of AIM/AIS products.

3 REFERENCES

a. This document covers clause 8.5 and 8.6 of ISO 9001:2015 International Standard covering control of production & service provision and release of products and services respectively.
b. AIM/AIS Manual of Operations

4 TERMINOLOGIES

Top Management	Person or group of people who directs and controls State AIM/AIS at the highest level.
Management Team	Head of AIM/AIS and Unit Managers
Preservation	The protection, and preventive maintenance carried out on aeronautical data, aeronautical information and associated management systems prior to release of aeronautical information products or services.

4.1 Abbreviations

AIM	Aeronautical Information Management
AIS	Aeronautical Information Services
ISO	International Organisation for Standardization
QMS	Quality Management System
AIP	Aeronautical Information Publication
HAIM	Head of AIM/AIS
SLA	Service Level Agreements
ICAO	International Civil Aviation Organisation

5 RESPONSIBILITIES

Head of AIM/AIS	Has the prime responsibility and approval authority for this procedure.

QMS Manager	Responsible for revising/updating and maintaining this procedure.
	Has the responsibility to determine the identification and traceability requirements that apply to the State AIM/AIS outputs and services.
Unit Managers	Is responsible to ensure that QMS conforms to the requirements of ISO 9001:2015 International Standard and is established, implemented and maintained within the various Units of the AIM/AIS.
All staff	Comply with the requirements in this procedure.

6 PROCEDURE DETAILS

6.1 General

1. In support of the AFI AIM RBIS QMS Procedure to define QMS Operational Planning and Control template, AFI_AIM_RBIS_QMS_810_PR01_TMP and AFI AIM RBIS QMS Procedure for QMS Monitoring, Measurement, Analysis and Evaluation template, AFI_AIM_RBIS_QMS_910_PR01_TMP, this procedure addresses the control of AIM/AIS data processes and service provision.
2. The QMS Manager in collaboration with the other Managers ensure that data management and service provision are implemented under controlled conditions and ensures that the documented information for data management processes and service provision is maintained.

6.2 Infrastructure and Work Environment

1. A suitable infrastructure and process environment are provided where processes are controlled and managed to achieve aeronautical data and aeronautical information conformance and continual improvement through the AFI AIM RBIS QMS Procedure for Resource Management template, AFI_AIM_RBIS_QMS_710_PR01_TMP.

6.3 Planning of Processes

1. Aeronautical data management and service provision processes are planned with the AFI AIM RBIS QMS Procedure to define QMS Operational Planning and Control template, AFI_AIM_RBIS_QMS_810_PR01_TMP and also in line with the AIM/AIS Manual of Operations.
2. The planning includes the identification and implementation of actions to prevent human error.

6.4 AIM/AIS Product Characteristics and Service Provision

1. ICAO Guidelines and State Directives spell out the characteristics of the aeronautical data, aeronautical information and services to be provided by State AIM/AIS.

2. The requirements for originating aeronautical data and aeronautical information can be found in the Service Level Agreements (SLAs).
3. Human resources for monitoring of the quality of State AIM/AIS outputs are provided.
4. Related activities at appropriate stages are performed to verify that criteria for control of processes and process outputs, and acceptance criteria for aeronautical data and aeronautical information and services are met.
5. Procedure for QMS Monitoring, Measurement, Analysis and Evaluation template, AFI_AIM_RBIS_QMS_910_PR01_TMP identifies process inspection and test points, process monitoring requirements, tests performed, responsible person, and action criteria.
6. State AIM/AIS Management reviews all processes and equipment and approves all quality plans, procedures, or work instructions that define the sequence of activities required to be performed and the results to be achieved.
7. Competent persons are appointed, and all processes are performed by qualified employees with the AFI AIM RBIS QMS Procedure to Define Competence, Training and Awareness template, AFI_AIM_RBIS_QMS_720_PR01_TMP. Additional information is provided to employees with the AFI AIM RBIS QMS Procedure for Communication template, AFI_AIM_RBIS_QMS_740_PR01_TMP.
8. The nature of aeronautical data and aeronautical information management processes make it difficult for resulting outputs to be verified by subsequent monitoring or measurement and therefore verification and validation concepts are applied to demonstrate the ability of the process to achieve planned results.
9. The need for validation and periodic revalidation of such special processes is identified during the planning phase with AIM RBIS QMS Procedure to define QMS Operational Planning and Control template, AFI_AIM_RBIS_QMS_810_PR01_TMP.
10. When planning identifies the need for validation, responsibility is assigned to a qualified employee, and performed according to a process validation procedure.

6.5 Release of AIM/AIS Products and Service Delivery

1. Release of AIM/AIS products and services is performed after the verification activities at the appropriate stages ensure that aeronautical information product and service requirements are met.
2. Releasing authority lies with AIM/AIS Senior Officers (Shift Leaders) and/or Managers depending on the type of the product or service.
3. No aeronautical information product of State AIM/AIS is published to the next intended user until all internal procedures have been satisfied and documented.

4. If a nonconformity is discovered, appropriate actions are taken according to the AFI AIM RBIS QMS Procedure for Nonconformity, Complaint Management, Corrective Action and Error Analysis template, AFI_AIM_RBIS_QMS_102_PR01_TMP.

6.6 Post Delivery Services

1. Post-delivery services are not carried out by State AIM/AIS and is excluded from the QMS.

6.7 Customer or External Provider's Property

1. Intellectual property belonging to customers or external providers are protected according to confidentiality agreements with the customer.
2. External property can include intellectual property such as AIPs from bilateral partners, personal data, material, components, tools, equipment, and customer premises.

6.8 Control of Changes

1. Unplanned changes essential for aeronautical data management and/or service provision are reviewed and controlled to ensure continuing conformity with specified requirements.
2. Changes to aeronautical data management process are controlled as follows:
   - Whenever there are any changes including operational changes, the QMS Manager shall review the changes and ensure that recurrent training is organized for all operational staff to be familiar with such changes.
   - HAIM in consultation with the appropriate persons shall authorize and ensure that a detailed description of the operational change shall be made available to all staff via the various notice boards and staff's individual corporate e-mails. In addition, other forms of suitable electronic media that may be expedient could be used.
   - HAIM in collaboration with the QMS Manager shall ensure that the AIM/AIS Manual of Operations and other affected documented information are revised, controlled and retained with the AFI AIM RBIS QMS Procedure for the Control of Documented Information template, AFI_AIM_RBIS_QMS_750_PR01_TMP.

6.9 Identification

1. The identification of data originators or the relevant organizations responsible for delivering aeronautical data and/or aeronautical information to State AIM/AIS has been documented in the List of Data Originators.
2. Each data element to be collected is mapped to an identified data originator in accordance with the Formal Arrangement established between data originators and State AIM/AIS through Service Level Agreement (SLA).
3. The list of aeronautical data originators have been used to establish formal arrangements between data originators and State AIM/AIS.

4. Managers ensure that all aeronautical information products have appropriate titles or document name, and some are identified by unique codes.
5. Very sensitive aeronautical data and aeronautical information are handled by Managers or AIM/AIS Senior Officers.

6.10 Traceability of Aeronautical data and Aeronautical Information

1. The Head of AIM/AIS, through the QMS Manager, should ensure that formal arrangements between the AIM/AIS and the data originator specify the metadata to be collected for data origination.
2. This metadata is used as a means for traceability of aeronautical products.
3. Collected metadata for aeronautical data processes should describe the content, quality, condition, and/or other characteristics of data to enable data validation and facilitate data traceability.
4. Metadata should be collected at every stage in the process chain from origination to distribution of the aeronautical data and information. The AFI AIM RBIS QMS meta data template AFI_AIM_RBIS_QMS_MTD_RG01_TMP provides details of the data chain from origination to distribution for traceability.
5. The following metadata should be collected for aeronautical data processes and exchange points:
   (a) Name of organisation performing any actions on the data:
      (i) Organisation and Unit
      (ii) Persons interacting with the data (An encoded staff ID is an alternative if privacy laws prohibit the recording of personal data).
   (b) Actions:
      (i) Origination of the data (including surveying and/or calculation methods etc.)
      (ii) Amendments made to the data;
      (iii) Details of any algorithms and/or techniques (along with its parameters) applied to data subjected to conversion/transformation;
      (iv) Validation and verification of the data that has been performed;
   (c) Date and time the action was performed
6. Collected aeronautical data and/or aeronautical information shall be verified and validated for compliance with completeness, format, timeliness and traceability.
7. For the purpose of identification and traceability; aeronautical data and/or aeronautical information are verified by any of the following activities:

- comparison processes in which data and/or information are compared with an independent source;
- feedback processes in which data and/or information are compared between their input and output states;
- processing through multiple independent and different systems, comparing outputs of each other; including performing alternative calculations
- Processes in which data and/or information are compared with originator's request.

8. For the purpose of identification and Traceability, aeronautical data and or aeronautical information is validated by any of the following activities:
   - application processes in which data and or information are tested
   - processes in which data and or information are compared between two different outputs;
   - processes in which data and or information are compared to an expected range, value or other business rules.
9. Automation systems implemented for processing aeronautical data and aeronautical information shall ensure traceability of the performed actions.
10. At each Unit, the original copy of the received raw data shall be assembled in a designated file for raw data collection and retained to ensure data traceability and enable auditing.
11. Traceability shall be maintained on each of the below data item during its period of validity:
    (a) Data origination (survey, calculation, declaration);
    (b) Data transformation;
    (c) Data reformatting;
    (d) Data verification activities; and
    (e) Data validation activities.

6.11 Handling, Storage and Transmission

1. Aeronautical data and aeronautical information are handled in a controlled manner at every stage of the data management process to ensure that no unintended changes occur.
2. Only competent and authorized staff are allowed to handle aeronautical data and aeronautical information.
3. NOTAMs are transmitted through AFTN, email and published on the State website. A log of all transmissions is maintained to facilitate monitoring of the transmission process.
4. Hardcopies of the NOTAMs are printed and filed appropriately.
5. Automatic backup system is in place to store all electronic data to avoid loss of data when the main storage device breaks down.

6. Other AIM/AIS products such as AIP, AIP supplements, AIP amendments etc. are converted to the most suitable format, printed if necessary and either shelved or distributed through emails, by post or agreed mode of distribution by the State.

6.12 Documented information

1. Records necessary to enable traceability will be retained according to the AFI AIM RBIS QMS Procedure for the Control of Documented Information template, AFI_AIM_RBIS_QMS_750_PR01_TMP.

7 RELATED DOCUMENTS AND FORMS

Number	Description
AFI_AIM_RBIS_QMS_810_PR01_TMP	AFI AIM RBIS QMS Procedure to define QMS Operational Planning and Control template
AFI_AIM_RBIS_QMS_910_PR01_TMP	Procedure for QMS Monitoring, Measurement, Analysis and Evaluation template
AFI_AIM_RBIS_QMS_710_PR01_TMP	AFI AIM RBIS QMS Procedure for Resource Management template
AFI_AIM_RBIS_QMS_720_PR01_TMP	AFI AIM RBIS QMS Procedure to Define Competence, Training and Awareness template
AFI_AIM_RBIS_QMS_740_PR01_TMP	AFI AIM RBIS QMS Procedure for Communication template
AFI_AIM_RBIS_QMS_750_PR01_TMP	AFI AIM RBIS QMS Procedure for the Control of Documented Information template
AFI_AIM_RBIS_QMS_102_PR01_TMP	the AFI AIM RBIS QMS Procedure for Nonconformity, Complaint Management, Corrective Action and Error Analysis template
AFI_AIM_RBIS_QMS_MTD_RG01_TMP	AFI AIM RBIS QMS meta data template
	List of Data Originators