NAMIBIAN CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

ANSSO-AIS-AP175/02

GUIDANCE ON ESTABLISHMENT OF AERONAUTICAL INFORMATION SERVICES QUALITY SYSTEM

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GUIDANCE ON ESTABLISHMENT OF AERONAUTICAL INFORMATION SERVICES QUALITY SYSTEM

1. PURPOSE

This Advisory Pamphlet (AP) provides guidance to AIS providers on the establishment of the aeronautical information services quality system. It provides information and guidance relating to the establishment of the quality system to meet the requirements of the NAMCARs, Part 175 and the associated technical standards.

This AP specifically relates to an AIS provider. The information contained is additional to the guidance provided in Advisory Pamphlet ANSSO-GEN-AP170/01 – Quality system, which provides detailed guidelines relating to the establishment of a quality system within an ANS provider organisation.

2. BACKGROUND

(a) The NAM-CARs Part 175 requires an ANS provider to establish and maintain a properly organized quality assurance system containing procedures, processes and resources necessary to implement quality management.

(b) The NAM-CAR Part 175 also requires an AIS provider to have in place adequate information management resources and processes for the management of information and to ensure that such resources and processes provide for timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the ATM system.

(c) The NAM-CARs Parts 175 also requires an AIS provider to ensure the established quality management system encompasses all functions of an aeronautical information service, and that the execution of such quality management system be made demonstrable for each function stage.

(d) The NAM-CARs Parts 175 further requires that the quality management system be applicable to the whole aeronautical information data and as far as possible, follow the International Organization for Standardization (ISO) 9000 series of quality assurance standards;

(e) Below are the extracts from the Civil Aviation Regulations to which this Advisory Pamphlet apply.

3. EXTRACTS FROM NAM-CARS, PART 175 – AERONAUTICAL INFORMATION SERVICES

175.05.1 Information management requirements

An AIS provider must establish adequate information management resources and processes to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the air traffic management (ATM) system.

175.05.6 Quality management system

An AIS provider must implement and maintain a quality management system encompassing all functions of an AIS provider as described in regulation 175.04.2 and in accordance with the standards set out in Document NAM-CATS-AIS.

4. EXTRACTS FROM NAM-CATS-AIS

175.05.9 Quality management system

1.1 Quality management systems must be implemented and maintained encompassing all functions of an AIS, as outlined in 175.04.2. The execution of such quality management systems must be made demonstrable for each function stage.

1.2 Quality management must be applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.

1.3 The quality management system established in accordance with paragraph 1.1 must, as far as possible, follow the International Organization for Standardization (ISO) 9000 series of quality assurance standards and be certified by an accredited certification body.

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

1.5 The quality management system must include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable throughout the aeronautical information data chain so as to allow any data anomalies or errors detected to be identified by root cause, corrected and communicated to affected users.

1.6 The established quality management system must provide users with the necessary assurance and confidence that distributed aeronautical data and aeronautical information satisfy the aeronautical data quality requirements.

1.7 All necessary measures must be taken to monitor compliance with the quality management system in place.

1.8 Demonstration of compliance of the quality management system applied must be by audit. If nonconformity is identified, initiating action to correct its cause must be determined and taken without undue delay. All audit observations and remedial actions must be evidenced and properly documented.

GUIDANCE ON ESTABLISHMENT OF AERONAUTICAL INFORMATION SERVICES QUALITY SYSTEM

1. AIS Role

One of the core functions of AIS is the provision of adequate, quality and timely aeronautical information /data necessary for the safety, regularity and efficiency of air navigation. To achieve this, the aeronautical information service provider must receive and/or originate, collate or assemble, edit, format, publish/store and distribute aeronautical information/data concerning the entire territory of the State as well as areas in which the State is responsible for air traffic services outside its territory. This calls for the establishment of a quality system within the AIS provider organisation.

2. AIS Quality System

2.1 The need, role and importance of aeronautical information/data have changed significantly with the evolution of the Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) systems. The implementation of area navigation (RNAV), required navigation performance (RNP) and airborne computer based navigation systems has brought about exacting requirements for the quality (accuracy, resolution and integrity) of aeronautical information/data

2.2 Users of aeronautical information depend on the quality of the aeronautical information/data provided. When using corrupted critical data, there is a high probability that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

2.3 Since corrupt or erroneous aeronautical information/data can potentially affect the safety of air navigation because of the direct dependence upon it by both airborne and ground-based systems, it is imperative that the AIS provider ensure that users (aviation industry, air traffic services, etc.) receive timely and quality aeronautical information/data for the period of its intended use.

2.4 To achieve this, and to demonstrate to users the required information/data quality , the AIS provider must establish a quality system and put in place quality management procedures at all stages (receiving and/or originating, collating or

assembling, editing, formatting, publishing, storing and distributing) of the aeronautical information/data process. The quality system must be documented and demonstrable for each function stage, ensuring that the organizational structure, procedures, processes and resources are in place in order to detect and remedy any information/data anomalies during the phases of production, maintenance and operational use. Explicit in such a quality management regime is the ability to trace all information/data from any point, back through the proceeding processes, to its origin.

2.5 Frequent audits form part of the quality system to ensure consistency and conformity . Where nonconformity is detected, action must be taken to determine the cause and to correct the anomaly . Reports, record keeping and documentation form an integral part of this process.

2.6 The International Organization for Standardization (ISO) has developed a set of international standards (ISO 9000 series) dealing with quality management and quality assurance which are in wide use in different sectors throughout the world. The ISO 9000 standards can be used as the basis for the quality systems. ISO 9000 accreditation is one way that the AIS provider is able to demonstrate that a quality system is in place which will enable them to meet established user requirements.

2.7 When formulating a quality assurance programme, the AIS provider may not limit its focus to the processes and procedures that are involved in the provision of the service. It is equally important that the personnel, which are an integral part of the system, possess and utilize the skills and competencies necessary to operate within the quality system. In the context of the quality system, the objectives of skills and competency management must include:

a) the identification of the functions to be performed;
b) the identification of the knowledge and skills required for each step of each of the processes; and
c) the assurance that the personnel assigned to functions have the required knowledge and skills, and are competent to perform those functions

2.8 Additionally, and in accordance with the quality system requirements, the AIS provider may keep appropriate records of the personnel skills and competencies so that the qualifications of AIS personnel assigned to perform specific functions can be confirmed. Appropriate checks must also be undertaken periodically to ensure

that AIS personnel continue to meet the required standards and, if shortfalls in knowledge, skills or competencies are detected, corrective measures are taken.

3. AIS Quality System Procedures

3.1 The Quality Management System comprises of the structure, responsibilities, processes, and procedures of an organisation that promotes and establishes an environment and culture of continuing improvement that will enhance the safety of the operations.

3.2 To comply with the certification requirements of NAM-CARs Parts 170 and 175, an AIS provider must develop, document, implement, and maintain a quality management system with appropriate internal quality assurance procedures.

3.3 Internal quality assurance procedures will identify, document and correct instances of nonconformance, or non-compliance. These procedures must be put in place for all areas of the AIS activities that are listed in its manual.

3.4 The AIS provider may use the procedures provided in Advisory Publication ANSSO-GEN-170/01 to implement a quality system that meets the requirements NAM-CARs Parts 170 and 175 and NAM-CATS-AIS.