

APPENDIX D
QUALITY SYSTEM

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D.1 Applicability.

This appendix prescribes ECASA quality system requirements for Training Organizations responsible for the implementation of Aviation Maintenance Organizations' training programs; as well as quality system requirements for independent Aviation Maintenance Training Organizations (Aviation Maintenance Training Centers). An Aviation Maintenance Training Organization shall establish and maintain a quality system approved by the ECASA.

D.2 General.

D.2.1 The rationale for the requirements of quality systems is the need to establish a distinct assignment of roles between the ECASA and Training Organizations by creating an evident division between the regulatory and surveillance responsibility on the one hand, and responsibility of the training activities in itself on the other. Therefore the Training Organizations must establish a system whereby they can monitor their activities, be able to detect deviations from set rules and standards, take the necessary corrective actions and thus ensure compliance with ECASA rules regulations (ECARs) and their own requirements. A well established and functioning quality system will make it possible for the ECASA to perform inspections and surveillance efficiently and with a reasonable amount of resources.

D.2.2 It is obvious and well recognized that **the scope and complexity of a quality system should reflect the size and complexity of the Training Organization and its training activities.** The objectives and the same principles apply, however, to any Training Organization, irrespective of size and complexity. Thus, in small and relatively small Training Organizations, the quality system may be quite simple and integrated in the basic organization, whereas larger organizations with more complex training activities will need to establish separate and independent quality organizations within the overall organizational set-up.

In determining size in this context the following guidelines apply:

- Training Organizations with 5 or less full time instructors employed are considered very small;
- Training Organizations employing between 6 and 20 full time instructors are considered small.

In determining complexity, factors such as number of aircraft types used for training, range of training courses offered, geographical spread of training activities (e.g. the use of satellites), range of training arrangements with other Training Organizations, etc. will be considered.

D.2.3 In a quality system of any Training Organization or Training Program the following **five** elements should be clearly identifiable:

- (a) determination of the training policy, training and flight safety standards;
- (b) determination and establishment of assignment of responsibility, resources, organization and operational processes, which will make allowance for policy and training and flight safety standards;
- (c) follow up system to ensure that policy, training and flight safety standards are complied with;

- (d) registration and documentation of deviations from policy, training and flight safety standards together with necessary analysis, evaluations and correction of such deviations;
- (e) evaluation of experiences and trends concerning policy, training and flight safety standards.

D.2.4 A basis for quality should be established by every Training Organization and problem-solving techniques to run processes should be applied. Knowledge in how to measure, establish and ultimately achieve quality in training and education is considered to be essential.

D.2.5 The purpose of this appendix is to provide information and guidance to the Training Organizations on how to establish a Quality System.

D.3 Definitions.

D.3.1 **Accountable Manager.** (May be the Head of Training.)

D.3.2 **Quality.** The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

D.3.3 **Quality Assurance.** All those planned and systematic actions necessary to provide adequate confidence that all training activities satisfy given requirements, including the ones specified by the Training Organization in relevant manuals.

D.3.4 **Quality Manager.** The manager, acceptable to the ECASA, responsible for the management of the Quality System, monitoring function and requesting corrective ' actions.

D.3.5 **Quality Manual.** The document containing the relevant information pertaining to the operator's quality system and quality assurance program.

D.3.6 **Quality Audit.** A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

D.3.7 **Training Organization.** May be an independent organization (a training center or a training school) or may be the administration within a maintenance organization responsible for the implementation of its Training Program.

D.3.8 **Training Program:** A system of instruction which includes curriculums, facilities, instructors, courseware, instructional delivery methods, training equipment, quality control and testing and checking procedures.

D.4 Quality Policy and Strategy.

It is of vital importance that the Training Organization describes how the organization formulates, deploys, reviews its policy and strategy and turns it into plans and actions. A formal written Quality Policy Statement should be established that is a commitment by the Head of Training as to what the Quality System is intended to achieve. The Quality Policy should reflect the achievement and continued compliance with relevant parts of the ECARs together with any additional standards specified by the Training Organization.

The Head of Training (Accountable Manager) will have overall responsibility for the Quality System including the frequency, format and structure of the internal management evaluation activities.

D.5 Purpose Of A Quality System

The implementation and employment of a Quality System will enable the Training Organization to monitor compliance with relevant parts of ECAR, the Training Exposition Manual, and any other standards and procedures as established by that Training Organization, or the ECASA, to ensure safe and efficient training.

D.6 Quality Manager

The primary role of the Quality Manager is to verify, by monitoring activities in the field of training, that the standards required by the ECAR, and any additional requirements as established by the Training Organization, are being carried out properly under the supervision of the Head of Training, the Training Center Manager, and the Chief Ground Instructor.

The Quality Manager should be responsible for ensuring that the Quality Assurance Program is properly implemented, maintained and continuously reviewed and improved.

The Quality Manager should:

- have direct access to the Head of Training;
- have access to all parts of Training Organization.

In the case of small or very small Training Organizations, the posts of the Head of Training and the Quality Manager may be combined. However, in this event, quality audits should be conducted by independent personnel. It is not be acceptable for the Quality Manager to hold the position of chief instructor.

D.7 Quality System

D.7.1 The Quality System of the Training Organization should ensure compliance with and adequacy of training activities requirements, standards and procedures.

D.7.2 The Training Organization should specify the basic structure of the Quality System applicable to all training activities conducted.

D.7.3 The Quality System should be structured according to the size of the Training Organization and the complexity of the training to be monitored.

D.8 Scope

A Quality System should address the following:

- (a) Leadership;
- (b) Policy and Strategy;
- (c) Processes;
- (d) The provisions of relevant parts of the ECARs;
- (f) Additional standards and training procedures as stated by the Training Organization;
- (f) The organizational structure of the Training Organization;
- (g) Responsibility for the development, establishment and management of the Quality System;
- (h) Documentation, including manuals, reports and records;
- (i) Quality Assurance Program;
- (j) The required financial, material, and human resources;
- (k) Training requirements; and
- (l) Customer satisfaction.

D.9 Feedback System

The quality system should include a feedback system to the Accountable Manager who will ensure that corrective actions are both identified and promptly addressed. The feedback system should 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 time scale.

D.10 Documentation

Relevant documentation includes the relevant part(s) of the Training Exposition Manual, which may be included in a separate Quality Manual.

D.10.1 In addition relevant documentation should also include the following:

- (a) Quality Policy;
- (b) Terminology;
- (c) Specified training standards;
- (d) A description of the Organization;
- (e) The allocation of duties and responsibilities;
- (f) Training procedures to ensure regulatory compliance.

D.10.2 The Quality Assurance Program, reflecting:

- (a) Schedule of the monitoring process;
- (b) Audit procedures;
- (c) Reporting procedures;
- (d) Follow-up and corrective action procedures; Recording system;
- (e) The training syllabus; and
- (f) Document control.

D.11 Quality Assurance Program

The Quality Assurance Program should include all planned and systematic actions necessary to provide confidence that all training is conducted in accordance with all applicable requirements, standards and procedures.

D.12 Quality Inspection

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

Typical subject areas for quality inspections are:

- (a) Actual training;
- (b) Technical Standards; and
- (c) Training Standards.

D.13 Audit

An audit is a systematic, and independent comparison of the way in which training is being conducted against the way in which the published training procedures say it should be conducted.

D.13.1 Audits should include at least the following quality procedures and processes:

- (a) An explanation of the scope of the audit;
- (b) Planning and preparation;
- (c) Gathering and recording evidence; and
- (d) Analysis of the evidence.

D.13.2 The various techniques that make up 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 which make up the training; and
- (e) The preservation of documents and the recording of observations.

D.14 Auditors

The Training Organization should decide, depending on the complexity of the training, whether to make use of a dedicated audit team or a single auditor. In any event, the auditor or audit team should have relevant training and/or operational experience.

The responsibilities of the auditors should be clearly defined in the relevant documentation.

D.15 Auditor's Independence

D.15.1 Auditors should not have any day-to-day involvement in the area of the operation or training activity which is to be audited. A Training Organization may, in addition to using the services of full-time dedicated personnel belonging to a separate quality department, undertake the monitoring of specific areas or activities by the use of part-time auditors.

D.15.2 A Training Organization whose structure and size does not justify the establishment of full-time auditors, may undertake the audit function by the use of part-time personnel from within its own Organization or from an external source under the terms of an agreement acceptable to the ECASA.

D.15.3 In all cases the Training Organization should develop suitable procedures to ensure that persons directly responsible for the activities to be audited are not selected as part of the auditing team. Where external auditors are used, it is essential that any external specialist is familiar with the type of training conducted by the Training Organization.

D.15.4 The Quality Assurance Program of the Training Organization should identify the persons within the company 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 times scales;
- (e) Report directly to the Quality Manager.

D.16 Audit Scope

Training Organizations are required to monitor compliance with the Training Exposition Manual they have designed to ensure safe and efficient training. In doing so they should as a minimum, and where appropriate, monitor:

- (a) Organization;
- (b) Plans and objectives;
- (c) Training Procedures;
- (d) Safety;
- (e) Manuals; and
- (l) Training Aids and Equipment.

D.17 Audit Scheduling

D.17.1 A Quality Assurance Program should include a defined audit schedule and a periodic review cycle. The schedule should 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.

D.17.2 A Training Organization should establish a schedule of audits to be completed during a specific calendar period. All aspects of the training should be reviewed within a period of 12 months in accordance with the Quality Assurance Program unless an extension to the audit period is accepted as explained below.

D.17.3 A Training Organization may increase the frequency of audits at its discretion but should not decrease the frequency without the acceptance of the ECASA. It is considered unlikely that a period of greater than 24 months would be acceptable for any audit topic.

D.17.4 When a Training Organization defines the audit schedule, significant changes to the management, organization, training, or technologies should be considered, as well **as** changes to the regulatory requirements.

D.18 Monitoring And Corrective Action

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

D.18.1 The Training Organization should establish and publish a quality procedure to monitor regulatory compliance on a continuing basis. This monitoring activity should be aimed at eliminating the causes of unsatisfactory performance.

D.18.2 Any non-compliance identified should be communicated to the Accountable Manager and the manager responsible for taking corrective action. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the cause and to enable the recommendation of appropriate corrective action.

D.18.3 The Quality Assurance Program should include procedures to ensure that corrective actions are developed in response to findings. These quality procedures should monitor such actions to verify their effectiveness and that they have been completed. Organizational responsibility and accountability for the implementation of corrective action resides with the department cited in the report identifying the finding. The Accountable Manager will have the ultimate responsibility for ensuring, through the Quality Manager(s), that corrective action has re-established compliance with the standard required by the ECASA and any additional requirements established by the Training Organization.

D.19 Corrective Action

D.19.1 Subsequent to the quality inspection/audit, the Training Organization should 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 Accountable Manager where appropriate.

D.19.2 The Quality Manager should:

- (a) Verify that corrective action is taken by the manager responsible in response to any finding of non-compliance;
- (b) Verify that corrective action includes the elements outlined in paragraph D.19.1 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 the follow-up process.

D.20 Management Evaluation

D.20.1 A management evaluation is a comprehensive, systematic documented review by the management of the quality system, training policies, and procedures, and should consider:

- (a) The results of quality inspections, audits and any other indicators; as well as
- (b) The overall effectiveness of the management organization in achieving stated objectives.

D.20.2 A management evaluation should 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 manager for action. The responsible manager should be an individual who has the authority to resolve issues and take action.

D.20.3 The Accountable Manager should decide upon the frequency, format, and structure of internal management evaluation activities.

D.21 Recording

Accurate, complete, and readily accessible records documenting the results of the Quality Assurance Program should be maintained by the Training Organization. Records are essential data to enable a Training Organization to analyze and determine the root causes of non-conformity, so that areas of non-compliance can be identified and subsequently addressed.

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;
- (f) Management Evaluation reports.

D.22 Quality Assurance Responsibility For Sub-Contractors

D.22.1 A Training Organization may decide to sub-contract out certain activities to external organizations subject to the approval of the authority.

D.22.2 The ultimate responsibility for the training provided by the sub-contractor always remains with the Training Organization. A written agreement should exist between the Training Organization and the sub-contractor clearly defining the safety related services and quality to be provided. The sub-contractor's safety related activities relevant to the agreement should be included in the Training Organization's Quality Assurance Program.

D.22.3 The Training Organization should ensure that the sub-contractor has the necessary authorization/approval when required, and commands the resources and competence to undertake the task. If the Training Organization requires the sub-contractor to conduct activity, which exceeds the sub-contractor's authorization/approval, the Training Organization is responsible for ensuring that the sub-contractor's quality assurance takes account of such additional requirements.

D.23 Quality System Training

Correct and thorough training is essential to optimize quality in every organization. In order to achieve significant outcomes of such training the Training Organization should ensure that all staff understands the objectives as laid down in the Quality Manual.

Those responsible for managing the Quality System should receive training covering:

- (a) An introduction to the concept of Quality System;
- (b) Quality management;
- (c) Concept of Quality Assurance;
- (d) Quality manuals;
- (e) Audit techniques;
- (f) Reporting and recording, and
- (g) The way in which the Quality System will function in the Training Organization.

Time should be provided to train every individual involved in quality management and for briefing the remainder of the employees. The size and complexity of the operation concerned should govern the allocation of time and resources.

D.24 Sources Of Training

Quality management courses are available from the various National or International Standards Institutions, and a Training Organization should consider whether to offer such courses to those likely to be involved in the management of Quality Systems. Organizations with sufficient appropriately qualified staff should consider whether to carry out in-house training.

D.25 Quality Systems For Small/Very Small Organizations

The requirement to establish and document a Quality System and to employ a Quality Manager applies to all Training Organizations.

D.25.1 Complex quality systems could be inappropriate for small or very small Training Organizations and the clerical effort required to draw up manuals and quality procedures for a complex system may stretch their resources. It is therefore accepted that such Training Organizations should tailor their quality systems to suit the size and complexity of their training and allocate resources accordingly.

D.25.2 For small and very small Training Organizations it may be appropriate to develop a Quality Assurance Program that employs a checklist. The checklist should have a supporting schedule that requires completion of all checklist items within a

specified time scale, together with a statement acknowledging completion of a periodic review by top management. An occasional independent overview of the checklist content and achievement of the Quality Assurance should be undertaken.

D.25.3 The small Training Organization may decide to use internal or external auditors or a combination of the two. In these circumstances it would be acceptable for external specialists and or qualified organizations to perform the quality audits on behalf of the Quality Manager.

D.25.4 If the independent quality audit function is being conducted by external auditors, the audit schedule should be shown in the relevant documentation.

D.25.5 Whatever arrangements are made, the Training Organization retains the ultimate responsibility for the quality system and especially the completion and follow-up of corrective actions.