CHAPTER 11

INTERNAL QUALITY ASSURANCE PROGRAMME.

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1.0 PURPOSE

1.1 This chapter is issued to provide guidance and information on how the Directorate of Airworthiness Standards will ensure quality of and carry out internal audits of its Airworthiness safety oversight activities.

2.0 REFERENCES:

2.1 CHECKLISTS: CL: O-AWS011

3.0 GUIDANCE AND PROCEDURES.

3. 1 Quality Policy.

3.1.1 DAWS will develop and implement Technical Guidance Materials (TGMs) for guidance and use of its inspectors in the discharge of their airworthiness safety oversight duties.

3.1.2 DAWS will ensure standardization in the discharge of its safety oversight duties through the use of checklists and forms.

3.1.3 DAWS will ensure qualified and authorized officers are used in carrying out its safety oversight duties.

3.1.4 DAWS will ensure its inspectors are properly trained and qualified in accordance with the Inspectors Training System (ITS) as recommended by ICAO.

3.1.5 DAWS will ensure the Nigeria Civil Aviation Regulations are in compliance with the latest amendments to ICAO annexes.

3.1.6 DAWS will ensure the quality of safety oversight services rendered to its clients meet the international standards.

3.1.7 The Director will have overall responsibility for the DAWS quality assurance system, including the frequency, format and structure of the internal management evaluation activities as prescribed below.

3.2 Purpose of the Quality Assurance System.

3.2.1 The purpose of DAWS quality assurance system is to enable continued monitoring of compliance with ICAO Standards and Recommended Practices (SARPs), Civil Aviation Act 2006, Nigeria Civil Aviation Regulations, NCAA Policies and Procedures as documented in the Technical Guidance Materials (TGMs) and any other directives issued by the Director General.

3.3 Quality Assurance System Coordinator.

3.3.1 The DAWS shall appoint an officer not below the rank of Deputy General Manager as Quality Assurance System Coordinator who shall be responsible to the Director, Airworthiness Standards and has direct reporting line to the Director General.

3.3.2 The function of the Quality Assurance System Coordinator is to monitor compliance with, and the adequacy of, procedures required to ensure effective airworthiness safety oversight in accordance with ICAO annexes, Civil Aviation Act 2006, Nigeria Civil Aviation Regulations and Technical Guidance Materials.

3.3.3 The primary role of the Quality Assurance System Coordinator is to verify, by monitoring activity in the field of, airworthiness oversight, that the standards required by the DAWS, and any additional requirements defined by the NCAA**2.3.4** The Quality Assurance System Coordinator should be responsible for ensuring that the quality assurance programme is properly established, implemented and maintained.

4.0 Q UALITY SYSTEM.

4.1 Introduction

4.1.1 The DAWS quality assurance system should ensure compliance and adequacy of operational and maintenance activities requirements, standards, and procedures.

4.2 Scope.

4.2.1 As a minimum, the quality assurance system will address the following:

(a) The ICAO Standards and Recommended Practices (SARPs) as contained in the annexes;
(b) The ICAO Technical Documents;
(c) The ICAO Eight Critical Elements of a State Safety Oversight System
(d) The Civil Aviation Act;
(e) The Nigeria Civil Aviation Regulations;
(f) Technical Guidance Materials;
(g) Advisory Circulars;
(h) Compliance and Enforcement Handbook
(i) State Safety Programme;
(j) Quality assurance;
(k) The required financial, material and human resources;
(l) Training requirements.

4.2.2 The quality assurance system includes a feedback system to the Director General to ensure that corrective actions are both identified and promptly addressed. The feedback system will also specify who is required to rectify discrepancies and non-compliance in each particular case, and the procedure to be followed if corrective action is not completed within an appropriate timescale.

The quality assurance programme, reflecting:

(1) Schedule of the monitoring process;
(2) Audit procedures;
(3) Reporting procedures;
(4) Follow-up and corrective action procedures;
(5) Recording system;
(6) The training syllabus; and
(7) Document control

5.0 QUALITY ASSURANCE PROGRAMME

5.1 Introduction.

5.1.1 The quality assurance programme includes all planned and systematic actions necessary to provide confidence that all airworthiness safety oversight is conducted in accordance with all applicable requirements, standards and procedures.

5.1.2 The DAWS quality assurance programme includes the following:

(a) Quality inspection;
(b) Audit;
(c) Auditors;
(d) Auditor's independence
(e) Audit scope;
(f) Audit scheduling;
(g) Monitoring and corrective action;
(h) Management evaluation

5.2 Quality Inspection.

5.2.1 The primary purpose of a quality inspection is to observe a particular event/action/document, etc. in order to verify whether established procedures and requirements are followed during the accomplishment of that event and whether the required standard is achieved.

5.2.2 Typical subject areas for quality inspections are:

(1) Office accommodation;
(2) Work environment;
(3) Tools, Equipment and Materials;
(4) Certificate of Airworthiness Issue Inspection;
(5) Management of changes;
(6) Staff numbers and man-hour plan;
(7) Qualifying of Inspectors;
(8) Training Records of Inspectors;
(9) Issuance of Scope of Authorizations
(10) Aircraft Type Certificate Acceptance Programme;
(11) Registration and Deregistration of Aircraft;
(12) Technical Documents held;
(13) Approval of Aircraft Repairs and Modification;
(14) Approval of Aircraft Maintenance Programme;
(15) Approval of Quality Manual;
(16) Approval of Maintenance Control Manual;
(17) Approval of Maintenance Procedures Manual;
(18) Approval of Minimum Equipment List (MEL);
(19) Approval of Safety Management System Manual;
(20) Approval of Reliability Programme;
(21) Air Operator Certificate Certification Airworthiness Aspects;
(22) Aircraft Ramp Inspection;
(23) Approved Maintenance Organization Certification;
(24) Foreign Airline Base Inspection;
(25) Incident Investigation;
(26) State Safety Programme;
(27) Special Operations Approval (EDTO, PBN, RVSM);
(28) Maintenance Clearance Certificate Issuance Inspection; and
(29) Any other areas deem fit by the NCAA management.

Typical methods for quality inspections include:

(a) Certification Report sampling –the inspection of certification report for completeness; shall be carried out between three (3) to four (4) months

(b) Inspection Report sampling - the inspection of inspection report for completeness; shall be carried out between three (3) to four (4) months

(c) Approved Manual sampling - the inspection of approved manual; shall be carried out between three (3) to four (4) months

5.3 Audit.

5.3.1 An audit is a systematic and independent comparison of the way in which an operation is being conducted against the way in which the published operational procedures say it should be conducted.

5.3.2 Audits will include at least the following quality procedures and processes:

(a) A statement explaining the scope of the audit;
(b) Planning and preparation;
(c) Gathering and recording evidence; and
(d) Analysis of the evidence.

5.3.3 The auditing techniques that would be applied to ensure an effective audit are:

(a) Interviews or discussions with personnel;
(b) A review of published documents;
(c) The examination of an adequate sample of records;
(d) The witnessing of the activities that make up the operation; and
(e) The preservation of documents and the recording of observations.

5.4. Auditors.

5.4.1 Auditors will be officers on grade level 15 and above with years of experience in airworthiness safety oversight duties. Auditors must have undergone audit techniques course, auditor's course, lead auditors course or quality management course.

5.4.2 The responsibilities of the auditors will be to carry out audit of directorate of airworthiness standards safety oversight activities as being carried out by the departments and submit report to the Audited Department, Director, Airworthiness Standards and the Director General.

5.5 Auditor's Independence.

5.5.1 The persons directly responsible for the safety oversight activities to be audited should not be selected as part of the auditing team to audit his/her own job.

5.5.2 The DAWS quality assurance programme will identify the persons within the directorate who have the experience, responsibility and authority to:

(a) Perform quality inspections and audits as part of ongoing quality assurance;
(b) Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;
(c) Initiate or recommend solutions to concerns or findings through designated reporting channels;
(d) Verify the implementation of solutions within specific timescales;

5.6 Audit Scope.

5.6.1 The audit scope includes but not limited to monitor compliance with:

(a) The ICAO Standards and Recommended Practices (SARPs) as contained the annexes;
(b) The ICAO Technical Documents;
(c) The ICAO Eight Critical Elements of a State Safety Oversight System
(d) The Civil Aviation Act;
(e) The Nigeria Civil Aviation Regulations;
(f) Technical Guidance Materials;
(g) Advisory Circulars;
(h) Compliance and Enforcement Handbook
(i) State Safety Programme;
(j) Quality assurance;
(k) The required financial, material and human resources;
(l) Inspector Training System Requirement

5.7 Audit Scheduling.

5.7.1 A quality assurance programme has been designed to include a defined audit schedule and a periodic review cycle area by area. The schedule will be flexible, and allow unscheduled audits when trends are identified. Follow-up audits should be scheduled when necessary to verify that corrective action was carried out and that it was effective.

5.7.2 The DAWS will establish and publish a schedule of audits to be completed during a specified calendar period. All aspects of the safety oversight activities will be reviewed within every 12-month period in accordance with the programme unless an extension to the audit period is accepted as explained below. The Quality Assurance System Coordinator may increase the frequency of audits at his discretion but should not decrease the frequency without the agreement of the Director. Audit frequency may not be decreased beyond a 24-month period interval.

5.7.3 When DAWS defines the audit schedule, significant changes to the management, organization, operation, or technologies should be considered as well as changes to the regulatory requirements.

5.8 Monitoring and Corrective Action.

5.8.1 The aim of monitoring within the quality assurance system is primarily to investigate and judge its effectiveness and thereby to ensure that defined policy and procedures are continuously complied with. Monitoring activity is based upon quality inspections, audits, corrective action and follow-up.

5.8.2. Any non-compliance identified as a result of monitoring should be communicated to the General Manager responsible for taking corrective action or, if appropriate, the Director and Director General. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the root cause and to enable the recommendation of appropriate corrective action.

5.8.3 Corrective action. Subsequent to the quality inspection/audit, the Quality Assurance System Coordinator will establish:

(a) The seriousness of any findings and any need for immediate corrective action;
(b) The origin of the finding;
(c) What corrective actions are required to ensure that the non-compliance does not recur;
(d) A schedule for corrective action;
(e) The identification of individuals or departments responsible for implementing corrective action;
(f) Allocation of resources by the Director Airworthiness.

5.8.4 The Quality Assurance System Coordinator will:

(a) Verify that corrective action is taken by the General Manager responsible in response to any finding of non-compliance;

(b) Verify the corrective action includes the elements outlined in paragraph 3.8.4 above;

(c) Monitor the implementation and completion of corrective action'

(d) Provide management with an independent assessment of corrective action; implementation and completion;

(e) Evaluate the effectiveness of corrective action through follow-up process.

5.9 Management Evaluation.

5.9.1 A management evaluation is a comprehensive, systematic, documented review by the management of the DAWS of the quality assurance system, policies and procedures, and will consider the results of quality inspections, audits and any other indicators; The overall effectiveness of the DAWS in achieving stated objectives.

5.9.2 DAWS management will identify and correct trends, and prevent, where possible, future non-conformities. Conclusions and recommendations made as a result of an evaluation should be submitted in writing to the responsible General Manager for action. The responsible General Manager should be an individual who has the authority to resolve issues and take action.

5.9.3 The DAWS management will decide upon the frequency, format and structure of internal management evaluation activities.

5.10 Recording.

5.10.1 Accurate, complete and readily accessible records documenting the results of the quality assurance programme must be maintained by the Quality Assurance System Coordinator. Records are essential data to enable DAWS Management to analyze and determine the root causes of non-conformity, so that areas of non-compliance can be identified and addressed.

5.10.2 The following records should be retained for a period of 5 years:

(a) Audit schedules;

(b) Quality inspection and audit reports;

(c) Responses to findings;

(d) Corrective action reports;

(e) Follow-up and closure reports; and

(f) Management evaluation reports.

6. 0 ROOT CAUSE ANALYSIS (RCA)

6.1 This section highlights the purpose of and guidance on the root cause analysis (RCA). It provides a procedure to identify and document the root cause of a particular finding or non-compliance and the follow- up actions necessary to properly address the root cause. As the purpose of the RCA is to determine the root cause of a problem, it should result in some corrective actions that may be taken to ensure the same finding or non-compliance is not repeated. It is imperative that all of the findings and corrective actions are detailed and formally communicated to the audited department.

6.2 The RCA should be undertaken by the General Manager responsible for the area audited with guidance from the Quality Assurance System Coordinator or Auditors. One of such RCA method is the Failure Modes and Effects Analysis (FMEA). Failure Modes and Effects Analysis (FMEA) is a procedure that examines each item in a system, a process or procedures, considers how that item can fail, and then determines how that failure will affect the operation of the system, the process or procedures. It is a structured, logical, and systematic analysis. Identifying possible system, process or procedures failure modes and determining their effects on the system operation helps the analyst to develop a deeper understanding of the relationships among the system components, processes or procedures and ultimately, to improve the system design, processes or procedures by making changes to either eliminate or mitigate the undesirable effects of a failure.

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PROCESS / SYSTEM / PROCEDURES FAILURE MODES AND EFFECTS ANALYSIS (FMEA)																
PROCESS NAME:										PREPARED BY						
RESPONSIBLE MANAGER																
									DATE:							
PROCESS / SYSTEM / PROCEDURES	PROCESS / SYSTEM /PROCEDURES FUNCTION OR PURPOSE	POTENTIAL FAILURE MODE	POTENTIAL FAILURE EFFECT(S)	SEVERITY (S)	POTENTIAL CAUSES	OCCURRENCE (O)	CURRENT CONTROLS	DETECTION (D)	RPN (SxOxD)	ACTION RECOMMENDED	RESPONSIBLE	ACTION TAKEN	SEVERITY (S)	OCCURRENCE (O)	DETECTION (D)	RPN (SxOxD)