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Docket No. FAA-1999-5401 -12  
400 Seventh St. SW  
Room Plaza 40-1  
Washington, DC 20590

Subject : Comments to Aging Airplane Safety

Reference : Frederick Sobeck  
Aircraft Maintenance Division (AFS-300)  
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FAA  
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The attached SUMMARY and COMMENTS apply to :

Federal Register / Vol. 64, No. 63 / Friday, April 2, 1999 / Proposed Rules  
( Docket No. FAA-1 999-5401; Notice No. 99-02 )

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## **SUMMARY**

***Federal Register/ Vol. 64, No. 63 / Friday, April 2, 1999 / Proposed Rules  
(Docket No. FAA-1999-5401; Notice no. 99-02)***

### **FAA: PROPOSAL**

The FAA has proposed that all commercial airplanes attaining the age of fourteen (14) years undergo a records inspection / audit plus an airplane and systems inspection. This inspection is to be performed by a U.S. FAA Designated Airworthiness Representative (DAR) and be repeated every five (5) years thereafter. The inspections apply to U.S. registered airplanes operating outside of the U.S. as well as domestically.  
(See *Comments 1), 5) and 7))*)

### **FAA: APPARENT LOGIC**

The FAA proposal seems to be based on the assumption that the U.S. Record Systems meet or exceed Federal Regulations and logic and may be utilized to determine the configuration, traceability, maintenance condition and status of the Aging Aircraft requirements of U.S. registered commercial airplanes.

There are no published FAA regulatory standards upon which to base such a proposed inspection.

(See *Comment 4) and 7) )*)

### **U. S. RECORD SYSTEMS**

The Record Systems of the majority of U.S. commercial operators, on the average, rank among the poorest in the world. Certainly there are exceptions to this rule including one major operator on the West Coast of the U.S. and a number of smaller operations. This condition can be attested to by the majority of Airplane Leasing Companies and Owners who maintain their own expert record staffs. It is also an accepted fact that 14 CFR contains inadequate requirements to maintain and transfer proper records.  
(See *Comment 4) )*)

### **RECORD SYSTEM FORMAT**

14 CFR does not address the method of maintaining records, only their content. In any event the destruction of " Hard Records " and their information reduced to one-liner automated format has established the fact that, " U.S. Automated Records and Inadequate Records are synonymous terms. ". This condition is the choice of the operator.  
(See *Comment 4) )*)

### **CONFIGURATION AND TRACEABILITY**

Maintaining configuration control is almost non-existent in the U.S. except for the same noted exceptions. For example, the Service Bulletin, which is not controlled by 14 CFR is worked either in part, substitution of materials and processes is common, and inadequate or mis-leading SB accomplishment lists are transferred with airplanes.

14 CFR pays no heed to the traceability of Controlled Parts, neither Life Limited Parts or Time Controlled Components.  
(See Comment 4) )

### **REGULATORY REQUIRED RECORDS**

The FAA has never produced a listing of required records and documentation. The only listings in use are possessed by the Leasing Companies and Owners and commercial copyrighted documents such as The 300 Handbook. There is no universal standardization between these companies and, for that matter, between the various FAA Regions.  
(See Comment 4) )

### **MAINTENANCE PROGRAMS**

Knowing and understanding the various Scheduled Maintenance Programs is vital to an in-service airplane and record system audit. The variables between a Continuing Analysis and Surveillance and a Continuous or Reliability based program can be significant. The operator self established tolerances of one would produce a non-airworthy airplane at an operator who continued to use Maintenance Manual standards.  
( See Comment 7) )

### **14 YEARS UNTIL FIRST INSPECTION**

The damage is done to an airplane's system of records and documentation within the first year. What is the significance of 14 years ?  
(See Comment 7) )

### **DESIGNATED AIRWORTHINESS REPRESENTATIVES (DAR)**

A DAR, based solely on his certificate, is not qualified to analyze or review records and airplanes. This fact has been recognized to the point that the majority of Leasing Companies would never entrust such a task to a DAR.

There are very few exceptions to this rule but those DAR's are professionals in the aviation industry who have developed such capabilities on their own.

Entrusting such an important undertaking to DAR's who have not otherwise taken a test, or possess unique certification on the subject, would serve only to guarantee them a steady income and burden the industry with but another " Rubber Stamp " function.  
(See Comment 6) )

### **STANDARD AIRWORTHINESS CERTIFICATE**

An airplane's SAC should also be re-approved, or permitted to remain effective, based on the scheduled inspection.  
(See Comment 2), 3) and 8))

### **PENALTIES**

The civil penalties for violation of § 21.2 and § 43.12 should be a normal follow-on to the inspection.  
( See Comment 3) )

## COMMENTS

**Federal Register / Vol. 64, No. 63 / Friday, April 2, 1999 /  
Proposed Rules  
(Docket No. FAA-1999-5401; Notice No. 99-02)**

1 July 1999

### **1) Continuing Inspections**

*“ . . . . The FAA proposes to require all airplanes . . . . to undergo records reviews and inspections by the Administrator after their 74th year in service.....”*

The proposed plan to audit and inspect commercial airplanes on a set interval is an excellent approach to establishing a safety oriented U.S. fleet and long overdue. The UACC in addition to many leasing companies and owners have been requesting such action for the best part of twenty years.

Where did the figure “... 74 years ....” originate ? Operators with sub-standard maintenance and record retention policies commence to degrade airplanes the day they take delivery. Five to Six year recurring inspections regardless of the age of the airplane would seem to be more effective.

Although some manufacturer’s Maintenance Planning Documents allude to the fact that there are “ No Heavy Maintenance Checks ”, in reality, it generally works out that many significant maintenance tasks which could cause greater than normal down-time are grouped together. These are the only periods when a meaningful airplane inspection could be performed on a relatively “ Non-Interference Basis ”.

### **2) Renewal of Standard Airworthiness Certificate**

If the plan is to, “ . . . . ensure the continuing airworthiness of the aging aircraft. . . .”, and more specifically, “ . . . . to make inspections and review the maintenance and other records of each aircraft an air carrier uses to provide air transportation that the Administrator decides may be necessary to enable the Administrator to decide whether the aircraft is in safe condition and maintained properly for operation in air transportation... .”, then such inspections should be associated with the renewal, or continued effectiveness, of the subject airplane’s Standard Airworthiness Certificate.

### **3) Valid and Invalid Standard Airworthiness Certificates**

To facilitate the continued approval of a Standard Airworthiness Certificate it would be advisable to formally and legally adopt the terms Valid and Invalid to describe an airplane’s compliance with 14 CFR Parts 21, 43 and 91 as required by Form 8100-2, in addition to its Part 121, etc., operating requirements. These terms were established by the FAA some years ago, have been used almost continuously by many leasing companies and owners in addition to FAA publications, however, have never been included in 14 CFR. There is some argument that the term “ effective ” used in 14 CFR is synonymous with “ Valid ”, but in practice, such is not the case.

In any event, there seems to be no set of conditions that would presently cause the FAA to confiscate nor cancel an existing Standard Airworthiness Certificate as long as the airplane continues to operate in the U.S. This FAA position is totally at odds with the pitiful condition of some airplanes and their record systems when recovered by leasing companies and owners.

#### **4) Regulatory Standards for Records and Documentation**

##### **a) 14 CFR**

As presently configured, 14 CFR is inadequate as a source of logical guidelines to construct an airplane's system of Records and Documentation. Many items, such as Life Limited Parts (LLP), require only "status", a term not defined within 14 CFR. Neither § 121.380 nor § 121.707 provide instructions to maintain proper and complete Repair Records, SFAR 36 can cause serious problems during a records search.

Configuration Control and Traceability are literally ignored. A case in point is that 14 CFR does not recognize the Service Bulletin. Many airlines comply with only selected portions of SB's, parts are substituted without consulting the originating DER, and, again, 14 CFR does not require tracking or reporting of Service Bulletins. The FAA places most emphasis on Maintenance Records ignoring those required to comply with Part 21 and Part 25. Attempting to verify detailed Configuration after 14 years is nearly impossible. Lack of specific instructions to verify the origin and tracking of Controlled Parts places their status under the heading of guesswork. The preceding are but several examples.

Leasing Companies and other Owners of over half of the U.S. domestic commercial fleet are well aware of deficiencies in 14 CFR.

##### **b) FAA Regions**

There is no coordination of guidelines between the various FAA Regions. Some Regions have been known to waive certain regulations pertaining to airworthiness contained in 14 CFR.

Inspection requirements under the NPRM must be rigidly applied and cannot be permitted to vary between Regions. As it now stands, Standard Airworthiness Certificates issued by some Regions may be found unacceptable in others. This present lack of control should not extend to inspections under the NPRM.

##### **c) FAA Inspector Standards vs. FAA Washington, DC Office**

It is not unusual to see instructions emanating from these two sources vary greatly. As noted in Item b) there must be a rigid procedure controlling the inspections.

##### **d) Audit vs. Inventory of Records and Documentation**

Generally "Auditing" of an airplane or operator's Record System is centered around assuring that the system itself prepares and retains all necessary records and documentation.

"Inventorying" means accounting for each and every report for proper format and content. An "Inventory" while an airplane is in operation borders on the impossible,

If the NPRM is directed at periodic Inventories the costs will be prohibitive and more dependence will be placed on automated records which are an inadequate source of much needed data.

**e) Lack of FAA Instructions and Procedures**

The FAA has never published a written procedure or set of regulatory references to establish definitive requirements for Records and Documentation. Many of the larger Leasing Companies and Owners have developed their own procedures, all of which exceed the broad generalities of 14 CFR, and there is only one set of published documents which are commercially available; i.e., the "300 Handbook ©".

**f) U.S. Operator Standards**

U.S. operator's systems vary from very detailed, hard record supported systems to slap-dash automated one liners where all hard record support is routinely destroyed. In the latter case, configuration control and traceability are impossible.

Other operators may or may not prepare records as they never seem to be able to find them when an airplane is returned to the Owner. This last condition is not isolated to small new-starts; the worst offenders are the majors. There is but one U.S. major that can be said to maintain a complete record system and could provide system audits under the proposed terms of the NPRM.

It would seem that recurring inspection standards will of a necessity be extremely lax to encompass many U.S. operator systems.

**5) Part 129 Operators**

Part 129 has come under criticism for many years by Leasing Companies and airplane Owners due to its lack of controls over Records and Documentation for U.S. registered airplanes operating under off-shore Aviation Authorities.

At present, the only means by which record systems of off-shore operators can be marginally controlled is through the Lease Agreement. Generally speaking, the Return Conditions are the contractual means whereby problems which have developed during the term of the lease are corrected.

It would seem unlikely that an off-shore operator would avail their records, etc., other than during periods specifically agreed to contractually. The extent of disruption of operations to permit such audits or inspections for U.S. Regulators is questionable.

It should be realized, however, that most off-shore operators maintain more complete and detailed record systems than U.S. operators. Their primary area of weakness is generally centered around parts and assemblies that have been overhauled by US. based Repair Stations who routinely fail to deliver proper records with the parts.

**6) Representatives of the Administrator; Designated Airworthiness Representatives (DAR)**

**a) Capabilities**

Familiarity with the sections of 14 CFR pertinent to Records and Documentation have never been a requirement necessary to the acquisition of a DAR certificate. Only in recent years has the subject been included in the DAR training school.

The DAR system is not recognized by the industry as possessing the regulatory capabilities necessary to perform proper audits or inventories of Records and Documentation. For this reason, most major Leasing Companies and Owners maintain

in-house staff capabilities, or contract with established experts, to determine record system regulatory compliance and system adequacy.

Many DAR's continue to assert that they have no responsibility to assure that a particular airplane's record system is in compliance with § 91.417 as stated on the **Form 8130-6 Application for Standard Airworthiness Certificate**. They will accept anything signed by an Owner. This position stems from the fact that a large number of DAR's have an inadequate understanding of Records and Documentation.

The list of airplanes imported into the U.S. with sub-standard records, or in some cases, no records at all, and were still issued Standard Airworthiness Certificates is somewhat lengthy.

It should be noted that among the DAR's there are notable exceptions to this rule. DAR's that are proficient in this area have developed the capability through a personal sense of professionalism and desire to promote aviation safety, not because of their FAA certificates. Unfortunately, their number is small.

**b) Capabilities to perform inspections and record audits**

All DAR's who are to be authorized or certificated to perform inspections and audits per this NPRM should be specifically and individually tested to establish their capabilities.

Designated Airworthiness Representative certification does not in itself establish capability nor knowledge of the requirements necessary to audit nor inventory an airplane's Records and Documentation.

**Questions :**

1. What standards are to be established to determine a DAR's qualifications to audit or inventory Records and Documentation ? As stated earlier, the DAR certificate itself is no guarantee of proficiency in this area.
2. Will DAR's who are employees of the operator whose records are being reviewed be permitted to sign them off as satisfactory ? Employee DAR's should be excluded from such activity regardless of the fact that several of the reportedly best DAR's are employees of airlines; conflict of interest must always be a consideration.
3. Why should such authority to verify record systems be isolated to DAR's ?

**Notes :**

If the requirement is expanded to include the reissuance or recertification of the Standard Airworthiness Certificate, then the selection of the proper DAR will become mandatory.

A special exam should be established and given to all applicants for such system verification authority.

**7) Subject : Standards by which Records and Documentation should be audited and verified.**

*. . .all airplanes operated under part 721 of Title 74, Code of Federal Regulations. . . . .part 129.....part 135...to undergo records reviews and inspections by the Administrator after their 74th year in service.....*

**Comments :**

1. There must be a specific standard established with which all subject airplanes must comply.

2. As it now stands, the various FAA Regions disagree with each other on the proper methods by which records must be kept, personnel stationed in Washington, D.C. too often disagree with, or over-rule, Principal Maintenance Inspectors (PMI), the FAA emphasis lies on maintenance records and ignores documentation and traceability, and most importantly, although record format is understandably flexible, content and completeness must be held to rigid standards.

3. At present, the FAA has no standard nor documents which specify the proper and regulatory methods to prepare and maintain Records and Documentation.

4. Many Owners and Leasing Companies have established their own fleet standards. The only published books on this subject have been prepared by members of the industry and utilized by various leasing companies but not the FAA.

**Questions :**

1. How is such a standard to be prepared ?

2. Who shall participate in establishing its content ?

3. Will § 1.1 , the Definitions section of 14 CFR, be updated to reflect terms and conditions ?

**Conclusion :** A specific regulatory standard must be issued. Such records which may be prepared under this standard must accompany the airplane throughout its operational status including sale, transfer or return from lease. Any failure to comply with these requirements shall be charged to the party responsible for their preparation. The responsibility to ensure that all records and documents necessary to support the NPRM and the Standard Airworthiness Certificate lie with the releasing or transferring operator.

**8) Subject : Determine whether the airplane is in safe condition and maintained properly for operation in air transportation.**

1. At present, it would appear to be impossible to present a set of conditions that would cause the FAA to declare a particular airplane's Standard Airworthiness Certificate no longer legal and / or effective. From a practical standpoint, declaring such Certificate's Valid or Invalid suffices for most conditional surveillance of airplanes found to be marginally legal. The terms, Valid and Invalid as they pertain to a SAC, however, are not included in 14 CFR even though many leasing companies and Owners have commenced using them.

2. For purposes of this NPRM and effort, the terms Valid and Invalid applied to the SAC should be included in 14 CFR.

3. Forty-four nations have Safety standards for imported airplanes; the U.S. is not one of them. The IOO-Hour Inspection of Part 43, Appendix D, is the closest that the U.S. comes to such a requirement, however, literally all DAR's and many FAA Regions ignore this requirement. Far too many airplanes are imported into the U.S. with nothing more than a " Rubber Stamp " from a DAR. How will this NPRM affect requirements for imported airplanes that are older than 14 years ?

4. The effort proposed by this NPRM may be the first serious effort to verify the integrity of U.S. commercial airplanes' Standard Airworthiness Certificates.

5. Many airplanes, during their transfer or return to owners, are found to have never been in compliance with the requirements of their Standard Airworthiness Certificates. Commonly, the requirement for compliance to Part 43, Appendix D, 100-hour Inspection are totally ignored when applying for a Standard Airworthiness Certificate under Part 21.183(d) constituting a violation of Part 21.2.

The primary problem centers around "Rubber Stamps" applied to imported airplanes by Designated Airworthiness Representatives (DAR) as well as newly delivered airplanes with manufacture issued certificates lacking critical configuration data, etc., from suppliers. Such certificates are recognized as being Legal, however, not Valid.

**Conclusion :**

Inspection should include all phases of airworthiness and not be restricted to specific Aging Aircraft considerations.

A handwritten signature in black ink, appearing to read "Robert E. Durbin". The signature is fluid and cursive, with the first name "Robert" being the most prominent.

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