NAMIBIAN CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

FSS-SPQ-AP140-03
1/1/2/4/1-3

GUIDANCE IN THE DEVELOPMENT OF A QUALITY MANAGEMENT SYSTEM

03/2022

Advisory Pamphlets (AP) system.

1. The Namibian Civil Aviation Authority (NCAA) issues advisory pamphlets in accordance with NAMCARs 2001, Part 3, regulation 3.04.4 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 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.

3. APs should always be read in conjunction with the referenced regulations.

4. Quality Management System is set out in the Schedule attached hereto.

5. Advisory pamphlets may be reproduced in their entirety or in part without permission from the Civil Aviation Authority. Advisory pamphlets may also be accessed at https://www.ncaa.com.na .

Effective date: 10th March 2022

03/03/2022

Ericsson M. Nengola
Interim Executive Director of Civil Aviation

SCHEDULE:

0.1. PURPOSE.

This Advisory Pamphlet (AP) provides information and guidance material that may be used by aviation service providers and aviation organisations, including air operator certificate (AOC) holders, aerodrome operators, aviation training organisations (ATOs), aviation recreational organisations (AROs), and aviation maintenance organisations (AMOs), and ANSPs to design or develop an effective Quality Management System (QMS) acceptable to the Namibian Civil Aviation Authority (NCAA). The procedures and practices outlined in this AP can be applied to the maintenance, flight operations, training, and security aspects of an organisation.

0.2. BACKGROUND.

Establishment of a Quality Management System commensurate with the complexity and nature of the service provided is required by the following Namibia Civil Aviation Regulations (NAMCARs), applicable Namibian Civil Aviation Technical Standards (NAMCATS), and Namibia Civil Aviation Directives:

(a) 121.06.2, Quality Assurance Systems for large aircraft operators;
(b) 135.06.2, Quality Assurance Systems for small aircraft operators;
(c) 127.06.2, Quality Assurance Systems for helicopters;
(d) 141.02.2, Quality Assurance Systems for aviation training organisations;
(e) 139.02.4, Quality Assurance Systems for aerodrome operators;
(f) 145.02.2, Quality Assurance Systems for aviation maintenance organisations;
(g) 149.02.2, Quality Assurance Systems for aviation recreation organisations;
(h) 170.04.9, Quality Management System and 170.04.10 Quality Assurance Programme;and
(i) Civil Aviation Directive 1/2/3-3 Section 5.3.7 Quality Assurance Systems for Commercial Balloon Operators

The minimum requirements for a quality system are described in the relevant technical standard for the above regulations. This guidance material aims to assist operators in developing an effective quality management system.

The development and implementation of an effective Quality Management System will benefit both the certificate holder and the flying public.

(a) Definitions of terms and a description of the basic elements of a Quality Management System are included in this AP. These definitions and programme elements are consistent with recognised quality auditing principles. Where appropriate, these terms have been tailored to conform to aviation standards and recommended practices. Suggested procedures for documenting Quality Management System procedures are also included in this guidance material.

(b) The standards described herein are intended to help certificate holders develop their own Quality Management System. NCAA certificate holders (AOC, AMO, Aerodrome, ATO, ARO, ANS etc.) are required by regulation to develop a Quality Management System as a tool for continuously monitoring and evaluating practices and procedures. Public safety is enhanced if deficiencies are identified and immediately corrected when the certificate holder discovers them rather than when the NCAA discovers them.

(c) Through surveillance and oversight, the NCAA verifies that certificate holders are upholding their responsibilities. NCAA inspectors are charged with the duty of advising and co-operating with each certificate holder in the inspection and maintenance thereof by the air operator. The Quality Management System is intended to facilitate the inspector's advisory and co-operative capacity by providing a procedure for identifying and resolving safety related issues. The Quality Management System also will help certificate holders develop formal compliance monitoring programmes.

1. INTRODUCTION

1.1 The quality system required by the civil aviation regulations enables an operator or organisation to monitor compliance with relevant regulations and standards specified under the NAM-CARs. The quality system also enables the operator or organisation to monitor its compliance with its own standards and the procedures specified in its manual of procedure/operations.

1.2 The Civil Aviation Regulations recognise that the International Organization for Standardization (ISO) 9000 series of quality assurance standards provide a basic framework for the development of a quality management system. While not mandatory an ISO 9001 certificate, issued by an appropriately accredited organization, will be considered a sufficient means of compliance with quality standards.

1.3 The ISO 9001 standards provide a sound basis upon which to achieve ISO certification with its attendant benefits. The development, implementation, and maintenance of the elements of the ISO standard is a means of promoting and improving aviation safety and therefore provides an environment in which aviation can operate safely.

1.4 A successfully implemented quality system will ensure that processes in place provide for personnel to possess the necessary competencies required to perform specific assigned functions. The Operator/organisation should ensure that within the context of the established quality management system the competencies and the associated knowledge, skills and abilities required for each function is identified, and personnel assigned to perform those functions are appropriately trained. An operator/organisation must be able to demonstrate through initial and periodic assessments, the qualifications and competency of personnel, and have documented records of such assessments.

1.5 Within the context of a quality system, policies, processes, and procedures must be in place to ensure that the results of periodic assessments of personnel can be used by the operator/organisation to detect and correct shortfalls. Implementation of the quality management system will provide the operator/organisation with the necessary mechanisms to monitor its internal processes and procedures and identify any anomalies and address their root causes.

1.6 An established quality management system must provide the users of services with the necessary confidence that the services being received meet the required level of safety and that information received is consistent with standards of accuracy and integrity. To this end, an operator/organisation must put in place appropriate measures to monitor compliance with

applicable standards and take necessary steps to ensure that, where non-conformities are identified, corrective action is taken to address the root causes.

2. GENERAL INFORMATION

2.1. Quality Management System:

A quality management system is the documented internal activities and management functions of an organisation that determines the quality policy, objectives, responsibilities and their implementation through quality planning, quality control, quality assurance, and quality improvement.

2.2. Quality Manual

This is the document that describes the organisation's quality system and states the organisation's policy on, and commitment to quality. It serves as the reference point for reviewing and evaluating an organisation's quality system during audits.

2.3. Quality Policy

A formal written statement that commits the Accountable Manager on behalf of the organisation to what the quality system is intended to achieve. The quality statement should reflect the intended achievement and continued compliance with the civil aviation regulations.

2.4. Quality Assurance Programme

(a) This is a programme that includes all planned and systematic actions necessary to provide confidence that all operations and maintenance are conducted in accordance with all applicable requirements, standards, and operational procedures. Quality inspections, quality audits, and management evaluations are the principal components of a quality assurance programme.

(b) An operator/organisation should establish a schedule of audits to be completed during a specific calendar period. All aspects of the operation should be reviewed within every period of 12 months in accordance with the programme. An operator/organisation may increase the frequency of audits if so desired.

2.5. Controls

Management and operational techniques, activities, and procedures that monitor the satisfactory performance of the internal quality assurance procedures, including the organisation's operating processes and procedures. Reviews, in process tests, checklists, spot checks, inspections, and audits are all examples of controls. As part of an internal quality audit or review, the controls of the area being evaluated should be verified and tested.

2.6. Evidence

A documented statement of fact, image, or reference, that is based on observations, measurements, or tests that can be verified. For compliance monitoring, evidence should generally be in the form of written documentation or reports that support the programme's analysis and review. These data are necessary to substantiate findings or concerns and to enable management or evaluators to determine the root causes of any reported findings. Objective evidence generally comes from the following four elements:

(a) Documents, files, or manuals reviewed.
(b) Equipment examined.
(c) Activities observed.
(d) Interview data.

2.7. Finding

A conclusion, supported by objective evidence that demonstrates non-compliance with a specific standard. A finding will generate a Corrective or Preventive Action.

2.8. Concern/Observation

A concern or observation is a conclusion, supported by objective evidence, that does not demonstrate a finding, but rather a condition that may become a finding. A concern may generate a Preventive Action.

2.9. Root Cause

The root cause is the underlying organisational cause, or causes, of any finding or concern. A root cause is always identified with a process, a procedure, methodology, or an organisation's structure or practices. In the analysis of safety, quality, or operational problems, the root cause, or causes, should be determined before any corrective action is planned. Often the root cause is not obvious. Consequently, a careful and considered analysis of all processes, activities, records, reports, and other evidence associated with a failure or complaint needs to be made to ensure the corrective action(s) address not only the immediate cause but any latent or organisational problems.

2.10. Inspection

Inspection is the act of observing, measuring, testing, or gauging one or more characteristics of a particular event or action. This is to ensure that correct procedures and requirements are followed during the accomplishment of that event, or action. The primary purpose of an inspection is to verify that—

(a) established standards are followed during an observed event or action; and
(b) the result conforms with the specified requirements and standards of the event or action.

2.11. Audit

An audit is a methodical, planned, review used to determine how activities are being conducted, and compares results with how the activities should have been conducted according to established procedures. Audits are conducted for different purposes and have distinct identities that are defined for the purposes of this AP as:

(a) ***First party audits*** are those conducted internally by the organisation, using its own trained staff, to evaluate the organisations, or parts of the organisation's, performance. The results are used by management to confirm compliance with the documented standards and procedures to initiate corrective action when the standard is not met or preventive actions where there is potential for non-conformance or non-compliance. The auditor must be independent of the function, operation or group being audited. For small operators it may be necessary to engage an outside agency. The outside agency could be —
    (i) another small operator;
    (ii) a sub-contractor; or
    (iii) a business associates.

(b) ***Second party audits*** are carried out by an organisation on its suppliers, service providers, or subcontractors. These audits are intended to satisfy the contracting organisation that the subcontractor meets the agreed quality requirements.

(c) ***Third party audits*** are those carried out by independent bodies such as the Civil Aviation Authority or commercial auditing companies. They are intended to give an assurance that the organisation is in control and that the organisation's quality management system and internal quality assurance procedures are working effectively. Third party audits will confirm that non-compliances are being identified and corrected through first- or second-party audits.

2.12. Audit Construction

The various elements that comprise an effective audit are as follows:

(a) Audit preparation by the auditor(s)

(b) The opening or entry meeting:
  (i) introduce the audit team and confirm the scope of the audit;
  (ii) outline the audit process to be used and the schedule;
  (iii) confirm the resources, people and facilities needed for the audit are aware and available for the audit.

(c) The examination:
  (i) interview personnel, review documents, observe and inspect operations, and select samples;
  (ii) document evidence;
  (iii) document findings and concerns.

(d) The closing or exit meeting:
  (i) present findings and concerns;
  (ii) establish a programme to close-out findings.

(e) A written audit report containing:
  (i) descriptions of all the findings and observations;
  (ii) the agreed corrective and preventive actions;
  (iii) the schedule for follow up and the closure of the corrective and preventive actions.

2.13. Feedback System

(a) The quality system should include a feedback system to the accountable manager to ensure that corrective actions are both identified and promptly addressed. The feedback system should also specify the person required to rectify discrepancies and non-compliances in each case, and the procedure to be followed if corrective action is not completed within specified time limits.

(b) Any non-compliances identified because of monitoring should be communicated by the quality manager to the manager responsible for taking corrective action and to the accountable manager. Such non compliances should be recorded for the purpose of further investigation to determine the cause and to enable the recommendation of appropriate corrective action.

3. Quality Management System

3.1 To comply with the approval/certification requirements, an operator/organisation seeking an approval or certification, must develop, document, implement, and maintain a quality management system with appropriate internal quality assurance procedures.

3.2 The quality management system of an organisation should be structured according to the size and complexity of the operations to be monitored. The quality management system of an organisation should promote and establish an environment and culture of continuing improvement and enhance the safety of its operations. It is therefore essential that the quality management system activities be integrated with the activities planned under the safety management system of the Operator/organisation.

3.3 Internal quality assurance procedures within the quality management system will identify, document, and correct instances of non-conformance or non-compliance. These procedures must be put in place for all areas of the operator/organisation activities covered under its approval/certificate. Internal quality assurance procedures, in addition to providing confidence in the organisation and meeting regulatory compliance, can improve the organisation's commercial performance and should be of benefit to both the organisation and its customers.

3.4 The Quality Management System is based on the premise that certificate holders are primarily responsible for continuously monitoring and ensuring that their operations are safe and in compliance with the NAMCARs and NAMCATS. The NCAA encourages certificate holders to establish and conduct quality evaluations that embrace the following four principles:

(a) A continual process that incorporates the techniques of inspections, audits, and evaluations to assess the adequacy of managerial controls in key programmes and systems.
(b) A review that extends beyond regulatory compliance to determine the root causes of deficiencies and detects needed enhancements to company operating practices before a safety event (incident or accident) occurs.
(c) An ongoing process that identifies deficiencies, develops corrective action plans to correct these deficiencies, and performs follow-up evaluations.
(d) An independent process that organisationally has straight-line reporting responsibility to top management and the accountable manager.

3.5 The Quality Management System stresses audit responsibilities of individual employees independent to the process as well as the evaluation responsibility of top management to ensure that company policies and procedures provide for safety, compliance, and allow individuals to perform work to a high safety standard.

3.6 Certificate holders should include the following essential elements in their quality management system:

(a) Independent/defined responsibility.
(b) Top management review.
(c) Continual process.
(d) Internal evaluation schedule.
(e) Corrective action plans.
(f) Records.

4. Internal Quality Assurance Procedures

4.1 The procedures described in this advisory pamphlet are intended to help operators/organisations to develop a Quality Management System and internal quality assurance procedures. Appendix 1, 2, and 3 of this Advisory Pamphlets provide sample outlines of key quality assurance procedures for further guidance to the operator/organisations.

4.2 The NAM-CARs require that an operator/organisation shall be issued with approval or certificate if it meets the requirements of the regulations. The Executive Director must before issue an approval or certificate, be satisfied that an applicant can conduct its proposed activities safely. The Quality Management System and associated quality assurance procedures will facilitate approval of the operator/organisation's safety policy and programmes.

5. CAA Monitoring and Intervention

5.1 The Namibia Civil Aviation Authority monitors the industry by carrying out surveillance and audits to verify that operators are providing their services in accordance with approved standards and regulations. Internal quality assurance procedures are intended to supplement the Civil Aviation Authority's monitoring process by identifying and resolving safety related issues before they become non-compliances. The internal quality assurance documentation and records provide a convenient point of entry to the organisation for auditing purposes. It should be apparent from the level of findings and resolutions in the internal quality assurance documentation and records whether the Quality Management System and the safety policy are functioning satisfactorily.

5.2 The Quality Management System and internal quality assurance procedures established by an operator or organisation, will enable the operator/organisation to carry out internal monitoring of its processes and procedures to supplement the external monitoring conducted by the Civil Aviation Authority through inspection and/or audits.

5.3 The results of the Civil Aviation Authority audits act as a barometer of an operator/ organisation's performance. The performance of the organisation will dictate the level of Civil Aviation Authority intervention that is necessary. If the organisation performs well the Civil Aviation Authority will have less need to monitor its compliance. As confidence is built up, the level and frequency of audits can be reduced.

6. Basis of the Quality Management System

6.1 The Quality Management System supports the requirement of the rules that operators are primarily responsible for continuously monitoring and ensuring that their operations are safe and in compliance with the rules. A certificated organisation is required to establish a Quality Management System that embraces the following principles:

(a) A continual process that incorporates the techniques of inspections, audits, and reviews to assess the adequacy of managerial controls in key programmes and systems

(b) An ongoing process that identifies deficiencies, develops corrective action plans to correct these deficiencies, and performs follow-up reviews

(c) An independent process that, organisationally, has straight-line reporting responsibility to top management

6.2 The Civil Aviation Authority encourages organisations to extend their internal quality assurance procedures beyond regulatory compliance to determine the causes of other deficiencies in company operations. From these determinations the necessary enhancements to company operating practices can be made before deficiencies occur.

6.3 The quality policy must stress the self-audit responsibilities of individual employees as well as the organisation's management. Each employee has an equal responsibility to ensure that company policies and procedures provide for safety compliance and allows individuals to perform work properly.

6.4 The internal quality assurance procedures should not be misunderstood as a process that will replace the existing third-party audit requirements that are carried out by the Civil Aviation Authority, it is rather a complimentary process which the NCAA will review as part of their external audit.

7. Internal Quality Assurance Procedure Guidelines

7.1 The Quality Management System of an organisation must include the internal quality assurance procedures. The Quality Management System should include the following essential elements: —

(a) definition of the organisation's management commitment and responsibilities to the quality plan and procedures. It is required that the organisation nominate a Senior Person, known in this AP as the Management Representative, to establish an independent and focused Quality Management System (see appendix 4);

(b) a documented, approved, safety policy and plan to identify, implement, and maintain safety policy procedures that—
  (i) meet the requirements of the regulations;
  (ii) are relevant to the applicant's organisational and business goals;
  (iii) meets the expectations and needs of its customers;

(c) a procedure for—
  (i) corrective action to ensure existing problems that have been identified within the system are corrected;
  (ii) for preventive action to ensure that potential causes of problems that have been identified within the system are remedied;

(d) establish a procedure to ensure the Quality Management System and the internal quality assurance procedures are subjected to continual, regular, and structured review;

(e) an internal audit programme to audit the applicant's organisation for conformity with the procedures in its exposition and achievement of the goals set in its safety policy;

(f) a procedure to ensure quality indicators, including defect and incident reports, and personnel and customer feedback, are monitored to identify existing problems or potential causes of problems within the system;

(g) a records system that clearly documents what has taken place, allowing statistical analysis to monitor the continuing suitability and effectiveness of the Quality Management System and the organisation's operation. The records will be used to indicate trends to allow the organisation to—
  (i) raise preventive actions to avoid potential problems;
  (ii) determine the best goals to set for the future; and

(h) a document control procedure to manage, develop, document, change, and distribute the organisation's quality and operational procedures.

8. Continual Process

8.1. To effectively anticipate potential problem areas and correct them before actual findings occur, a Quality Management System should be a continual programme, not merely spot check inspections of operating practices. Stand-alone spot check inspections will do little more than identify and resolve symptoms of potential problems rather than address the cause.

8.2. A continual process is needed to verify whether findings are isolated instances, or actual symptoms of policy, procedural, or managerial problems. A certificate holder's programme should continuously monitor policies, procedures, and managerial systems to ensure a continued safe and efficient operation. A continual programme should include scheduled evaluations, follow-up evaluations as necessary, and special evaluations when trends are identified.

9. Quality Evaluation Schedule / Audit Programme

9.1. To be properly organised, a continual process should be a structured activity. For this reason, it is essential for a certificate holder's Quality Management System to include a defined schedule of activities or audit programme. This planned schedule will serve to verify that the quality evaluation process is:

(a) Complete and thorough.
(b) Directed.
(c) Credible.
(d) Recognised by top management.

9.2 The audit internal quality assurance procedure will:

(a) define the audit types and associated procedures;
(b) maintain and manage a cyclic schedule of audits;
(c) manage the review, reporting, and close-out of findings and concerns;
(d) identify the personnel to conduct the audit;
(e) provide training for the audit personnel

9.3 A proper quality evaluation schedule should include a planned periodic review cycle for specific areas covered by the certificate holder's Quality Management System. However, the scheduling process should also be dynamic and allow for special evaluations when trends are identified. In addition, follow-up evaluations should be scheduled as necessary to verify that corrective action commitments were met and that they were effective in eliminating any reported findings or concerns.

9.4 **Planned Audits**

Planned audits are audits that will be performed during a set calendar period. To facilitate and ensure the audit is thorough, divide the organisation into audit components based on the organisation's operational or functional structure. Dependant on the size of the organisation the audit cycle might be greater than one year; however, eighteen months is the maximum. Schedule the audit within each component to allow enough flexibility for resources to be committed.

9.5 **Special Audits or Spot Checks**

Conduct special audits, or spot checks, based on concerns or priorities identified by management reviews, the organisation, external audits, or customer complaints. Schedule special audits, or spot checks, based on a review of the organisations or industry trends.

9.6 **External Audits**

Mandatory external audits are initiated and conducted by agencies with a regulatory interest in the operation of the organisation. For example, but not limited to, the Civil Aviation Authority, Occupational Safety and Health, and the Inland Revenue Department. The content and focus of an organisation's internal and special audits will be largely determined by the need to anticipate or respond to the requirements and findings of the external audits.

9.7 **Follow-up Evaluations.**
Schedule follow-up evaluations to ensure corrective action commitments were met. Conduct follow-up evaluations to verify that corrective actions eliminated the reported finding or concern or
perform follow-up evaluations in response to external surveillance findings.

9.6 A proper quality evaluation schedule or audit programme should include a planned periodic review cycle for specific areas covered by the certificate holder's Quality Management System. However, the scheduling process should also be dynamic and allow for special evaluations when trends are identified. In addition, follow-up evaluations should be scheduled as necessary to verify that corrective action commitments

10. The Quality Assurance Team or Management Representative

10.1. An organisation's internal quality assurance procedures should identify a person or a group of persons, within the organisation, that has the responsibility and authority to:

(a) develop, implement, and maintain the Quality Management System;
(b) manage the organisation's internal audit programme;
(c) identify and record any findings or concerns, and the evidence necessary to confirm findings or concerns;
(d) consult with the management owning the non-conforming process or activity for them to initiate, recommend, or provide solutions to findings or concerns;
(e) communicate and co-ordinate activities with external auditors
(f) analyse the root causes of concerns and findings for presentation to management for a review of trends and potential areas of concern;
(g) conduct and record regular Management Reviews to ensure corrective and preventive actions are addressed and closed out within a specific time.

10.2. The Management Representative of the Quality Assurance Team must have the delegated authority and responsibilities to allow them to work within the organisation to implement and maintain the internal quality assurance procedures. The Management Representative will have a direct reporting line to the highest level of management necessary to sustain the management commitment to the organisation's Safety policy and plan.
More details on the responsibility of the management representative are contained in Appendix 4

10.3. For some organisations, operating size may justify the costs associated with the necessity of having full-time, dedicated, resources and personnel in a separate Quality Assurance Department or group. However, when full-time, dedicated, resources and personnel are not practical; the organisation should develop procedures that preclude persons directly responsible for the areas to be evaluated from participating in the selection of the audit team.

10.4. For very small organisations, an appropriate internal quality assurance procedure should consist of developing checklists and a schedule for accomplishing the check-list items. Each checklist must be signed. The operator should schedule an occasional independent review of the checklists and the checklist items. A quality manual as referred to in paragraph 17 and Appendix 5 is still required, albeit a simple one to match the complexity of the organisation.

11. Independence/Defined Responsibility

11.1. For each audit area, there should be someone responsible to Initiate, recommend, or provide solutions to findings or concerns through designated reporting channels.

11.2. A top management representative should be given the responsibility to ensure that a Quality Management System is properly established, implemented, and maintained. This management position should be above the level that directly supervises work accomplishment or procedural development and should have direct contact with the responsible manager referred to in (b.) and with the accountable manager.

11.3. As a part of identifying quality evaluation responsibility and independence, a certificate holder should identify resources and personnel dedicated to the Quality Management System and should describe their organisational independence within the company, considering their internal monitoring functions. Individuals conducting quality evaluations should not be responsible for managing work in the areas being evaluated or the tasks being reviewed.

11.4. Certificate holders using outside resources in support of, or in fulfilment of, a Quality Management System, should show that use of those outside resources is coordinated through a chain of command that reflects independence and contact with top management and the accountable manager.

12. Safety Policy

12.1. The organisation should establish a clear policy that safety is part of its business. It should develop procedures that reflect a commitment to safety and will promote and demonstrate a clear corporate safety culture. The policy should define a set of beliefs, norms, attitudes, roles, and social and technical practices concerned with minimising exposure of employees, managers, customers, and members of the public to conditions considered dangerous or hazardous. The characteristics that define a safety culture and that decision-makers should observe when modelling the corporate safety culture include:

(a) senior management places strong emphasis on safety as part of the strategy of controlling risks;

(b) decision-makers and operational personnel hold a realistic view of short- and long-term hazards involved in the organisation's activities;

(c) those in top positions do not use their influence to force their views or to avoid criticism;

(d) those in top positions foster a climate in which there is a positive attitude towards criticisms, comments, and feedback from lower levels of the organisation;
(e) there is an awareness of the importance of communicating relevant safety information at all levels of the organisation – both within it and with outside entities;
(f) there is promotion of appropriate, realistic, and workable rules relating to hazards, to safety, and to potential sources of damage, with such rules being supported and endorsed throughout the organisation; and
(g) personnel are well trained and well educated and fully understand the consequences of unsafe acts.

13. Corrective and Preventive Actions

13.1. Corrective Actions

Internal quality assurance procedures should include a procedure to ensure that corrective actions are developed in response to findings or concerns.
The procedure should include:
(a) recording the corrective action;
(b) the allocation and acceptance of ownership;
(c) monitoring each corrective action to verify timely and effective implementation and completion;
(d) test that the corrective action is long-term and ensures the issue does not recur;
(e) regular reviews of root causes of all corrective actions.
Evaluators may be involved in the or make suggestions for the development of corrective actions, however the responsibility rests with the technical department being reviewed.

A corrective action plan should include the following elements:
(a) Identification of the finding or concern.
(b) Analysis of objective evidence to determine the root cause(s) of the finding or concern.
(c) Short term corrective actions and long-term corrective actions
(d) Identification of planned monitoring action to take to ensure that the apparent violation or concern does not recur.
(e) Implementation schedule, including a time frame for putting corrective steps in place.
(f) Individuals or departments responsible for implementing the corrective steps.

The individuals responsible for managing a Quality Management System should facilitate the corrective action process by performing the following functions:
(a) Ensuring corrective action plans are developed in response to findings or concerns.
(b) Verifying corrective action plans include the elements outlined above.
(c) Monitoring implementation and completion of corrective action plans.
(d) Providing top management with an independent assessment of corrective action plan development, implementation, and completion.
(e) Initiating scheduled and/or unannounced follow-up evaluations to ensure the effectiveness of corrective steps specified in corrective action plans.

13.2. Preventive Actions

The preventive action procedure is identical to the corrective action procedure. The only difference is that preventive action anticipates and corrects potential failures. Often a corrective action will generate one or more, associated, preventive actions to ensure a complete and long-term fix.

More details on corrective and preventative actions can be found in Appendix 2.

14. Management Review

Top management must, at regular intervals, review—

(a) the internal quality assurance procedures, the quality indicators, and inspection and test results to verify the Quality Management System is working;

(b) that the corrective and preventive actions have been recorded, implemented, and closed out;

(c) that the operation and quality assurance programmes are under constant review and improvement.

(d) Top management for the above purposes should include the accountable manager or an executive in a similar position that can act on findings.

(e) The organisation must prepare and conduct a programme to regularly review all company policies, processes, and procedures. The review should be carried out by dedicated staff. It will encompass all the activities, procedures, and processes of the organisation. The programme should be a comprehensive and continual process that considers the following:

  (i) The overall effectiveness of the organisation in achieving its stated objectives.

  (ii) The ability of the internal quality assurance and the operational procedures to respond to new technologies, to market strategies, to legislative or regulatory changes, and to social or environmental conditions.

  (iii) Are the current processes and procedures up-to-date, effective, and relevant?

(f) For the purposes of this procedure, the term management means the team or person who has the authority to resolve issues and act.

(g) The management reviews with supporting documents will be recorded. The organisation will determine and document, as a quality assurance procedure, the frequency, format, and structure for informing management of internal quality assurance plans, trends, results, and follow-up actions. The procedure will define the responsibilities and the independence of personnel who perform or supervise the management reviews.

More details on the management review can be found in Appendix 3.

15. Quality Indicators

Each organisation will develop, measure, and monitor their own quality indicators. Some examples of typical quality indicators are:

(a) Reports derived from the analysis of operational logs and records kept of incidents, occurrences, accidents, and other safety indicators;

(b) Root cause analysis from corrective and preventive action records;

(c) Performance measurements of both the Quality Management System and the organisation's operation;

(d) Customer complaints;

(e) Customer surveys, external and internal.

16. Records

Records documenting the performance and results of carrying out the internal quality assurance procedures will be maintained by the organisation. Records are the principal form of evidence. Documented evidence is essential in analysing and determining the root cause of findings or concerns so that potential areas of non-compliance or non-conformance can be identified by the organisation. The record must be accurate, complete, reliable, and accessible. It is recommended that following quality records should be maintained—

(a) audit reports;
(b) management reviews and associated minutes, reports, and programmes;
(c) corrective and preventive action with supporting documentation;
(d) analysis of root causes and the ensuing trends;
(e) customer feedback, being–
    (i) customer complaints
    (ii) customer surveys
    (iii) observations through day-to-day contact
    (iv) comment during audit
(f) training plans and records; and
(g) the master copy of all policy and procedures.

Recognising that much of the information contained in Quality Management System records could be proprietary in nature, a certificate holder should maintain and secure these records on its premises. All records should be made available to the NCAA for review. Proprietary information will be protected in accordance with applicable laws and regulations.

17. Quality Management Manual

It is required that certificate holders developing a Quality Management System (QMS) prepare a quality management manual (QMM) that documents the quality system's procedures and functional responsibilities. A recommended format for a typical manual is further explained in Appendix 5 and can be seen in detail in form **FSS-GEN-FORM-603-04** available on the NCAA website. In preparing a Quality Management Manual the organisation/operator should observe the following:

(a) Certificate holders should review the size and complexity of their operation to determine how to structure an appropriate manual.
(b) The manual should describe the duties, responsibilities, procedures, and organisation of a certificate holder's Quality Management System.
(c) Terms and elements defined in the manual should be consistent with those outlined in this document.
(d) Copies of the quality manual should be distributed to all appropriate company personnel, so they are aware of and are familiar with the Quality Management System procedures.
(e) Regular review should be made, and revisions developed to ensure that the manual continues to reflect the certificate holder's current quality evaluation procedures and organisation.
(f) Documenting the procedures and responsibilities associated with any system is a required practice of any effective QMS.
(g) When certificate holders prepare a quality manual, the NCAA will be available to aid as requested.

18. Documenting Quality Assurance Procedures

Controlled documented internal quality assurance and operational procedures are a mandatory element and requirement of a Quality Management System for all aviation certificated organisations.

(a) Each organisation shall review the size and complexity of their operation to determine the scale of processes and procedures that will maximise the benefits of their Quality Management System and their operations. Consequently, they will improve their safety level and the business results.

(b) Each organisation will require several, possibly many, processes to sustain their operation. Each process will consist of one or more procedures. The Quality Management System is a process. The internal quality assurance procedures that are mandatory for an effective Quality Management System are defined in section 7 of this Advisory Pamphlet.

(c) Each internal quality assurance procedure should:

(i) be concise and complete enough to be a useful guide for a user with the appropriate skills to perform the task(s) within the procedure;

(ii) state specifically how the organisation will address and meet the requirements of the regulations and initiating the procedure.

(iii) be current and meet the requirements of referenced document(s).

(iv) be accessible to all users of the process;

(v) comply with a defined (by the organisation) standard format, for example—

1. Title *
2. Purpose * (outline the objective of the procedure);
3. Scope (what the procedure applies to);
4. Responsibility (who is responsible for what?);
5. References (what other documents, (Rules, Acts, standards, other procedures) affect or are related to this procedure?);
6. Definitions (definitions of terminology introduced by this procedure, or statements that may lead to misinterpretation)
7. Procedure * (what is done to ensure compliance?);
8. Flowchart(s) (to support or clarify the procedure);
9. Records (what records? For example, but not limited to, checklists, reports, reviews, measurements.)
10. Document number and date*

Each heading must be considered, but this list is not definitive, however, the headings denoted by an asterisk are mandatory.

Documents in the quality management system must be controlled, and details should be available for storage, retrieval, validity, archiving, securing, periodic review, and disposal.
More on document control is contained in Appendix 1.

19. Acceptance of the Quality Management System

19.1. The NCAA must accept a certificate holder's Quality Management System. Certificate holders developing a Quality Management System may ask for assistance from the responsible NCAA division via the assigned inspector or from the Safety Promotion and Quality department quality specialist.

19.2. Preparing an audit programme and quality manual, as discussed in this document, will provide the NCAA with an opportunity to review the proposed duties, responsibilities, procedures, and organisation of the certificate holder's Quality Management System. In all cases that involve Quality Management System development, the NCAA will be available to provide advice, assistance, or direction to certificate holders prior to final acceptance of the quality system.

20. Disclosure of Findings to the NCAA

20.1. The NCAA encourages certificate holders to openly share the results of their internal quality programme with their assigned NCAA inspector and/or with the Safety Promotion and Quality department on spq@ncaa.na .

21. Conclusion

21.1 The development, implementation, and conscientious application and maintenance of a Quality Management System and the associated internal quality assurance procedures, as discussed in this AP, will ensure that a certificated organisation is responsive to growth and change, and the organisation continually complies with appropriate safety and regulatory requirements.

21.2 Furthermore, it is strongly recommended that organisations make the Quality Management System an integral part of their everyday management process. Aviation safety is best served by procedures that allow organisations to identify and correct their own instances of non-compliance and invest more resources in efforts to preclude their recurrence.

APPENDIX 1 Document Control

1. **Purpose:**

Document control procedures will establish processes that:

(a) define manual standards;
(b) identify documents to be controlled;
(c) control the amendments and distribution of amendments and documents;
(d) remove obsolete documents from use; and
(e) periodically review and revise procedures.

2. **Manual Standards:**

Manual standards should include:

(a) Title Page;
(b) Contents Page(s);
(c) Approval page
(d) Authority for Issuing and Amending the Manual; and
(e) Record of Amendments;
(f) List of effective pages;
(g) Every page to be identified as belonging to the organisation by including the title of the company in the document header or footer;
(h) Every page should include the document number and the revision status (amendment or revision number)
(i) Every page to be identified in the document header or footer as Page x of y;
(j) Every policy, procedure, or work instruction should be written as a standalone document, and will be uniquely identified by a subject code in the document header or footer; and
(k) Following an amendment, a policy, procedure, or work instruction should be issued as an entity.

3. **Procedures:**

3.1 Identification and Authorisation of Controlled Documents

Documents to be controlled will be identified by reviewing the content of the document against the following criteria:

(a) Any document that provides instruction or guidance to the organisation's personnel to support them in achieving the planned quality and business objectives;
(b) Any document containing legislative requirements that the organisation is responsible for administrating or required to conform with; and
(c) Any document containing standards, recommended practices, or guidance material that has been adopted, and used when undertaking the functions and activities of the organisation. If one or more of the above criteria apply, the document must be controlled.

3.2 Amendment of Controlled Documents

Document a procedure that defines an amendment process that:

(a) allow any member of the company to initiate a manual amendment;
(b) ensures amendments to a document are shown on the actual document;
(c) details the documentation to be raised when requesting an amendment;
(d) advises who is to check and approve amendment requests;
(e) describes what records are to be retained for future reference.

3.3 Document Distribution

Controlled documents are to be physically identified as controlled documents, with consideration given to numbering each controlled document.

Obsolete pages are to be promptly removed from all points of issue or use. In most cases these documents will be destroyed to ensure they cannot be used in the workplace. However, a hard copy of an obsolete document may be archived, provided each page is identified as obsolete.

3.4 Document Review

All documents originating within the company need to be reviewed at least annually to ensure they are current and continue to meet the organisation's needs. The organisation must establish and maintain a programme to complete these reviews.

Define the number of amendments a document may have before it will be reviewed against current documentation and editorial standards and if necessary, re-write and re-issue the document to conform with current standards and practices.

3.5 External Document Review

Documents that are written, amended, and distributed by external agencies and are used operationally by the company, should be reviewed twice yearly to ensure they are current. External documents used for day-to-day activities must be current. Any person using these documents for day-to-day activities must check and maintain the currency of the documents each time the document is used.

APPENDIX 2 Corrective and Preventive Actions

1. Purpose:

To document a procedure that defines the corrective and preventive action processes that ensure existing issues and potential problems are identified, recorded, corrected, and followed up to ensure they do not re-occur.

2. Definitions:

Corrective and Preventive actions are raised because of:

(a) in-process verification by individuals, or a team, performing their tasks;
(b) any review process performed by management;
(c) customer feedback;
(d) statistical and survey methodologies; and
(e) internal and external audit findings.

3. Procedures:

3.1 Reporting

The following details must be recorded for every corrective and preventive action raised:

(a) name of person who raised the action;
(b) reason action raised;
(c) root cause of issue or problem;
(d) approved short term action to be taken;
(e) approved long term action to be taken;
(f) name of person assigned to act;
(g) dates actions to be taken by;
(h) outcome of action taken; and
(i) measurement applied to ensure action taken was effective and permanent.

3.2 Review

All corrective and preventive actions should be reviewed by the management representative responsible for quality, a summary of which should be provided to the accountable manager or responsible executive. The root causes of all actions raised over a set period will be reviewed to determine any significant trends. This process is designed to identify potential issues and problems. A preventive action should be raised for any action to be taken because of the review. The results of reviews are to be recorded and retained for future reference.

APPENDIX 3 - Management Reviews

1. **Purpose:**
   To define the procedure establishing a management review process, that tests and confirm the suitability and effectiveness of the quality system.

2. **Procedure:**
   A Review Meeting will be held regularly (once a month), with minutes, action plans, and documents kept supporting the observations, conclusions, and recommendations reached. These records will be retained for future reference and analysis. The Manager and Management representative will nominate the attendees.

   The agenda should include the review of the following items:
   (a) corrective and preventive actions;
   (b) internal and external audit program and results;
   (c) Quality training and development;
   (d) document control;
   (e) operational and managerial performance measurements;
   (f) customer surveys; and
   (g) customer complaints

APPENDIX 4 Management Representative

1. **Purpose:**
   To define the role and responsibilities of the Management Representative (Quality Manager).

2. **Definition:**
   Management representative— The Management Representative is delegated by the accountable executive to facilitate and maintain the organisation's quality system.

3. **Responsibilities of the Management Representative:**
   (a) Initiate and record monthly management review meetings for the Accountable Manager;
   (b) Chair the review meeting in the absence of the Accountable Manager;
   (c) Manage the Corrective and Preventive action process;
      (i) Maintain the corrective and preventive action registers;
      (ii) Follow up the corrective and preventive actions;
      (iii) Review progress with the owners;
      (iv) Review close-off of corrective and preventative actions.
   (d) Co-ordinate the implementation of new quality system procedures or changes to current procedures;
   (e) Initiate in-house reviews of processes and procedures;
   (f) Review external documents for currency;
   (g) Represent a group or unit for external audits;
   (h) Conduct or oversee internal audits;
   (i) Review root causes of all corrective and preventive actions and provide management with a report on trends with recommended actions;
   (j) The preparation and distribution to the accountable manager and the team, statistical information and survey results that measure and test: the current processes and the organisation's performance.

APPENDIX 5 Quality Management Manual Sample Outline

1. **Objective and Policy:**

The objective should be a statement that clearly defines the purpose and structure of the certificate holder's Quality Management System. Policy statements following the objective should indicate that quality evaluation is independent, that it actively involves top management, and that it is an ongoing process designed to identify potential problem areas.

2. **Definition of Terms:**

Terms that will be used consistently in the Quality Management System should be defined. For example, a certificate holder should have a procedure for categorising results (that is, a finding or concern). These categories, as well as other terms applicable to the quality evaluation function, should be clearly defined and documented so that company personnel can understand and properly interpret them. Definitions should be like those specified in paragraph 3.

3. **Duties and Responsibilities:**

The duties and responsibilities of quality evaluation personnel should be documented. The certificate holder should specify which personnel are responsible for performing the following tasks:

(1) Supervise the quality evaluation function.
(2) Perform evaluations, audits, and inspections as a part of quality evaluation.
(3) Identify and record any findings or concerns.
(4) Collect the objective evidence necessary to substantiate findings or concerns.
(5) Initiate, recommend, or provide solutions to findings or concerns through designated reporting channels.
(6) Monitor the development and implementation of corrective action plans.
(7) Maintain and update quality evaluation files.
(8) Verify the implementation of solutions.
(9) Communicate and co-ordinate Quality Management System activities with NCAA personnel on a regular basis.

This section of the programme plan should show that personnel responsible for the tasks listed above are not responsible for the accomplishment or management of work in the areas being evaluated or the tasks being revised. The manager or supervisor of the internal evaluation function should either be a top management representative or have straight-line reporting authority to top management.

When full time dedicated resources and personnel are not practical, developed procedures should show that persons having direct responsibility for the areas to be evaluated are not involved in the selection or supervision of the internal evaluation team. In addition, identified personnel should be exempt from their other duties and completely dedicated to the Quality Management System while they participate on an evaluation team.

4. **Organisation Chart:**

An organisation chart that clearly shows the position of the Quality Management System in the certificate holder's organisation should be prepared. This position should reflect both the programme's independence within the corporate structure and straight-line reporting to top management and the accountable manager.

5. Document Control

The quality system is responsible for the companies document control, including ensuring documents are authorised and current normally by applying a unique document number, revision number, and date. Documents must also have an amendment schedule, be appropriately stored, and be distributed to all those who need them, for example by a central server of for very small systems via company email. Any security classified documents such as internal examinations must be appropriately stored in a secure fashion, for example a password access file or a locked cabinet.

6. Quality Assurance Program

The quality assurance programme should specify the entirety of an audit cycle, from audit planning and preparation,, including selection of auditors, completion of the inspection, preparation of the audit report, determination of root cause, corrective/preventative action plans, and follow up actions, to closure of the audit findings and management review. The quality assurance program contains the bulk of your QMS and necessarily must be very detailed.

7. Reporting Procedures:

Reporting procedures should include reporting directly to the responsible area's manager, and requirements that top management reviews quality evaluation information including a direct report to the accountable manager. Top management should be informed, through straight-line reporting channels, about the schedules, plans, results, and follow-up corrective actions of the Quality Management System. The procedures outlined in this section of the quality manual should specify the frequency, format, and structure for reporting information to top management. A procedure explaining how the review by top management will be documented should also be developed.

8. Specified Areas Covered:

A certificate holder should specify the areas within the scope of review under the Quality Management System. The NCAA believes that the most effective Quality Management System will encompass a complete review of the certificate holder's operation over a 12-month period.

9. Quality Schedule:

The scheduling process, or audit plan, should be comprised of the following three elements:

(1) Scheduled evaluations over a predetermined calendar period.
(2) Special evaluations or ad-hoc audits established when trends are identified, or priorities are set by top management.
(3) Follow-up evaluations to verify the effectiveness of corrective action plans.

The programme plan should include procedures for planning, developing, and co-ordinating the quality evaluation schedule. The responsibility for planning and developing schedule activities should also be defined.

10. Records:

The Quality Management System should have a defined recordkeeping process. Procedures should specify how records are filed and maintained. Standard forms or formats for filing reports also should be specified.

The NCAA suggests that Quality Management System records be comprised of the following:

(1) Scheduled evaluation reports.
(2) Special evaluation reports.

(3) Follow-up evaluation reports.
(4) Responses to findings or concerns contained in reports.
(5) Corrective action plans submitted in response to findings.
(6) Reports concerning the completed corrective action.

11. Training:

The certificate holder should ensure that evaluators and auditors have training in recognised quality auditing and evaluation principles and techniques.

This training could be any one or combination of the following:

(1) In-house prepared courses.
(2) College courses.
(3) Home study or online course materials.
(4) Industry provided seminars and workshops.
(5) Selected courses by recognised provide such as a CAA, IATA, or ICAO.

The certificate holder should further ensure that management involved in the quality system are trained in the concepts of the quality management system and how it functions, auditing, recording, and reporting, the quality manual, and quality assurance.

All employees should be trained in the way the quality system functions and how their individual participation is required.

The training described should ensure that the quality system is understood, implemented, and complied with at all levels of the organisation.