

APPENDIX B  
RECORD KEEPING

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## RECORD KEEPING

### SECTION 1. GENERAL

#### B.1 GENERAL.

This appendix contains information and guidance to be used by ECASA when evaluating a certificate holder's (the training department of an ECAR Part 145 maintenance organization, or ECAR Part 147 aviation maintenance training center) record keeping system for acceptance or approval. If the system is found satisfactory, it will be approved or accepted. Approval will be indicated by a letter. Acceptance will be indicated by a letter or by the lack of any ECASA objections.

•**This Section.** Contains a general overview of proprietary information, the regulatory requirements for record keeping, and definitions of terms as they relate to a certificate holder record keeping.

•**Section Two.** Contains information and guidance about the acceptance or approval of a certificate holder's record keeping system.

•**Section Three.** Contains information and guidance about currency periods for records.

•**Section Four.** Contains information about computer based record keeping.

#### B.2 CHARACTERISTICS OF INFORMATION AND RECORDS.

Certificate holders collect and use both information and records in the conduct of operations.

a. **Information Versus Record.** Inspectors should be aware of the difference between a record keeping system and a management information system. A record is defined as an account which preserves evidence of the occurrence of an event. In general, a record must show what event occurred, to whom, by whom, when, and proof of the event's occurrence, such as a certification by signature or by electronic means. A system that collects related information for making operational decisions but does not preserve evidence of the event's occurrence is not a record keeping system.

b. **Proprietary Information.** Proprietary information is that information which is the sole property of the certificate holder. Inspectors do not have a right to compel a certificate holder to divulge proprietary information.

#### B.3 REQUIREMENTS.

- a) It is required that the certificate holder must maintain records for trainees enrolled in a course, for instructors designated to instruct a course, and for examiners.
- b) Computer record systems must be approved by the ECASA in compliance with the record keeping requirements of that appendix.
- c) The certificate holder is required to keep the records at either the principal business office or another place approved by the ECASA.

**B.4 DEFINITIONS.**

The following definitions are used throughout this appendix:

- a. Calendar Month.* The first day through the last day of a particular month.
- b. Computer Based Record Keeping System.* A system of record processing in which records are entered, stored, and retrieved electronically by a computer system rather than in traditional hard copy form.
- b. Computer Hardware.* A computer and the associated physical equipment directly involved in the performance of communications or data processing functions.
- d. Computer Software.* Written or printed data, such as programs, routines, and symbolic languages, essential to the operation of computers.
- e. Data Backup.* Use of one of several recognized methods of providing a secondary means for storing records. This backup can be used to reconstruct the format and content of electronically stored records in case of loss of, failure of, or damage to the primary record keeping system.
- f. Data Base Management System (DBMS).* A computer software program capable of maintaining stored information in an ordered format, manipulating that data by mathematical methods, and data processing functions such as retrieval of data.
- g. Data Entry.* The process by which data or information is entered into a computer memory or storage medium. Sources include manually written records, real time information, and computer generated data.
- h. Data Verification.* A process of assuring accuracy of data records by systematically or randomly comparing electronic records with manual data entry documents.
- i. Electronic Mail.* The transmittal of messages, documents, or other communications between computer systems or other telecommunication channels.
- j. Electronic Signature.* Any of several generally recognized techniques for electronically identifying individuals entering, verifying, or auditing computer based records, and checking for authenticity.
- k. Eligibility (Grace) Period.* Three calendar months: the calendar month before the recurrent training month, the recurrent training month, and the calendar month after the recurrent training month. During this period, a maintenance engineer must receive recurrent training to remain in a qualified status. Recurrent training completed during the eligibility period is considered to be completed during the recurrent training month (base month). For example, if a maintenance engineer whose recurrent training month is August receives the required recurrent training in September, August remains as the recurrent training month.
- l. Modem.* A device that can use existing telephone transmission circuits to transfer information between either two or more computer systems, or computers and remote terminals.
- m. Password.* An identification code required to access stored material. A device intended to prevent information from being viewed, edited, or printed by unauthorized persons.

*n. **Proprietary Information.*** Information which is the private property of the certificate holder.

*o. **Real Time Record.*** Information that is entered into a computer based record keeping system immediately following the completion of an event or fulfillment of a condition, without first relying on the manual recording of the information on a data entry form.

*p. **Records.*** Information in a predetermined format that shows that the certificate holder or its personnel have accomplished a particular event, have met certain criteria, or have fulfilled specific conditions required by the ECARs.

*q. **System Security.*** Policies, procedures, and system structures designed to prevent users from gaining access to sections of a data base to which they are not authorized access.

*r. **Telephone Dial In Access.*** A means of gaining access to a computer system from a remote location through a telephone modem and existing telephone circuits.

*s. **Training Month (Base Month).*** The calendar month during which a maintenance engineer is due to receive required recurrent training.

*t. **User Identification.*** A series of alphabetic and/or numeric characters assigned to one or more individuals or organizations for the purpose of gaining access to a computer system and accounting for time usage.

## **B.5 MERGERS AND ACQUISITIONS.**

When two or more computer based record keeping systems are being consolidated because of a merger or acquisition, the consolidation of the training programs and the record keeping systems which correlate to those programs is of particular importance. Accurate consolidation of those systems must be given priority by the ECASA. Training records of the acquired company's flight operations personnel must comply with the basic ECAR requirements before being accepted. Once the surviving system has been approved, the certificate holder should transfer data from the existing system into the surviving system.

*a. **Unavailable Records.*** Due to variances in record keeping methods of individual certificate holders, some records may not be available or useable for inclusion in the surviving computer based record keeping system. In this case, the certificate holder must reconstruct records from available resources. If there are no resources from which to reconstruct records, assumptions that experienced personnel have accomplished required training may be required. In these cases, the ECASA and certificate holder should agree on a method of identifying portions of a record that are based on these assumptions. The method used to identify this information should be discussed in the certificate holder's user manual.

*b. **Changes to Existing Record Keeping System.*** The ECASA is responsible for evaluating any request for change to a certificate holder's existing record keeping system. Minor changes such as modifications to display formats may not require a formal evaluation and approval; major changes affecting system operation or capability may require an in depth evaluation and approval process.

*c. Transition from Existing System to Surviving System.* The transition procedures from the certificate holder's existing system to the surviving system must be approved by the ECASA. During this transition, the ECASA shall determine the time period required for maintaining the two systems in parallel operation. The surviving system should have at least the same backup capability as the existing system. The integration of the existing and surviving systems may be accomplished by electronically combining the data bases of the two systems or by other methods, as long as the accuracy of the data is maintained.

**NOTE: A change in computer hardware which does not affect functions or capabilities of the system does not constitute a system transition and does not require approval.**

## **SECTION 2. ACCEPTANCE OR APPROVAL PROCESS**

### **B.6 GENERAL.**

This section contains information and guidance to be used by the Flight Safety Standards Sector (FSSS) inspectors when accepting or approving certificate holder (ECAR Part 145 certificate holders, or ECAR Part 147 aviation maintenance training centers) record keeping systems. The record keeping acceptance or approval process follows the general acceptance or approval process of the ECASA.

### **B.7 REQUIREMENTS.**

The ECASA approve certificate holder's computer based record keeping system. All other record keeping systems must be acceptable to the ECASA requirements. FSSS inspectors shall determine that a certificate holder's record keeping system is in compliance with applicable ECARs and with the requirements of this appendix.

### **B.8 GUIDELINES FOR APPROVAL OR ACCEPTANCE.**

During initial certification, the certificate holder should ensure that the compliance statement clearly describes the procedures to be used by the certificate holder for the generation and maintenance of required records. After certification, FSSS inspectors shall conduct surveillance of a certificate holder's records on a routine basis to ensure that the records are being maintained. FSSS inspectors shall also ensure that the records continue to contain the required information to show compliance with the ECARs. The certificate holder shall develop a section in its training exposition manual (TEM) that provides detailed instruction on the use of the record keeping system and as part of the TEM, must be provided to the ECASA.

### SECTION 3. CURRENCY PERIODS FOR RECORDS

**B.9 GENERAL.** ECASA inspectors shall determine if an certificate holder's (ECAR Part 145 certificate holders, or ECAR Part 147 aviation maintenance training centers) record keeping system provides the necessary documentation to demonstrate compliance with the ECARs and this appendix. Adequate historical data must be maintained by the certificate holder to enable the ECASA inspectors to determine compliance at any time. This section contains information and guidance to be used by ECASA inspectors when determining the necessary currency periods for records.

**B.10 CATEGORIES OF RECORDS.** In order to demonstrate regulatory compliance, training and qualification records must be retained to document currency and prerequisite qualification.

**A. *Permanent Records.*** Permanent records are the documentation of the successful completion of training or qualification events which are prerequisites for subsequent assignments. These records must be retained for the duration of the individual's employment with that certificate holder to substantiate the individual's qualifications. Examples of permanent records include the following:

- a) Basic indoctrination records.
- b) Initial qualification records.
- c) Transition aircraft training records.
- d) Required practical experience (PE) observation of by ECASA inspector records.

**B. *Currency Records.*** Currency records are the documentation of training or qualification events which qualify individuals for their present assignments and are required to be re-accomplished at scheduled intervals. In order to show continuity of qualification, this type of record must be retained until superseded by a record of similar training or qualification.

NOTE: Many certificate holders revise LOFT scenarios annually in order to preclude any crewmember from receiving the same scenario more than once. A certificate holder that revises LOFT scenarios less frequently should be required to maintain additional records to ensure that the crewmember does not receive the same in two consecutive training cycles.

**C. *Records of Action.*** Regulations require that a certificate holder records each action taken concerning the release from employment or physical or professional disqualification of any maintenance engineer and keep the record for at least 6 calendar months.

**B.11 CURRENCY PERIODS FOR RECORD KEEPING SYSTEMS.** When evaluating any record keeping system, ECASA inspectors shall ensure that the system has the capability for entry, storage, retrieval, and archiving of all required records in the categories of records for which the certificate holder is seeking acceptance or approval (job aids for currency periods and regulatory references - to be developed).

## SECTION 4. COMPUTER BASED RECORD KEEPING

**B.12 GENERAL.** Many certificate holders are developing computer based record keeping systems, allowing more flexible and efficient maintenance of records. Some computer based systems offer electronic communications capabilities which benefit both the certificate holder and the ECASA. This section contains information and guidance to be used by ECASA inspectors when evaluating and approving a certificate holder's (ECAR Part 145 certificate holders, or ECAR Part 147 aviation maintenance training centers) computer based record keeping system.

**B.13 REQUIREMENTS.** Certificate holders must maintain records for trainees enrolled in a course, for instructors designated to instruct a course, and for examiners. Computer based record keeping systems must be approved by the ECASA.

**B.14 GUIDELINES FOR SYSTEM APPROVAL.** ECASA inspectors shall ensure that certificate holders follow certain guidelines and submit certain information when applying for approval of a computer based record keeping system.

**A. *Approval and Evaluation Process.*** An certificate holder may apply for approval of a computer based record keeping system that is designed to satisfy either all regulatory requirements or specific regulatory requirements, such as training records. When evaluating a computer based record keeping system, ECASA inspectors shall ensure that the proposed system provides a means of maintaining accurate, timely, and reliable records required by the ECARs. When approving the system, ECASA inspectors shall follow the general 5 step approval process.

**(1) Application by Letter.** Certificate holders must apply for approval of computer based record keeping systems by letter.

- a) **Content of Letter.**  
The letter of application must contain the following information:
- i) A general description of the proposed computer based record keeping system (including the facilities, hardware and software to be utilized).
  - ii) The data backup system to be used.
  - iii) Access and security procedures for both the certificate holder and ECASA personnel.
  - iv) Basic procedures for data entry personnel.
  - v) A general description of any special procedures and capabilities.
- b) **Categories of Records.**  
The letter of application must include one or more of the following categories of records which will be maintained by the computer based record keeping system:
- i) Airman training records (including pilot, flight engineer, flight navigator, flight attendant, ground instructor, flight instructor, check airman, and aircraft dispatcher training records).
  - ii) Aircraft qualification records (including aircraft type ratings, proficiency checks, competency checks, and line checks).
  - iii) Flight time limitation and rest requirement records.

- iv) Medical qualification records (when applicable).
- v) Route, "special airport," and area qualification records.
- vi) Operating experience (OE) and/or operating familiarization records.
- vii) Pilot recency of experience records.
- viii) Check airman, aircrew program designee (APD), and school designated examiner (SDE) designations or authorizations.
- ix) Special training or testing requirements.
- x) Aircraft listings.
- xi) Load manifests, dispatch/flight releases.
- xii) Communication records.

**(2) Parallel Record Keeping System.** The ECASA inspectors shall ensure that any certificate holder that requests approval of a computer based record keeping system retains data entry forms or other pertinent non-electronic records in a parallel record system. The ECASA inspectors shall ensure that all required records continue to be maintained while the computer based record keeping system is being installed, tested, and evaluated, and data entry personnel are being trained to recognize regulatory terminology and requirements.

**B. System Evaluation.** ECASA inspectors shall evaluate the computer based record keeping system capabilities and level of security.

**(1) System Capabilities.** Prior to approval, the ECASA inspectors should carefully evaluate the proposed computer based record keeping system to ensure that the system is capable of providing accurate, timely, and reliable records, as required by the ECARs. The ECASA inspectors shall review the certificate holder's proposed transition plan and user manual, and observe operation of the certificate holder's existing record keeping system in parallel operation with the proposed computer based system. The extent of this evaluation depends on the complexity of the proposed system and its intended use. The evaluation of a system designed to comply with all regulatory requirements will be much more complex than that of a system designed to maintain records in one specific category. The ECASA inspectors shall ensure that system security, record retention periods, and data backups are adequate. Potential problem areas should be identified and corrected prior to approval.

**(2) Level of Security.** ECASA inspectors shall evaluate the proposed system's level of security to ensure that the data base is adequately protected.

(a) Authorized Access.

To maintain integrity of the data base and associated records, the ECASA inspectors should coordinate with the certificate holder during the approval process concerning which ECASA personnel will have access to the certificate holder's record keeping system. One frequently used approach is to rely on controlled user access codes and passwords.

(b) Monitoring User Access.

A representative designated by the certificate holder should actively monitor user access and periodically review access control requirements. This representative

shall be specifically identified and authorized in the certificate holder's proposal and user manual.

(c) **Electronic Signature.**

The certificate holder should establish a procedure for allowing designated personnel such as flight instructors/check airmen, ground instructors, aircraft dispatcher supervisors, and flight attendant supervisors to electronically certify all record entries for which they are responsible. This certification may take one of many forms such as full name, initials, or unique identification number. Each designated person with authorization to make such entries shall be issued a unique individual access code and password in order to validate the entry. The certificate holder may devise a system that requires the validating official to either enter a real time record into the system or complete a written transmittal document to be given to data entry personnel. If a written transmittal document is used, the identification of the validating official must become part of the record.

(d) **Unrestricted Data Retrieval.**

Appropriate ECASA inspectors assigned to the certificate holder should be provided with an access level which allows unrestricted data retrieval of all records required by the ECARs. If the certificate holder elects to use the computer record keeping system's capability for electronic designation of APDs and check airmen, an appropriate level of access should be provided to the ECASA inspectors to allow necessary data entries.

**(3) Data Backup Capability and Storage.** The ECASA inspectors shall verify that the certificate holder has established a backup capability to generate a complete set of duplicate records, either electronic or non-electronic. These records should be stored in a location separate from the main information storage facility. These records may be stored in any form acceptable to the ECASA inspectors, including magnetic tape, magnetic or optical disk, microfiche, or printed records. The certificate holder shall backup data as frequently as appropriate to the certificate holder's level of operations and system complexity. For example, a major certificate holder may perform a simultaneous on-line data backup, while a smaller certificate holder may perform backups at less frequent intervals.

**(4) User Manual.** The certificate holder shall develop a working procedures manual for day today guidance and training for the certificate holder's employees. This manual should also be provided as a reference document for ECASA users. This manual will not require ECASA approval but must include guidance in the automated record keeping system structure and instructions for using computer commands for such operations as data entry, data processing, data retrieval, and report generation. This manual should address system security procedures and responsibilities, including identification of personnel charged with various levels of data entry, data verification and correction, data audits, and quality control. It should also identify individuals with the authority to issue user access codes and passwords.

**(5) Audit Procedures.** The ECASA inspectors shall ensure that certificate holders' programs contain audit procedures that are adequate to assure the accuracy of the data base. The frequency and scope of these procedures should reflect the complexity of the computer based record keeping system and the size of the data base.

**B.15 GRANTING APPROVAL.** When all requirements of paragraphs **B. (1)** through **B.(5)** have been met, the ECASA inspectors may either grant approval for the entire computer based record keeping system or any part of the system. This approval shall be a nonstandard paragraph in the operations specifications (OpSpecs) for Part 121 certificate holders or in the training specifications (TrngSpecs) for Part 141 and 142 certificate holders and shall directly reference the manual where the information in the record keeping system is maintained.

**B.16 SYSTEM SURVEILLANCE.** ECASA inspectors are responsible for conducting system surveillance which includes periodic inspections and audits, inspection intervals, and data entry accuracy.

**A. *Inspections and Audits.*** After the computer based record keeping system is approved and fully operational, the ECASA inspectors shall ensure compliance through periodic inspections and audits. These inspections and audits shall be conducted using the same criteria as those used during the initial approval process. The ECASA inspectors should plan inspection intervals at least once every 12 months. The annual inspection should normally be conducted in conjunction with national program guidelines.

**B. *Inspection Intervals.*** When determining inspection intervals, the ECASA inspectors shall consider the following:

- a) The size of the data base.
- b) The system's overall sophistication level.
- c) The extent of the system's security measures.
- d) The capability and frequency of the system's self-audit function.

**C. *Scope of the Inspection.*** The ECASA inspectors shall determine the scope of the inspection. It may be appropriate to sample a small number of records in each category that the system is approved to maintain, or to conduct an in depth inspection of a specific category of records, such as aircraft dispatcher training.

**D. *Data Entry Accuracy.*** The ECASA inspectors shall ensure data entry accuracy during all inspections and audits. A useful evaluation tool might be to compare the certificate holder's required records with ECASA surveillance, inspection, and certification records.

**B.17 ADDITIONAL SYSTEM CAPABILITIES.** In addition to record retention and retrieval, the certificate holder may request approval of a system with additional capabilities such as electronic communications and surveillance.

**A. *Electronic Communications.*** The certificate holder may provide the ECASA inspectors with electronic mail capability which would allow the certificate holder to request designation of certain airmen, such as check airmen, APDs, and SDEs. This capability would also allow the ECASA inspectors to respond electronically to these requests, thereby increasing both certificate holder and ECASA efficiency and convenience. To implement this electronic mail capability, the certificate holder should provide the ECASA inspectors with system access from the ECASA inspectors facility by providing necessary hardware to be installed at the ECASA inspectors facility.

**B. *Electronic Surveillance.*** The certificate holder may also provide direct access to the certificate holder's computer based record keeping system to allow the ECASA inspectors to carry out required surveillance activities such as random record retrieval for spot inspections, data audits, selective data retrievals, and reports or summaries. The certificate holder should limit system access to those portions of the record keeping system that are used for data retrieval of records required by the ECARs. Normally, the ECASA inspectors should not be given access to data entry areas; however, the certificate holder may authorize the ECASA inspectors access to data entry areas which pertain to ECASA-specific data, such as observations of the pilot in command (PIC) OE and observation events related to the designation of check airmen or APD candidates.