NAMIBIAN CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

ANSSO-MET-AP174/02 05/2020

QUALITY MANAGENT SYSTEM FOR METEOROLOGICAL SERVICES

1. **Explanation of Advisory Pamphlets (AP) system. The Namibian Civil Aviation Authority (NCAA) issues advisory pamphlets to inform the aviation public in a systematic way of non-regulatory material. Unless incorporated into a regulation by reference, the contents of an advisory circular ~~are~~ is not binding on the public. Advisory pamphlets are issued in a numbered-subject system corresponding to the subject areas of the Namibian Civil Aviation Regulations (NAMCARs).**

2. **Advisory Pamphlets are intended to provide information and guidance to illustrate a means but not necessarily the only means of complying with the Regulations, or to explain certain Regulatory requirements by providing interpretative and explanatory material. Where an AP is referred to in a 'Note' below the regulation, the AP remains as guidance material.**

   APs should always be read in conjunction with the referenced regulations

3. **Reproduction of Advisory Pamphlets. Advisory pamphlets may be reproduced in their entirety or in part without permission from the Civil Aviation Authority.**

Effective date: 28 May 2020

NAMIBIA CIVIL AVIATION AUTHORITY
NCAA
28 MAY 2020
PRIVATE BAG 12003
AUSSPANNPLATZ
WINDHOEK
OFFICE OF THE EXECUTIVE DIRECTOR

Reinhard Gärtner (Mr.)
Interim Executive Director of Civil Aviation

QUALITY MANAGEMENT SYSTEM FOR METEOROLOGICAL SERVICES

1. Purpose

1.1. This Advisory Pamphlet (AP) contains guidance relating to implementation of quality management system for meteorological services.

1.2. This Advisory Pamphlet (AP) provides information and guidance relating to the establishment of a quality system for the provision of meteorological services for air navigation. The quality system established shall comprise procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users.

2. Background

(a) The setting up of a properly organized quality system is to ensure a continued high quality of data and products provided by the meteorological services.

(b) The NAM-CARs Parts 174 requires the designated MET authority to establish and implement a quality management system for the provision of meteorological services.

(c) NAM-CARs Part 174 further requires the designated MET service provider to establish and implement the quality system in accordance with the provisions of Part 174 and the standards prescribed in NAMCATS Part 174.

(d) Below are the extracts from the Civil Aviation Regulations Part 174 – Meteorology to which this Advisory Pamphlet apply.

3. Extracts from NAM-CARS, PART 174

174.04.2 Supply, use and quality management of meteorological information

(1) A MET service provider must ensure close liaison with the users of meteorological information in accordance with the standards prescribed in Documents NAM-CATS-MET.

(2) A MET service provider must establish, implement and demonstrate compliance with a quality system to provide for the quality management of meteorological information supplied to those concerned with the conduct or development of air navigation.

(3) The quality system required under sub-regulation (2) must be established and implemented in accordance with standards prescribed in Documents NAM-CATS-MET.

4. Extracts from NAM-CATS-MET

174.04.2 Supply, Use and Quality Management of Meteorological Information

1.1 Close liaison must be maintained between those concerned with the supply and those concerned with the use of meteorological information on matters which affect the provision of meteorological service for international air navigation.

1.2 The designated meteorological authority must establish and implement a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to operators, flight crew members, air traffic services units, search and rescue services units, aerodrome managements and others concerned with the conduct or development of air navigation.

1.3 The quality system established by the MET service provider must be certified by an approved organization and must be in conformity with International Organization for Standardization (ISO) 9000 series of quality assurance standards.

Compliance Note: *The International Organization for Standardization (ISO) 9000 series of quality assurance standards provide a basic framework for the development of a quality assurance program. Guidance on the establishment and implementation of a quality management system for the provision of meteorological service for air navigation is given in Advisory Pamphlet ANSSO-MET-AP174/02.*

1.4 The quality system must provide the users with assurance that the meteorological information supplied complies with the stated requirements in terms of the geographical and spatial coverage, format and content, time and frequency of issuance

and period of validity, as well as the accuracy of measurements, observations and forecasts. When the quality system indicates that meteorological information to be supplied to the users does not comply with the stated requirements, and automatic error correction procedures are not appropriate, such information must not be supplied to the users unless it is validated with the originator.

Compliance Note: *Requirements regarding the geographical and special coverage, format and content, time and frequency of issuance and period of validity of meteorological information to be supplied to aeronautical users are given in Sub-Parts 4, 5, 7, 8, 9, 10 and the Appendices 2, 3, 5, 6, 7, 8, and 9 to this Document NAM-CATS-MET.*

1.5 In regard to the exchange of meteorological information for operational purposes, the quality system must include verification and validation procedures and resources for monitoring adherence to the prescribed transmission schedules for individual messages and/or bulletins required to be exchanged, and the times of their filing for transmission. The quality system must be capable of detecting excessive transit times of messages and bulletins received.

Compliance Note: *Requirements concerning the exchange of operational meteorological information are given in Sub-Part 12 and Appendix 10 to this Document NAM-CATS-MET.*

1.6 Demonstration of compliance of the quality system applied must be by audit. If nonconformity of the system is identified, action must be initiated to determine and correct the cause. All audit observations must be evidence-based and properly documented.

1.7 Owing to the variability of meteorological elements in space and time, to limitations of observing techniques and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a report shall be understood by the recipient to be the best approximation to the actual condition at the time of observation.

Compliance Note: *Guidance on the operationally desirable accuracy of measurement or observation is contained in Attachment A to this Document NAM-CATS-MET.*

1.1 Owing to the variability of meteorological elements in space and time, to limitations of forecasting techniques and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a forecast shall be understood by the recipient to be the most probable value which the element is likely to assume during the period of the forecast. Similarly, when the time of occurrence or change of an element is given in a forecast, this time shall be understood to be the most probable time.

Compliance Note: *Guidance on the operationally desirable accuracy of forecasts is contained in Attachment B to this Document NAM-CATS-MET.*

1.2 The meteorological information supplied to the users must be consistent with Human Factors principles and must be in forms which require a minimum of interpretation by these users.

1.3 Within the context of the MET service provider's quality system, the skills and knowledge required for each function must be identified and personnel assigned to perform those functions must be appropriately trained.

1.4 Though not the only means, an ISO 9001 certificate, issued by an appropriately accredited organization, covering the aeronautical information services of the provider is considered as a sufficient means of compliance. The MET provider must accept the disclosure of the documentation related to the certification to the Executive Director upon request.

1.5 A MET service provider must ensure that personnel possess the skills and competencies required to perform specific assigned functions, and appropriate records must be maintained so that the qualifications of personnel can be confirmed.

1.6 Initial and periodic assessments must be established that require personnel to demonstrate the required skills and competencies. Periodic assessments of personnel must be used as a means to detect and correct shortfalls.

1.7 Within the quality assurance system, if nonconformity is identified, initiating action to correct its cause must be determined and taken as follows:

(a) The procedure required for corrective action must specify how:

(i) to correct an existing quality problem; and

(ii) to follow up a corrective action to ensure the action is effective; and

(iii) to amend any procedure required under this Part as a result of a corrective action; and

(iv) management will measure the effectiveness of any corrective action taken.

(b) The procedure required for preventive action must specify how:

(i) to correct a potential quality problem; and

(ii) to follow-up a preventive action to ensure the action is effective; and

(iii) to amend any procedure required under this Part as a result of a preventive action; and

(iv) management will measure the effectiveness of any preventive action taken.

QUALITY MANAGEMENT SYSTEM FOR METEOROLOGICAL SERVICES

1. GUIDANCE AND PROCEDURES

1.1. General

1.1.1. The quality system established must be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards and shall be certified by an approved organization.

1.1.2. The International Organization for Standardization (ISO) 9000 series of quality assurance standards provide a basic framework for the development of a quality assurance programme.

1.2. Development of the Quality System

1.2.1. In developing the quality system for meteorological services, the designated meteorological authority must take into consideration the following;

a) The quality system provides the users with assurance that the meteorological information supplied complies with the stated requirements of Part 174.

b) The quality system includes verification/validation procedures in regard to the operational meteorological (OPMET) information exchange, as well as resources for monitoring the adherence to the prescribed transmission schedules.

c) Demonstration of compliance of the quality system applied shall be by audit. If non-conformity of the system is identified, action must be initiated to determine and correct the cause. All audit observations must be evidenced and properly documented.

1.2.2. The main components of a quality system shall include;

a) a quality policy ;

b) a Quality Manual that outlines the quality system;

c) procedures for all quality assurance activities within that system
d) Work instructions/ operational procedures
e) description of resources provided for the effective implementation of the quality system
f) forms and records

1.2.3. The quality policy developed under 1.2.2 a) above shall show the distinctive characteristic of the entity designated for the provision of meteorological services for air navigation. The policy must include a plan to identify, implement and maintain safety procedures that meet the requirements of NAMCAR Part 174 and meet the needs of the users of the meteorological services provided. The main aspects of the policy must:-

a) include management commitment and responsibilities to the quality plan and procedures;
b) include a commitment to meet customers' expectations
c) include a statements of responsibility and authority
d) include a commitment to ensure the quality management system and the internal quality assurance procedures are subjected to continual, regular and structured review;
e) include a commitment to carry out an internal audit programme to audit conformity with the procedures in its quality manual;
f) include a procedure to ensure quality indicators are monitored to identify existing or potential causes of problems within the system
g) be aligned with the overall business policy of the meteorological service provider;
h) include a commitment to meeting requirements, primarily the requirements of NAMCARs and NAMCATS, Part 174.
i) be widely communicated throughout the organization; and

1.2.4. The Quality Manual developed under 1.2.2 b) above must include the following typical elements:-

a) Title and scope — the manual should make reference to the specific quality management system standard (i.e. ISO 9001) on which the quality management system is based;
b) Table of contents;
c) Review, approval and revision — evidence of the review, approval, revision status and date of the quality manual should be clearly stated;

d) Quality policy and objectives — can be separately documented but referenced in the manual or be included in the quality manual;
e) Organization, responsibility and authority — a description of the structure of the organization is to be included. Organization charts, flow charts and job descriptions may be included or referenced in the manual;
f) References — a list of documents referred to but not included in the manual;
g) Quality management system description — descriptions of the processes and their interactions, documented procedures or references to them are to be included; and
h) Appendices — any supportive information such as flow charts of processes and organization charts.

1.2.5. The quality system must be established following any other guidelines as may be specified by the Director for the quality management and quality assurance under the NAMCARs.