



NAMIBIAN CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

ANSSO-GEN-AP170/05

**TEMPLATE FOR THE PREPARATION OF THE AIR NAVIGATION
SERVICE PROVIDERS MANUAL OF PROCEDURES**

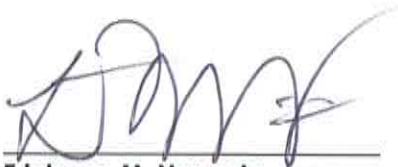
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3. Effective date: 21/12/2021



Ericksson M. Nengola
Interim Executive Director: Namibia Civil Aviation Authority

TEMPLATE FOR THE PREPARATION OF THE AIR NAVIGATION SERVICE PROVIDERS MANUAL OF PROCEDURES

1. PURPOSE

This Advisory Pamphlet (AP) provides guidance and information to air navigation service providers on the development of an air navigation service provider manual of procedures. The AP provides a template on an air navigation service provider's manual of procedures to meet the requirements of the NAM-CAR Part 170 and the ANS-related regulations.

2. BACKGROUND

- (a) NAM-CAR, Part 170 requires that an application to provide an air navigation service be accompanied by a manual of procedures.
- (b) NAM-CAR, Part 170 also requires an air navigation service provider to maintain a manual of procedure for each service that it provides
- (c) NAM-CAR, Part 170 further requires an air navigation service provider manual of procedures to contain all information and instructions necessary to enable the personnel to perform their duties.
- (d) Below are the extracts from the regulations to which this Advisory Pamphlet apply.

3. EXTRACTS FROM NAMCAR PART 170

170.02.2 Application for certification

- (1) An application for the issuing of a certificate to provide an air navigation service, must be -
 - (a) made to the Executive Director on the appropriate form set out in the relevant part of the ANS Parts; and
 - (b) accompanied by such documents, information and other matters required under the relevant part of the ANS Parts

170.02.3 Grant of application and issue of certificate

- (1) Upon receipt of an application for the certification of an ANSP, the Executive Director must consider all relevant representations, information and other documents as required under the relevant part of the ANS Parts prior to the grant of the application and issuing of the certificate.
- (2) The Executive Director must grant the application and issue a certificate in the appropriate form set out in the relevant part of the ANS Parts, if the Executive Director is satisfied that -
- (a) the applicant, and the applicant's senior accountable manager and key personnel, are fit and proper persons;
 - (b) the granting of the application and issuing of the certificate is not contrary to the interests of aviation safety;
 - (c) the personnel of the applicant are adequate in number and have the necessary competencies to provide the service;
 - (d) the manual of procedures prepared and submitted with the application contains all the relevant information;
 - (e) the facilities, services and equipment are established in accordance with the requirements prescribed in the relevant part of the ANS Parts;
 - (f) the operating procedures make satisfactory provision for the safety of aircraft;
 - (g) a safety management system under Part 140 acceptable to the Executive Director is in place;
 - (h) a quality management system acceptable to the Executive Director is in place;
 - (i) the applicant has approved procedures to meet the requirements of the applicable aviation security requirements;
 - (j) the applicant has sufficient resources to provide the service; and
 - (k) the applicant has applicable liability insurance for the service to be provided.
- (3) The granting of an application to provide an air navigation service is subject to compliance with the relevant requirements and standards prescribed in the relevant part of the ANS 42 Government Gazette 27 March 2020 7157Parts, and any other conditions as may be specified or notified by the Executive Director in an aviation directive issued under section 38(6) of the Act.
- (4) The Executive Director may, when granting an application, include any conditions as may be considered necessary for the nature and type of air navigation service to be provided and which conditions are in the interest of aviation safety.
- (5) The Executive Director may decline to grant an application, and where the Executive Director so declines, the Executive Director must notify the applicant in writing, indicating the reasons for the decline, not more than 14 days after making that decision.

(6) The Executive Director must, in the interests of aviation safety, ensure that only one certificate for the same air navigation service is issued to an ANS provider at any time

170.03.1 General

- (1) An ANS provider shall, at all times, maintain a manual of procedure (manual) for each service that it provides and that complies with the requirements set out in Parts 71, 171, 172, 173, 174, 175 and 179 as appropriate.
- (2) The Manual of Procedure shall be:
 - (a) Type written and in a format that is easy to revise;
 - (b) Include a list of effective pages;
 - (c) Organised in a manner that facilitates evaluation and certification process taking into account the contents as prescribed in regulation 170.03.2 of this Sub-Part;
 - (d) Signed by the service provider;
- (3) An ANS provider shall:
 - (a) submit the manual of procedure to the Executive Director for approval;
 - (b) keep at least one approved copy of the manual at the principal place of business.

170.03.2 Contents of the Manual of Procedures

- (1) The Manual of Procedures must contain all information and instructions necessary to enable the personnel of an air navigation service provider to perform their duties.
- (2) Each manual of procedures prepared under this Part must include the following particulars as appropriate to the service provided:
 - (a) service to be provided, including the location of each facility and airspace covered;
 - (b) the hours of service for each service provided;
 - (c) the service provider's organisation structure, including the reporting lines, functions, duties and responsibilities of operational positions;
 - (d) personnel requirements and their responsibilities;
 - (e) the methodology for determining the number of staff;
 - (f) training and performance assessment of staff and how that information is tracked;
 - (g) the safety management system;
 - (h) the quality management system;

- (i) contingency plans developed for part or total system failure or disruption of services;
- (j) compliance with the applicable civil aviation security requirements;
- (k) facilities and equipment and how they are maintained;
- (l) maintenance and control of documents and records;
- (m) search and rescue responsibilities and co-ordination, operations, plan and procedures, as applicable;
- (n) systems, processes and procedures in the provision of each air navigation service including, procedures for fault and defect reporting;
- (o) procedures to be followed for revising the manual of procedures; and
- (p) any other information as may be considered necessary by the ANS provider or as may be required by the Executive Director

170.03.6 Stand-alone documents prepared as attachments to manual of procedures

- (1) The procedures, systems and processes required under regulation 170.03.2(2)(n) may be published as stand-alone documents, and such documents are by reference in the manual of procedures, to be considered as attachments to the manual of procedures with the appropriate cross-referencing.
- (2) The procedures, systems and processes in accordance with subregulation (1) must include the procedures, systems and processes applicable to the service provided or to be provided under the relevant part of the ANS Parts.
- (3) An ANS provider must publish station standing instructions (SSIs), which are applicable to individual units and which contain procedures applicable only at that unit and such SSIs are, in accordance with subregulation (1), to be considered as attachments to the manual of procedures.

TEMPLATE FOR THE PREPARATION OF THE AIR NAVIGATION SERVICE PROVIDERS MANUAL OF PROCEDURES

FOREWORD

<insert forward here>

APPROVAL PAGE OF THE MANUAL

<insert the approval page here>

RECORD OF AMENDMENT

<insert the record amendment here>

LIST OF EFFECTIVE PAGES

<insert list of effective page here>

DISTRIBUTION LIST

<insert the distribution list here>

DEFINITION

<insert definitions here>

ABBREVIATION

<insert abbreviation here>

TABLE OF CONTENT

<insert table of content here>

CHAPTER 1: INTRODUCTION

- 1.1 Purpose and scope of the manual;
- 1.2 A statement that the manual complies with all applicable regulations and requirements and with the terms and conditions of the applicable ANSP Certificate;
- 1.3 A statement that the manual contains operational instructions to be complied with by the relevant personnel in the performance of their duties;
- 1.4 List of other detached manuals of the manual procedures;
- 1.5 A list and brief description of the various parts of the MOP, their contents, applicability and use;
- 1.6 Arrangements for the preparation and amendment of the manual including –
 - a) Responsibility for preparing and maintaining manual content and ensuring currency and accuracy of the information therein;
 - b) Responsibility and procedures for amending the manual;
 - c) Procedure for identifying required amendments and areas to be amended; and
 - d) Procedures for submission of amendments to the Executive Director.

- 1.7 Arrangements for submission and approval of the manual of procedure.
- 1.8 Arrangement for circulation of the manual of procedure and amendments thereto.
- 1.9 Arrangements to ensure availability of the manual to operational staff.

CHAPTER 2: MANAGEMENT ORGANISATION

- 2.1 A description of the service provider's organisation structure including the reporting lines and functions.
- 2.2 Duties and responsibilities of management positions.
- 2.3 Duties and responsibilities of operational positions;
- 2.4 A description of the system for supervision of services

CHAPTER 3: SERVICES PROVIDED

- 3.1 Type of services provided (air Traffic Services, aeronautical information services including maps and charts, aeronautical telecommunication services (communication navigation, surveillance), flight procedures design, meteorological services, search and rescue services) including a description of each service–
 - a) scope of the services;
 - b) location of each service;
 - c) airspace covered; and
 - d) hours of service for each service provided;

CHAPTER 4: PERSONNEL REQUIREMENTS

- 4.1 A description of the methodology used for determining the number of staff.
- 4.2 Minimum number of personnel required for each functional area determined using the specified methodology.

- 4.3 A description of Job descriptions including qualification, competency, knowledge, skills and experience requirements.
- 4.4 Training and performance assessment of staff and how that information is tracked.
- 4.5 Training policy where the commitment of the Top Management is highlighted to train the ANSP personal as required.
- 4.6 Training programmes including initial, on-job-training, currency and re-currency training, and specialised training.
- 4.7 Arrangements for the preparation of training plans.
- 4.8 Maintenance of training records;
- 4.9 Fatigue management including working hours ;
- 4.9 Recruitment and retention of staff procedures ;
- 4.10 Leave requirements

CHAPTER 5: FACILITIES AND EQUIPMENT

All applicants for certification are to ensure that they are compliant with the applicable NAMCARs prior to submitting an application and the applicable ICAO reference documents as far as local procedures are concerned:

- 5.1 List of facilities and equipment used for the provision of services and their descriptions;
- 5.2 Specific requirements for CNS Provision-Testing equipment available for CNS technical team and their calibration status.
- 5.3 Specific requirement for A-MET Provision-Testing equipment available for MET technical Team and their calibration status.
- 5.4 Specific requirement for provision of flight procedures design services- Appropriate Laptop and software for flight procedures design.

CHAPTER 6: PROCEDURES AND PROCESSES

(These may be stand-alone documents referred to in the manual of procedures as applicable to the services provided)

- 6.1 Procedures for the provision of air traffic services in accordance with NAMCAR Part 172 including:
- a) aerodrome control service
 - b) approach control service
 - c) area control service
 - d) flight information services
 - e) alerting services
- 6.2 A description of search and rescue services including co-ordination of SAR services, SAR plan and facilities, SAR units, SAR exercises, etc in accordance with NAMCAR Part 179
- 6.3 Procedures for the provision of meteorological services in accordance with NAMCAR Part 174
- a) Facility requirements (acquisition, compilation, computing, access or dissemination)
 - b) Instruments should be able to maintain a known uncertainty over a long period than having a high level of initial confidence (meaning low uncertainty) that cannot be retained for long under operating conditions.
 - c) Verification, periodic inspection, testing and calibration. Initial calibrations of instruments will, in general, reveal deviations from the ideal output, necessitating corrections to observed data during normal operations
 - d) Simplicity, strength of construction, and convenience of operation and maintenance are important since most meteorological instruments are in continuous use year in, year out, and may be located far away from good repair facilities
 - e) Measurement traceability is essential and WMO Members are urged to assure traceability of all the measurements under their responsibility
 - f) It is critical to ensure that instrumentation and observing networks are designed according to standards that will withstand the impact of extreme weather events
 - g) Temperature and humidity sensors should be mounted at a height of 1.25 to 2 meters above ground level.

- h) Sensors for wind direction and speed should be exposed approximately 10 m above the runway and should provide measurements that are representative of the conditions at the average lift-off and touchdown areas of the runway. Obstacles must be situated at a minimum distance equal to at least 10 times the height (100m) of the anemometer
- i) Barometer should be set to read the pressure at the level of the instrument. Barometer has various levels of redundancy to improve the long-term stability and accuracy of the measurements to ensure excellent long-term stability and measurement accuracy, even in the most demanding applications.
- j) Visibility measuring instruments should be located in positions which ensure that the measurements are representative of conditions at the aerodrome or along the runway
- k) RVR should be assessed at a height of approximately 2.5 m above the runway for instrumented systems or approximately 5 m above the runway by a human observer.
- l) The site for observations that are representative of the touchdown zone should be located approximately 300 m along the runway from the threshold.
- m) The sites for observations that are representative of the middle and far sections of the runway should be located at a distance of 1 000 to 1 500 m along the runway from the threshold and at a distance of approximately 300 m from the other end of the runway
- n) For take-off and landing, present weather information should be representative, as far as practicable, of the take-off and climb-out area, or the approach and landing area. For information disseminated beyond the aerodrome, the observations of present weather should be representative of the aerodrome and its immediate vicinity
- o) For aviation applications, cloud information (amount, base height, type) is required to be representative of the aerodrome and its immediate vicinity and, in reports for landing, of the approach area. Ceilometers should be installed following the recommendations of the manufacturer
- p) Instruments at the automatic station should be checked and inspected regularly. Quality checks are necessary and recommended in order to avoid major errors and equipment drift
- q) To guarantee the performance of the automated instruments, a detailed evaluation plan should be established with details on maintenance and calibration intervals, and with feedback procedures to improve the observing system
- r) installation and commissioning/decommissioning of MET facilities/equipment
- s) calibration of test equipment used to maintain MET equipment/facilities
- t) Notification of meteorological office and facility status

- u) Meteorological information checks after accident or incident
- v) Malfunctions and erroneous information
- w) Input and output meteorological information

6.4 Procedures for the provision of flight procedures design services in accordance with NAMCAR
Part 173 - Reserved

6.5 Procedures for provision of aeronautical telecommunication services (CNS) in accordance with NAMCAR Part 171 including:

- x) performance targets for CNS facilities (Availability, continuity, integrity and Reliability Standards for CNS Facilities)
- y) procurement of new CNS equipment/facilities
- z) site selection for CNS equipment/facilities
- aa) safety case
- bb) installation and commissioning/decommissioning of CNS facilities/equipment
- cc) Test transmission
- dd) Temporary ATEL equipment/facilities
- ee) preventative and corrective maintenance of CNS facilities/equipment and other auxiliary facilities including power supply systems and computers
- ff) preventative maintenance schedule
- gg) facility/equipment monitoring
- hh) safe operation of CNS equipment/facilities
- ii) calibration of test equipment used to maintain CNS equipment/facilities
- jj) periodic ground test and flight calibration of CNS equipment/facilities
- kk) ground check/test of navigation aids
- ll) flight check (calibration) of navigation aids
- mm) fault and defect reporting
- nn) interferences with radio signals
- oo) notifying ATS, AIS, MET and ED on the CNS equipment/facilities status
- pp) post incident/accident performance inspection
- qq) interruption to service
- rr) change to procedures
- ss) general cleaning and cutting of overgrown grass at stations and outstations

tt) notification by NOTAM

- 6.6 Procedures for provision of aeronautical information services in accordance with NAMCAR Part 175 including:
- a) procedures for international NOTAM Office (NOF)
 - b) procedures for production of Maps and Chart
 - c) procedures for fault and defect reporting
- 6.7 Coordination procedures including:
- a) inter-unit coordination procedures
 - b) coordination with other ANS providers
 - c) coordination with external organisations
- 6.8 Station standing instructions and supplementary operating instructions (these may be stand-alone documents referred to in the manual of procedures)

CHAPTER 7: SAFETY MANAGEMENT SYSTEM

(This may be a stand-alone document referred to in the manual of procedures)

- 7.1 A description of the safety management system (SMS) covering the scope and SMS framework components and elements as follows:
- SMS Component 1. Safety policy and objectives
- SMS Element 1.1 Management commitment and responsibility
 - SMS Element 1.2 Safety accountabilities
 - SMS Element 1.3 Appointment of key safety personnel
 - SMS Element 1.4 Coordination of emergency response planning
 - SMS Element 1.5 SMS documentation
- SMS Component 2. Safety risk management
- SMS Element 2.1 Hazard identification
 - SMS Element 2.2 Safety risk assessment and mitigation
- SMS Component 3. Safety assurance
- SMS Element 3.1 Safety performance monitoring and measurement
 - SMS Element 3.2 The management of change

SMS Element 3.3 Continuous improvement of the SMS

SMS Component 4. Safety promotion

SMS Element 4.1 Training and education

SMS Element 4.2 Safety communication

- 7.2 A description of SMS implementation planning including system description, integration of management systems, gap analysis, SMS implementation plan and safety performance indicators
- 7.3 A description of the emergency response planning
- 7.4 A description of the phased implementation approach
- 7.5 A description of the voluntary and confidential reporting systems

CHAPTER 8: QUALITY MANAGEMENT SYSTEM

(This may be a stand-alone document referred to in the manual of procedures)

- 8.1 A description of the quality system and how the quality system integrates with the safety management system in place if applicable (see Advisory Pamphlet ANSSO-GEN-170/01 for guidance)
- 8.2 Specific requirement for A-MET
Description of the Quality Management System (QMS) associated with valid a QMS certificate issue by recognized certified organization (Advisory Pamphlets ANSSO-GEN-AP170/01 and ANSSO-AMET-1740-02 for guidance)
- 8.3 Specific Requirement for AIS
Description of the Quality Management System (QMS) associated with valid a QMS certificate issue by recognized certified organization. (Advisory Pamphlets ANSSO-GEN-AP170/01 and ANSSO-AIS-AP175/02 for guidance)

CHAPTER 9: CONTINGENCY PLANS AND AGREEMENTS

- 9.1 Contingency plans for part or total system failure

- 9.2 Contingency plan in the event of disruption or expected disruption of services in accordance with the regional air navigation plan (this should be a stand-alone document referred or attached to the manual of procedures)
- 9.3 Service level agreements in accordance with the relevant civil aviation regulations (these should be stand-alone documents referred or attached to the manual of procedures)
- 9.4 Regional agreements in accordance with the regional air navigation plan (these should be stand-alone documents referred or attached to the manual of procedures)

CHAPTER 10: SECURITY PROGRAMME

- 10.1 Security programme arrangements including arrangements to protect personnel, facility and equipment used in the provision of services (see Advisory Pamphlet ANSSO-GEN-170/02 for guidance)

CHAPTER 11: MAINTENANCE AND CONTROL OF DOCUMENTS AND RECORDS

- 11.1 List of documents to be maintained including, applicable regulations, technical guidance material documents, operational manuals and logs, personnel records, training records
- 11.2 Arrangements for maintenance of documents including:
 - a) Arrangements for the control and storage of documents and records, including safety related records/data;
 - b) Arrangements for maintenance of additional information;
 - c) A description of the system for promulgating information of operational nature that is supplementary to that in the manual of procedures, such as station standing instructions.

CHAPTER 12: COMPLIANCE MATRIX

- 12.1 A matrix indicating how the air navigation service provider has complied or intends to comply with the applicable civil aviation regulations

12.2 An example of the format to be used for ANS provider compliance matrix is provided below:

Compliance Matrix for NAMCAR Part..... (e.g. 172 – Air Traffic Services)					
<i>NAMCAR reference</i>	<i>Title of regulation</i>	<i>ANS Provider Compliance status</i>	<i>Evidence document and reference</i>	<i>Difference notified if any</i>	<i>Alternative means of compliance if any</i>
(e.g. 172.05.2)					

CHAPTER 13: AIP INFORMATION

13.1 The ANSP procedures for periodic reviewing AIP information related to each sub-domain ATS, AIS, CNS, A-MET, PANS-OPS, CHART, MAP, SAR.

13.2 The ANSP procedures for periodic updating AIP information related to each sub-domain ATS, AIS, CNS, A-MET, PANS-OPS, CHART, MAP, SAR.

APPENDIX:

Appendix 1: CNS Provision

- 1.1: CNS Logbook
- 1.2: Localizer Ground Parameters Checks
- 1.3: GP Ground Parameters Checks
- 1.4: CVOR Ground Parameters Checks
- 1.5: DME Ground Parameter Checks
- 1.6: CNS Shift Working Procedures
- 1.7: CNS failure report
- 1.8: Maintenance Procedures for each CNS equipment/Facility
- 1.9: List of test equipment and their calibration status
- 1.10: List CNSP personnel and their qualifications
- 1.11: List of CNSP facilities
- 1.12: Monthly and annual CNS maintenance plan

Appendix 2: ATS Provision

- 2.1 List of Air Traffic Services provided, including location(s) and class of airspace;
- 2.2 ATS organisation structure, including the reporting lines, functions, duties and responsibilities of operational positions;
- 2.3 Safety management system manual;
- 2.4 ATS Regional Contingency plan(s) developed for part or total system failure or disruption of services;
- 2.5 Emergency Response Planning Manual (NAMCARs 140.02.2);
- 2.6 search and rescue responsibilities and co-ordination, operations, plan and procedures, as applicable;
- 2.7 ATS Manual, including Station Standing Instructions for all ATS services;
- 2.8 Technical occurrence logbook;
- 2.9 ATS shift rostering procedures including ATS duty rosters ;
- 2.10 ATS Occurrence Logbook ;
- 2.11 any other information as may be considered necessary by the ANS provider or as may be required by the Executive Director (such as Operations Communication File, Letters of Procedure, Letters of Agreement, Aerodrome Emergency Response Plan, Equipment user guides provided by manufacturer, monthly occurrence logs;

Appendix 3: AIS Provision

Reserved

Appendix 4: A-MET Provision

- 4.1: OPMET Logbook
- 4.2: Flight Crew briefing and consultation Logbook
- 4.3: Identify, record, notify, investigate and rectify any report of erroneous meteorological information
- 4.4: A-MET Shift Working Procedures (Rosters, handover takeover etc.)
- 4.5: Verification, periodic inspection, testing, calibration and maintenance procedures for each MET equipment/Facility
- 4.6: List of test equipment and their calibration status
- 4.7: List A-MET personnel and their qualifications
- 4.8: List of A-MET facilities
- 4.9: Monthly and annual A-MET verification, periodic inspection, testing, calibration and maintenance plan

Appendix 5: Flight Procedures Design

Reserved