



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject: SUBPART I, Continued  
Airworthiness and  
Safety Improvements**

**Date: DRAFT  
Initiated By: ANM-100**

**AC No: 25-XX  
Change:**

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**1. PURPOSE.** This advisory circular (AC) describes an acceptable means for showing compliance with certain requirements of Title 14, Code of Federal Regulations (CFR) part 25, Subpart I. The standards in Subpart I may require performing assessments, the development of design changes and revisions to instructions for continued airworthiness for transport category airplanes. This AC provides generic guidance, which is applicable to the safety initiatives in Subpart I (i.e., Enhanced Airworthiness Program for Airplane Systems, Reduction of Fuel Tank Flammability in Transport Category Airplanes, Aging Airplane Safety, and Widespread Fatigue Damage), on the roles and responsibilities of type certificate and supplemental type certificate holders, manufacturers, owners, and operators. This AC provides guidance on the processes for developing compliance plans, and data and information that would be available to operators for implementation to achieve certain safety objectives.

**2. APPLICABILITY.**

a. The guidance provided in this document is directed to existing or pending holders of type or supplemental type certificates, airplane manufacturers, modifiers, and operators of certain transport category airplanes.

b. This material is neither mandatory nor regulatory in nature and does not constitute a regulation. It describes acceptable means, but not the only means, for demonstrating compliance with the applicable regulations. The FAA will consider other methods of demonstrating compliance that an applicant may elect to present. While these guidelines are not mandatory, they are derived from extensive FAA and industry experience in determining compliance with the relevant regulations. On the other hand, if we become aware of circumstances that convince us that following this AC would not result in compliance with the applicable regulations, we will not be bound by the terms of this AC, and we may require additional substantiation or design changes as a basis for finding compliance.

c. This material does not change, create any additional, authorize changes in, or permit deviations from, regulatory requirements.

**3. REFERENCES.** The following related documents are provided for information purposes and are not necessarily directly referenced in this AC.

a. **ADVISORY CIRCULARS.** An electronic copy of the following ACs can be downloaded from the Internet at <http://www.airweb.faa.gov/rgl>. A paper copy may be ordered from the U.S. Department of Transportation, Subsequent Distribution Office, M-30, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20795.

- (1) AC 25.19, "Certification Maintenance Requirements"
- (2) AC 120.16D, "Air Carrier Maintenance Programs"
- (3) AC 121.22A, "Maintenance Review Board Procedures"

b. **FAA POLICY.** An electronic copy of the following Policy Statements can be downloaded from the Internet at <http://www.airweb.faa.gov/rgl>. A paper copy may be ordered from the Federal Aviation Administration, Transport Airplane Directorate, Transport Standards Staff, Standardization Branch, ANM-113, 1601 Lind Avenue SW., Renton, WA 98055-4056.

- (1) ANM112-05-001, Policy Statement, "Process for Developing SFAR 88-related Instructions for Maintenance and Inspection of Fuel Tank Systems," October 6, 2004.
- (2) PS-ANM110-7-12-2005, Policy Statement, "Safety – A Shared Responsibility - New Direction for Addressing Airworthiness Issues for Transport Airplanes," issued July 6, 2005, effective July 12, 2005.

c. **FAA FINAL RULE.** An electronic copy of the following Final Rule can be downloaded from the Internet at <http://www.airweb.faa.gov/rgl>. A paper copy may be ordered from the U.S. Department of Transportation, Subsequent Distribution Office, M-30, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20795.

- (1) The "Fuel Tank Safety Rule Compliance Extension and Aging Airplane Program," (69 FR 45936, dated July 30, 2004).
- (2) We will include references to other safety initiative final rules if issued before the final version of this AC. (Note: It is possible that the first final rule issued may not be the first NPRM that is issued.)

#### 4. DEFINITIONS OF ACRONYMS AND TERMS USED IN THIS AC.

##### a. ACRONYMS.

AASR	Aging Airplane Safety Rule
AC	Advisory Circular
ACO	Aircraft Certification Office
AD	Airworthiness Directive
AEG	Aircraft Evaluation Group
AFS	Flight Standards Service
AIR	Aircraft Certification Service
ALI	Airworthiness Limitation
ALS	Airworthiness Limitation Section
CAMP	Continuous Airworthiness Maintenance Program
CASS	Continuing Analysis and Surveillance System
CFR	Code of Federal Regulations
CPCP	Corrosion Prevention and Control Program
DAH	Design Approval Holder
EAPAS	Enhanced Airworthiness Program for Airplane Systems
FAA	Federal Aviation Administration
FCAA	Foreign Civil Airworthiness Authority
FSDO	Flight Standard District Office
ICA	Instructions for Continued Airworthiness
JAA	Joint Aviation Authorities
MRB	Maintenance Review Board
NPRM	Notice of Proposed Rulemaking
PI	Principal Inspector (this may include any or all of the affected Airworthiness or Operations)
RAM	Repairs, Alterations, and Modifications
STC	Supplemental Type Certificate
TAD	Transport Airplane Directorate
TC	Type Certificate
TSO	Technical Standard Order
WFD	Widespread Fatigue Damage

## b. DEFINITIONS.

Aircraft Evaluation Group	Flight Standards Service representatives who know the operational and maintenance aspects of the certification project and are responsible for determining the operational acceptability and continuing airworthiness requirements of newly certified or modified aircraft, engines, and propellers intended to be operated under the provisions of the CFR. This function includes providing the cognizant ACO support in the review and approval of the initial and subsequent changes to the type design.
Continued Airworthiness	Certified aircraft, engines, propellers, and appliances are safe to operate for the intended purpose; they are maintained safely throughout their service life; the product meets its type design and is in a condition for safe operation.
Design Approval Holder	The holder of any design approval, including type certificate, amended type certificate, supplemental type certificate, amended supplemental type certificate, parts manufacturer approval, TSO authorization, letter of TSO design approval, and field approvals (FAA Form 337).
FAA Oversight Office	The ACO or the office of the Transport Airplane Directorate having oversight responsibility for the relevant type certificate or supplemental type certificate, as determined by the Administrator.
Flight Standards Service Offices	Offices located in FAA headquarters responsible for developing guidance and policy applicable to transport category airplanes for AEG personnel and AFS field personnel (airworthiness and operations Aviation Safety Inspectors) in the conduct of their responsibilities.
Foreign Civil Aviation Authority	The aviation authority responsible for the certification and continued airworthiness of those airplanes having U.S. type certificate within its state of design as established in accordance with agreements with the U.S.
Instructions for Continued Airworthiness	Documentation that sets forth instructions and requirements for the maintenance that is essential to the continued airworthiness of an aircraft, engine, or propeller.

Maintenance Review Board Report (Transport Category Aircraft)	This report is intended for use by air carriers and contains the initial minimum scheduled maintenance and inspection requirements for a particular transport category aircraft and on-wing and fuselage engine program. Air carriers use the MRB report, and its associated requirements, to develop maintenance programs. See AC 121-22A, "Maintenance Review Board Procedures," for additional information.
Maintenance Instructions	Information that provides, for each part of the airplane and its engine(s), auxiliary power units, propellers, accessories, instruments, and equipment, the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods necessary to provide for the continued airworthiness of the airplane. The recommended overhaul periods and necessary cross-reference to the Airworthiness Limitations section of the manual are also included. (See Appendix A for additional information.)
Products	Products are certified aircraft, aircraft engines, or propellers.

## 5. BACKGROUND.

a. The intent of the guidance in this AC is to provide a systematic approach for implementing DAH and operator compliance requirements for certain safety initiatives. Specific technical guidance for each of the safety initiatives applicable to the DAH and operator is also being developed, and will be issued in separate AC. This AC allows flexibility in implementing these requirements without compromising safety. This AC is based on the plan outlined in the final rule, "Fuel Tank Safety Compliance Extension and Aging Airplane Program Update," published in the Federal Register (69 FR 45936) on July 30, 2004.

b. This AC provides guidance for implementing processes that support performing assessments, developing design changes, developing instructions for continued airworthiness of transport category airplanes, and in making the necessary documentation available to affected persons. This guidance is applicable to DAHs for transport category airplanes and certain applicants for type certificates, amended type certificates, supplemental type certificates, and changes to type certificates (including service bulletins describing design changes).

c. In 2003, the FAA Flight Standards (AFS) and Aircraft Certification (AIR) Services were tasked to review certain safety initiatives for transport category airplanes from a holistic approach, with the goal of developing an integrated plan for implementation.

(1) The safety initiatives reviewed were:

- (a) Enhanced Airworthiness Program for Airplane Systems (EAPAS)
- (b) Fuel Tank Safety Operational Rules
- (c) Aging Airplane Safety Rule (AASR)
- (d) Widespread Fatigue Damage (WFD)
- (e) Corrosion Prevention and Control Program (CPCP)

(2) This review identified potential redundancies and overlaps between the safety initiatives. It also identified that certain efficiencies could be gained and burden on operators reduced by aligning some of the technical requirements and compliance schedules among the safety initiatives. The review resulted in a number of recommendations that were adopted and outlined in the “Fuel Tank Safety Compliance Extension (Final Rule) and Aging Airplane Program Update (Request for Comments),” Docket No. FAA-2004-17681 (69 FR 45936, July 30, 2004).

d. In a related effort, the FAA reviewed its regulatory approach requiring operators to incorporate design changes or maintenance and inspection program changes, but not requiring the DAH to support operator compliance.

(1) We found that, on occasion, adopting airworthiness requirements only through operational rules has imposed an inappropriate burden on operators. In those cases, implementation of the operational rule requirements depended on the operators having access to necessary information (design changes, revised maintenance and inspection procedures, etc.). The only sources of this information were the affected DAHs. This practice relied on voluntary support from the DAHs to make available data and documents needed to support operator compliance. The DAHs did not always provide timely support to the operators. Consequently, operators were not always able to implement the changes to comply with the operational rules by the regulatory compliance date, or they incurred substantial unexpected costs to comply.

(2) The FAA has concluded that under certain circumstances the DAHs should be required to make available data and documents to support operator compliance with complex airworthiness issues. The FAA Policy Statement, “Safety - A Shared Responsibility - New Direction for Addressing Airworthiness Issues for Transport Category Airplanes,” PS-ANM110-7-12-2005 dated July 6, 2005, effective July 12, 2005, has more information about the DAH’s and operator’s responsibilities and the circumstances that will be considered when implementing DAH requirements.

## 6. DISCUSSION.

### a. DAH REQUIREMENTS.

(1) The regulations in Subpart I prescribe requirements for DAHs of certain transport category airplanes to support the continued airworthiness of those airplanes, as may be required by operational rules. Such actions may include, but are not limited to, performing assessments, developing design changes, developing revisions to Instructions for Continued Airworthiness (ICA), and making available necessary information to affected persons. These regulations will generally:

- (a) address issues related to continued airworthiness and safety enhancements for the existing fleet;
- (b) apply to TC and STC holders and certain applicants;
- (c) apply to current and pending airplane configurations and future design changes;
- (d) require service instructions that may include design changes, ICA, and airworthiness limitation items (ALI);
- (e) address repairs, alterations, and modifications;
- (f) require the development of a compliance plan and process for its approval; and
- (g) require making certain data and documents available to the affected operators.

(2) Various aspects of the regulations applicable to the DAH are modeled after “The FAA and Industry Guide to Product Certification,” dated January 25, 1999. This guide describes a process for developing project-specific certification plans for type certification programs. This guide also recognizes the importance of ongoing communication and cooperation between applicants and the FAA. The FAA intends to encourage a similar relationship during the process of complying with these regulations. The FAA will use the compliance plan to help ensure that acceptable data, documents, and parts are available to the operators in a timely manner.

### b. COMPLIANCE PLAN PROPOSAL.

(1) One of the principal elements of the requirements for the affected DAHs, and some applicants for, or changes to, a type certificate (when application was made before the effective date of the rule), is to provide a compliance plan proposal within the time specified by the regulations of the effective date of the applicable rule. (Note: For future applicants for a type certificate, this information will be contained in the certification compliance plan.) While the requirements may be somewhat different for each of the referenced safety initiatives, there are a number of similarities. Generally, the compliance plan must contain:

(a) A proposed project schedule that identifies all major milestones for meeting the compliance dates specified in the relevant regulations.

(b) A proposed means of compliance with the relevant regulations that identify all data and documents substantiating compliance with the DAH requirements. This should include information prescribed by Appendix H of part 25, and support operator compliance with the related operational rules. The maintenance and inspection instructions available to the operators may require the level of detail identified in the Appendix A of this AC.

(c) A detailed explanation of how and why the proposed means of compliance will be acceptable, if a DAH proposes a means of compliance that differs from that described in applicable FAA policy.

(d) A detailed plan for submitting compliance documentation, including any necessary preliminary submissions of data, analyses, test plans, specifications, or manuals.

(e) A proposed distribution process for data and documents that makes them available to the affected operators.

(2) Some DAH requirements in the referenced safety initiatives may specify the need for additional information such as:

(a) A proposal for addressing repairs, alterations, and modifications.

(b) A proposal for continuously assessing service information, if appropriate.

(3) To facilitate compliance plan accomplishment, additional information should be included:

(a) A communication and coordination plan that identifies those responsible for compliance, and their respective roles and responsibilities.

(b) A plan for delegation (i.e., designees, Foreign Civil Airworthiness Authorities (FCAAs)), if appropriate, of compliance findings necessary to meet the DAH requirements in the relevant rule.

#### c. COMPLIANCE PROCESSES.

(1) The FAA identified two key processes that will help achieve on-time compliance with the objectives and requirements of the referenced safety initiatives.

(a) A process to support the development of the DAH compliance plan that will help to ensure its acceptability, and

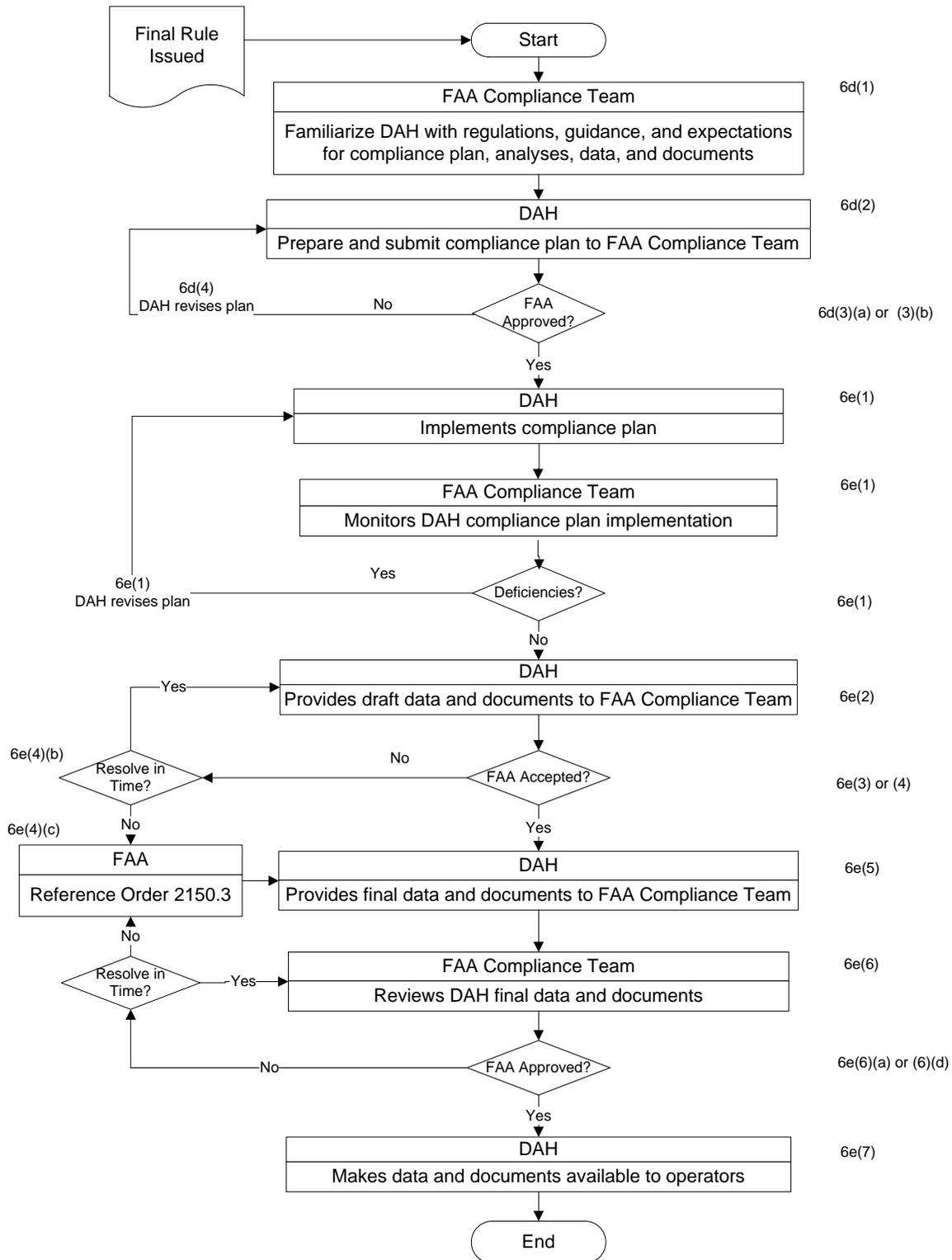
(b) A process that will provide early awareness that acceptable compliance is at risk, and recommendations for resolutions.

(2) The FAA will use a two-team approach:

(a) A Compliance Team composed of representatives from the FAA oversight office and the affected AEG. This Team will work directly with the DAH and familiarize them with the safety initiatives requirements and available guidance, review and approve the DAH compliance plan, monitor the implementation of the plan, and make the final determination of DAH compliance with the requirements, and

(b) A Standardization Team composed of representatives from various Aircraft Certification and Flight Standards Services offices. The Team composition will generally include the authors of the airworthiness and operational rules and guidance materials. This Team will provide technical leadership, training, and standardization in support of Compliance Teams. The standardization function will be achieved through frequent coordination with the Compliance Teams regarding the DAH activities.

(3) The FAA and DAH will normally use the processes illustrated in the following flow chart (Figure 1). The flow chart shows an overview of the processes. The numbers in the flow chart refer to certain steps in the details that follow.



**FIGURE 1. COMPLIANCE PROCESSES**

d. COMPLIANCE PLAN DEVELOPMENT, SUBMISSION, AND REVIEW (REFER TO FIGURE 1).

(1) The familiarization process and the close collaboration of the Compliance Team with the DAH is intended to facilitate completion of an acceptable compliance plan. The Compliance Team, as soon as possible after issuance of the safety initiative rule, will:

(a) conduct a familiarization meeting with the DAHs to:

1 review the applicable regulations and guidance information;

2 review the requirements for compliance plan development; and

3 review the approval process.

(b) provide the DAHs with our expectations for the required analysis content;

(c) describe to the DAHs our expectations for the content and format of their data and documents to be provided in accordance with the schedules established in the compliance plan.

(2) The DAHs, in compliance with each safety initiative requirement, must:

(a) develop a compliance plan specific to the safety initiative (to facilitate early identification of issues, the DAH should provide periodic updates regarding the development of the plan); and

(b) submit a compliance plan within the time stated in the regulations specific to the safety initiative.

(3) The Compliance Team will:

(a) review the submitted plan and, if acceptable, notify the DAH by a letter of approval; or

(b) review the DAH submitted plan and, if not acceptable:

1 identify these deficiencies in the proposed compliance plan;

2 discuss these deficiencies with the DAH and identify, if possible, mutually acceptable correction(s) to the compliance plan; and

3 notify the DAH by a letter of deficiency and the required corrective action(s).

(4) If the Compliance Team notifies the DAH of deficiencies and corrective actions, the DAH must submit a corrected plan to the FAA oversight office for review and approval. The DAH must implement the approved plan within the time specified by the regulations.

e. COMPLIANCE PLAN MONITORING AND ACCOMPLISHMENT.

(1) The Compliance Team will monitor the DAH's progress of implementing the approved plan. The monitoring function includes meeting with the DAH to review the status of the milestones in the approved DAH compliance plan. The FAA will identify any deficiencies and have the DAH make corrections as provided in paragraph 6d(3)(b).

(2) The DAH must provide, as required by the regulations, a draft of all data and documents necessary to demonstrate compliance prior to the compliance date defined in the respective rule for each safety initiative. This requirement allows the Compliance Team sufficient time to review the submitted compliance data and documents, and determine if the DAH will meet the compliance date stated in the respective safety initiative regulation.

(3) The Compliance Team will review the draft data and documents and, if acceptable, will informally notify the DAH.

(4) In the event the Compliance Team finds the draft data and documents not acceptable:

(a) The Compliance Team will notify the DAH by letter of the FAA's requirements for resolution of non-compliance issues. The letter will include what dispute resolution actions the DAH may take, and what options are available to the FAA for addressing non-compliance issues.

(b) The DAH notifies the Compliance Team if it can or cannot resolve the requirements for resolution in time for compliance.

(c) The FAA may initiate the appropriate actions as may be provided by Order 2150.3, "Compliance and Enforcement Program" if there is no acceptable resolution of the issues in time for compliance.

(5) The DAH must provide the final data and documents by the compliance due date as required by the regulation, or as determined by resolution of issues (6e(4)(c)).

(6) The Compliance Team will:

- (a) review and approve the final data and, if acceptable,
- (b) notify the DAH by letter of FAA approval, and
- (c) notify the affected operators and Principal Inspectors (PI)/FSDOs of the availability of the approved data that can be used to show compliance with the operational rules.

(d) If the final data is not acceptable, the process prescribed in 6e(4) – (6) will be followed.

(7) Following approval by the Compliance Team of the required compliance information, the DAH will make available to the affected operators and other persons the approved data and documents that support compliance with the operational rules.

#### f. COMPLIANCE PROCESS – OPERATOR.

(1) The normal basis for changes to an operator’s Continuous Airworthiness Maintenance Program (CAMP) may be recommendations from the DAHs, alternative methods of compliance with regulatory requirements such as airworthiness directives, or change requirements indicated by its reliability program or Continuing Analysis and Surveillance System (CASS).

(2) For the referenced safety initiatives, the bases for the operator’s proposed implementation program are the data and documents approved by the Compliance Team. These data and documents are developed by the DAHs in accordance with those regulations that support compliance with the related operational rules.

(3) The operational rules associated with these safety initiatives may require the following:

- (a) airplane alterations, and
- (b) incorporation of ICA, which may include airworthiness limitations in the CAMP or the maintenance and inspection program.

(4) The DAH data and documents approved by the Compliance Team are likely to be specific to a certain model or series airplanes.

(5) The DAH’s analysis is based on the airplane model configuration as described in each of the safety initiatives. It is likely that the airplane model configuration(s) used in the DAH analysis may not be the same for different operators of the same model. The operator’s airplane configurations may include:

- (a) optional changes developed by the type certificate holder that are effected but were not included in the analysis;

(b) various repairs, alterations, and modifications (RAM) incorporated by supplemental type certificates or field approvals. (Each set of DAH regulations will identify the particular types of RAMs, if appropriate; e.g., type of system such as fuel tank, and kind of approval such as installation of an auxiliary fuel tank that are to be addressed for compliance.)

(6) The operator should propose a plan based on the provision of the regulations for:

(a) incorporating airplane ICA that considers potential airplane configuration differences;

(b) changing its CAMP or maintenance and inspection program based on data and documents approved by the Compliance Team;

(c) including any compliance schedule(s) for the operational rules that require the affected operators to achieve a specified level of compliance by a certain time. For example, a rule may require 50 percent of the affected fleet incorporate required changes within a specified time prior to the compliance date for 100 percent of the affected fleet;

(d) submitting the proposed changes to their PI or the cognizant FSDO for review and approval.

(7) The PI or the cognizant FSDO will:

(a) review the operator's proposed changes in comparison with the data and documents approved by the Compliance Team;

(b) if there are substantive differences between the approved information and the operator's proposed changes, the PI or the cognizant FSDO will coordinate with Flight Standards Service offices and the Compliance Team on the acceptability of the proposed changes or means for resolution.

(c) if acceptable, approve the operator's program for ensuring the approved changes will be maintained for the operational life of the airplane by issuing an Operations Specification that will reference each aging airplane initiative and the date of approval. Changes to the program will require approval and a revision to the Operations Specification.

(8) Whenever an operator incorporates an alteration or maintenance program change that is subject to the requirements of these safety initiatives, it must also incorporate related means of compliance with these operational rules, e.g., ICA.

## APPENDIX – A

## Maintenance Instructions

The following list contains additional information that may be required in the content of the maintenance instructions.

1. The location of the design feature or structure to be maintained or inspected and any access requirements.
2. Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.
3. Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.
4. Any unique procedures required, such as special detailed inspections or a dual sign-off maintenance record of requirements.
5. Methods, techniques and practices required to perform a task and the pass/fail criteria for any inspection.
6. Specific task information, such as inspections defined by pictures or schematics.
7. Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.
8. Special equipment or test apparatus required.
9. Intervals for any repetitive task.
10. Information needed to apply protective treatments to the structure after inspection.