



THE SECRETARY OF TRANSPORTATION
WASHINGTON DC 20590

March 16, 2011

Mr. William E. Reukauf
Associate Special Counsel
U.S. Office of Special Counsel
1730 M Street, NW, Suite 218
Washington, DC 20036

Re: OSC File No. DI-10-1397

Dear Mr. Reukauf:

I am responding to your letter of July 1, 2010, which referred for investigation a disclosure from Robert Spahr, an aviation safety inspector assigned to the Federal Aviation Administration's (FAA's) Allegheny, Pennsylvania, Flight Standards District Office (FSDO). Mr. Spahr disclosed that Allegheny FSDO officials approved an on-demand air carrier's revised Approved Aircraft Inspection Program (AAIP) without his authorization as the air carrier's principal avionics inspector. Mr. Spahr alleged that because the revisions to the AAIP concerned avionics components, approval without his authorization presented a danger to the public flying on the carrier's aircraft. I delegated investigative responsibility for this matter to the Office of Inspector General (OIG). Enclosed are the OIG's Report of Investigation and FAA Administrator Babbitt's response.

In sum, OIG substantiated, by a preponderance of the evidence, Mr. Spahr's allegation that in violation of FAA Order 8900.1, Allegheny FSDO officials approved the air carrier's revisions to the AAIP without his authorization as the principal avionics inspector. Upon receipt of this disclosure from OSC, FAA's Office of Audits and Evaluations, in coordination with Flight Standards management, directed an independent and comprehensive review of the revised AAIP to address any possible safety of flight issues and to ensure the AAIP complied with FAA orders. Although Flight Standards inspectors concluded that the failure of the FSDO Front Line Manager and principal maintenance inspector to obtain Mr. Spahr's approval of the revisions to the AAIP concerning avionics components did not present a danger to the air carrier's passengers, they did find procedural discrepancies with the revised AAIP. Subsequently, Mr. Spahr and the principal maintenance inspector reviewed the revised AAIP, officials from the air carrier again revised it and the AAIP was ultimately approved by Mr. Spahr and the principal maintenance inspector in accordance with FAA Order 8900.1.

To address the violation of the FAA order, FAA has verbally counseled the principal maintenance inspector and required the Front Line Manager to participate in coaching sessions on coordinating approval processes and the proper usage of regulatory guidance. To address the Front Line Manager's failure to communicate with Mr. Spahr, FAA has

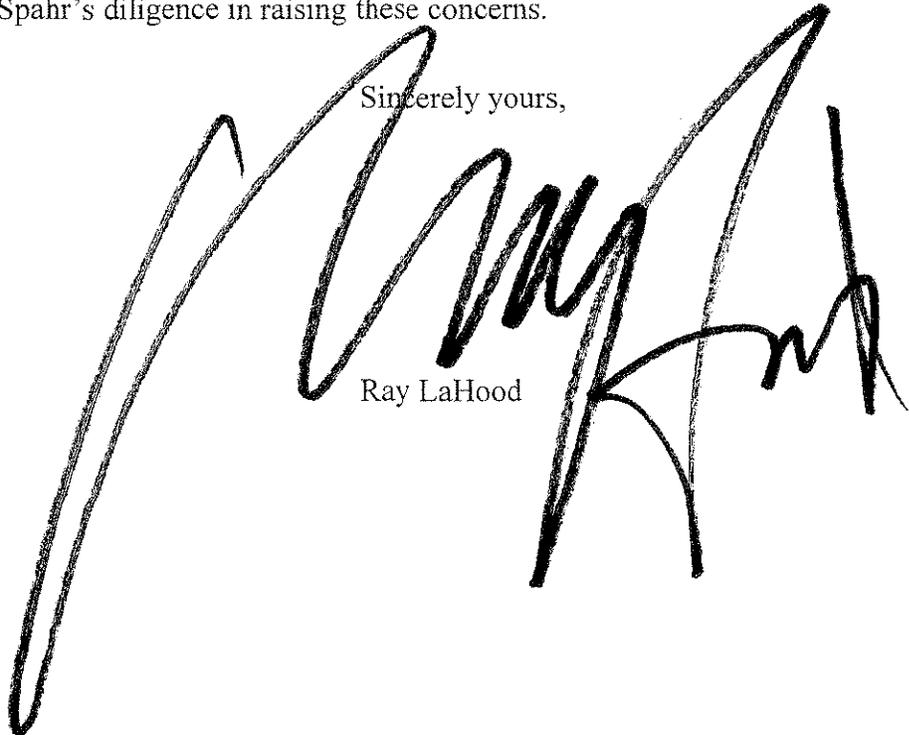
required he attend courses designed to improve his management and communication skills with employees.

I appreciate Mr. Spahr's diligence in raising these concerns.

Sincerely yours,

Ray LaHood

Enclosures

A large, stylized handwritten signature in black ink, appearing to read 'Ray LaHood', is written over the typed name. The signature is highly cursive and fluid, with a large initial 'R' and 'L'.



U.S. Department of Transportation
Office of Inspector General

REPORT OF INVESTIGATION	INVESTIGATION NUMBER #I10E000091SINV	DATE Dec. 17, 2010
TITLE Allegheny Flight Standards District Office (OSC Spahr)	PREPARED BY R. Curt Vaughan Senior Investigator Special Investigations, JI-3	STATUS FINAL
	DISTRIBUTION AVS-1	APPROVED BY: <i>[Signature]</i> JI-3 (rce/blb)

BACKGROUND

On July 1, 2010, the U.S. Office of Special Counsel (OSC) referred to U.S. Department of Transportation Secretary Ray LaHood a whistleblower disclosure for investigation. The Secretary delegated investigation of the disclosure to the Office of Inspector General. The whistleblower, a Federal Aviation Administration (FAA) Aviation Safety Inspector assigned to the Allegheny Flight Standards District Office (FSDO), disclosed that, in violation of FAA order, Allegheny FSDO officials approved a revised Approved Aircraft Inspection Program (AAIP) for Holman Leasing Systems, Inc. (Holman) without his authorization as the FSDO's principal avionics inspector assigned to Holman. The whistleblower alleged that because the revisions to the Holman AAIP concerned avionics components, approval without his authorization presented a danger to the public flying on Holman aircraft.

Holman (d/b/a Pittsburgh Jet Center) is a small on-demand air carrier operator located in Zelienople, Pennsylvania. FAA Order 8900.1, *Flight Standards Information Management System*, and FAA Advisory Circular 135-10A, *Approved Aircraft Inspection Program*, allow small operators (nine or fewer passengers) like Holman to develop an AAIP tailored to its particular needs, including the development of time intervals for the accomplishment of inspection tasks. Nonetheless, under FAA Order 8900.1, evaluation and approval of an AAIP or revisions to it must be authorized by both an FAA principal maintenance inspector and an FAA principal avionics inspector prior to implementation by the operator.

This investigation was conducted with the technical assistance of FAA Flight Standards inspectors, and in conjunction with FAA's Office of Audit and Evaluations. Attachment 1 describes the methodology of our investigation.

SYNOPSIS

We substantiated, by a preponderance of the evidence, the whistleblower's allegation that, in violation of FAA Order 8900.1, an Allegheny FSDO official approved revisions to Holman's AAIP without his authorization as the avionics inspector assigned to Holman. Although FAA Flight Standards inspectors concluded the failure of the FSDO Front Line Manager and principal maintenance inspector to obtain the whistleblower's approval of the revisions to the Holman AAIP concerning avionics components did not present a danger to Holman passengers, they did find procedural discrepancies with the revised AAIP to be addressed by the FSDO managers. Based on the inspector's recommendations, the principal avionics inspector and the principal maintenance inspector reviewed the revised AAIP, and Holman officials again revised it. On September 23, 2010, the AAIP was approved, as required by FAA Order 8900.1, by the whistleblower and the Allegheny FSDO principal maintenance inspector.

Below are the details of our investigation.

DETAILS:

Allegation: In violation of FAA Order 8900.1, the Allegheny FSDO approved a revised Approved Aircraft Inspection Program (AAIP) for Holman, thereby jeopardizing the safety of the carrier's operation.

FINDINGS

We substantiated, by a preponderance of the evidence, the whistleblower's allegation that the Allegheny FSDO's approval of the revised Holman AAIP violated FAA Order 8900.1. However, we found that the violation did not result in a specific danger to public safety.

Holman's Submission of a Revised AAIP to the Allegheny FSDO

On September 15, 2009, an AAIP revision request, addressed to the whistleblower, was received at the Allegheny FSDO from Holman. Holman's request amended a current AAIP for the company's Cessna Citation jets and outlined a summary of inspection procedures for 19 avionics components or systems on the aircraft.

On December 10, 2009, Holman's Director of Maintenance (DOM) called the whistleblower about the status of the Allegheny FSDO's review of the revised AAIP. According to the whistleblower, he told the DOM that the review had not yet been conducted. The DOM, the whistleblower said, was upset by this news and accepted the whistleblower's offer to have his supervisor, Allegheny FSDO Airworthiness Front Line Manager David Milo discuss the matter with him. The whistleblower transferred the call to Milo and, as a result of Milo's conversation with the DOM, Milo instructed James Olsen, the air carrier's principal maintenance inspector to review the revised AAIP.

On December 18, 2009, the whistleblower began his review of the AAIP. That day, while searching the FSDO library for a copy of Holman's current AAIP, he discovered Olsen looking for the same document. Olsen told him that Milo had instructed him to review the revised AAIP because the whistleblower had not completed his review.

Olsen's Approval of the Revised AAIP

Olsen reviewed Holman's revised AAIP and, on January 21, 2010, approved it. He said he did not notify the whistleblower he had done this. Despite knowing the revisions to the AAIP concerned only avionics equipment, Olsen did not include the whistleblower, the principal avionics inspector, in the review. Olsen failed to include the whistleblower because, he said, "anytime you approached [him] you would find yourself in the manager's office being dressed down" and "[y]ou can't talk to [the whistleblower]."

Milo was also aware the AAIP revision concerned only avionics equipment, which he knew was the responsibility of the whistleblower. Yet, he did not tell the whistleblower he had given Olsen permission to review and approve the AAIP. Milo did not do so because, he said, "I have a great deal of personal difficulty in dealing with [the whistleblower] at times." Milo did not know what work the whistleblower had accomplished on reviewing the revised AAIP when Olsen approved it.

The Whistleblower's Concerns Regarding the Revised AAIP

On January 22, 2010, the whistleblower completed his review of the revised AAIP and emailed a list of concerns regarding inspection procedures and inspection intervals to Olsen and Milo. In the email, the whistleblower asked Olsen to contact him once he completed his review so they could discuss the whistleblower's concerns. However, on approximately the next business day, the whistleblower discovered Olsen had already approved the revised AAIP without his concurrence. The whistleblower overheard Olsen tell another FSDO employee that he did not know why the whistleblower sent him the list of concerns about the revised AAIP because he had already approved it. The whistleblower confronted Olsen, who told the whistleblower he had wasted his time conducting his own review.

The Whistleblower Informed Allegheny FSDO Management of His Safety Concerns Arising Out of Olsen's Approval of the Revised AAIP

On February 16, 2010, the whistleblower sent a memorandum to Milo and Wendy Grimm, the Allegheny FSDO Manager, stating Olsen had, in violation of FAA Order 8900.1, approved the revised Holman AAIP without his concurrence as the principal avionics inspector. He expressed his concern that the revised AAIP used a flawed inspection process that could impact aviation safety. In the memorandum, he requested a meeting with the FSDO managers to discuss the revised AAIP.

Grimm, the FSDO Manager, said it was only upon her receipt of the whistleblower's February 16 memorandum did she become aware of Holman's request for a revised AAIP and the whistleblower's concerns with Olsen's acceptance of the revisions. She did not speak with the whistleblower about his memorandum, but asked Milo to address the whistleblower's concerns. Although Milo likely told her how he addressed the matter, she could not specifically recall anything he told her.

Within a week or two of receiving the whistleblower's February 16 memorandum, Milo asked the whistleblower to more fully explain his safety concerns arising out of the revised AAIP. The whistleblower did not identify any specific safety issue, but expressed his concern for potential safety issues that might result from allowing Holman up to five years to inspect avionics systems. Milo told him he would contact Holman to obtain data to support this revision. The whistleblower informed Milo that Olsen should

have had the data prior to approving the AAIP. This was the last communication the whistleblower had with Milo concerning the issue.

Milo visited Holman and obtained copies of documents concerning the affected aircraft, including the Cessna computerized maintenance documents and documents regarding the failure rates of the avionics components covered in the AAIP. Upon reviewing the documents, he concluded the AAIP was adequate. Milo did not discuss his conclusion with the whistleblower because he believed the whistleblower was not going to agree with him. Milo told Grimm that the AAIP revision was adequate.

FAA Headquarters Review of the Revised AAIP to Address the Whistleblower's Safety Concerns

Upon receipt of the whistleblower's disclosure from OSC, FAA's Office of Audits and Evaluations, in coordination with Flight Standards management, directed an independent and comprehensive review of the whistleblower's safety concerns. The purpose of this review was to address any possible safety of flight issues and ensure the AAIP was revised in compliance with FAA orders. Aviation safety inspectors assigned by FAA headquarters officials analyzed relevant records maintained by the Allegheny FSDO, the revised AAIP and applicable manufacturer's manuals. They also went to Holman to review its aircraft and avionic component records and interview key company personnel.

The inspectors found the Allegheny FSDO's approval of Holman's revised AAIP did not comply with FAA Order 8900.1 because the principal avionics inspector, i.e., the whistleblower, did not approve it. They also agreed with three of the four concerns outlined by the whistleblower in the OSC referral. Specifically, the inspectors found the revised AAIP:

- did not include a detailed list of inspection procedures to be accomplished by Holman;
- allowed pilots to conduct required AAIP inspections as part of their pre-flight checks; and
- did not provide justification for its request to change time intervals for avionics inspections.

Nonetheless, the inspectors found these deficiencies were procedural in nature and would not result in an unsafe condition, either imminent or in the future. They concluded that even with these procedural deficiencies, the Cessna Citation Inspection Program, in place under Holman's original AAIP, addressed any structural or mechanical aspect of the avionics system. Further, although pilots are prohibited by regulation from performing the inspections as part of their pre-flight checks, their education, understanding and familiarity of the aircraft's systems was adequate to determine if a system failed.

During the on-site inspection, Holman officials provided the inspectors the information necessary to address most of the deficiencies in the revised AAIP. The inspectors determined the remaining discrepancies could be addressed by requiring Holman to amend the revised AAIP, and resubmit it for review and approval by both the Allegheny FSDO's principal maintenance and avionics inspectors. (See Attachment 2 for a summary analysis of the technical concerns raised by the whistleblower.)

On July 22, 2010, the inspectors briefed Grimm and Milo on their findings and informed them the revised AAIP as written was deficient, and needed to be amended by Holman and reapproved by the Allegheny FSDO principal maintenance and avionics inspectors. As of August 18, 2010, the date of the OIG's interview with Grimm and Milo, neither had taken any action to correct the discrepancies and had no plan of action as to how and when they would do so. On September 17, 2010, the Allegheny FSDO advised Holman officials of the discrepancies in the revised AAIP identified by the inspection team. On September 21, 2010, Holman submitted a newly-revised AAIP to Olsen, the principal maintenance inspector, and the whistleblower, the principal avionics inspector, for approval. Both inspectors approved it on September 23, 2010.

Whistleblower's Current Concern Regarding the Revised AAIP

Subsequent to this investigation, we were informed that, although the whistleblower approved the revised AAIP on September 23, 2010, he remained concerned with the provision in the plan that allows Holman to use a Built-in Test (BIT) to satisfy certain inspection requirements. The inspection team assigned by FAA headquarters previously reviewed this concern and found the use of this test was acceptable. (See Attachment 2) Nonetheless, the whistleblower's concern has been referred to FAA headquarters' Flight Standards Service, Aircraft Maintenance Division for review.

ATTACHMENT 1: METHODOLOGY OF INVESTIGATION

This investigation was conducted by an OIG Senior Investigator. He reviewed numerous FAA records and documents, including internal memoranda, internal and external emails, Program Tracking Reporting System (PTRS) records, a letter from a Part-135 operator, Holman's proposed revisions to the AAIP and applicable documents regarding Cessna avionic components. We also analyzed Federal Aviation Regulations, FAA orders and FAA advisory circulars. Aviation Safety Inspectors Randy Jones, FAA's Great Lakes Regional Office, and Neil Gillissen, FAA's Eastern Regional Office, with extensive experience in avionics and maintenance respectively, were the inspectors assigned by FAA headquarters to conduct the independent review of the revised AAIP. They also provided us technical assistance in our investigation. Finally, we interviewed various FAA personnel at the Allegheny FSDO, including:

- Robert Spahr, Aviation Safety Inspector
- James Olsen, Aviation Safety Inspector
- David Milo, Airworthiness Frontline Manager
- Wendy Grimm, Manager

ATTACHMENT 2: THE WHISTLEBLOWER'S CONCERNS REVIEWED BY FAA HEADQUARTERS INSPECTORS

The OSC referral described four safety concerns raised by the whistleblower about the revised Holman AAIP. FAA headquarters assigned an inspection team to review the concerns. Although the team agreed with the whistleblower on three of four concerns, they did not find any concern would compromise safety. The whistleblower's concerns and the inspectors' assessments of them are summarized below.

1. Concern: The revised AAIP did not include a detailed list of tasks (inspection procedures) to be accomplished by Holman, as required by FAA Order 8900.1.

FAA's Assessment: The revised AAIP did not comply with FAA Order 8900.1 because it:

- did not ensure that the instructions, procedures, and standards were clear and easily understood;
- did not identify the scope of each task and provide a detailed outline of each step that must be accomplished to perform the inspection; and
- did not ensure that established performance standards are met.

For example, the revised AAIP referred to established inspection procedures contained in inspection manuals such as "Phase 1," "Document 22" and "Document 18," but referred only to the titles of the procedures and did not list the specific procedures themselves. The inspection team, however, considered the lack of specific procedural information as partially acceptable because the information was maintained by Holman and could be easily found by referring to the documents containing the procedures.

2. Concern: The revised AAIP's antenna inspection requirements were insufficient and contrary to agency regulation because they allowed pilots to perform visual inspections of the aircraft's antenna as part of its maintenance and inspection program.

FAA's Assessment: By allowing pre-flight checks conducted by the pilot to satisfy inspection requirements, the revised AAIP did not comply with Federal Aviation Regulation, 14 CFR 135.429. The regulation states:

No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so. No person may allow any person to perform a required inspection unless, at the time, the person performing that inspection is under the supervision and control of an inspection unit.

The inspectors found that although the use of a pilot to perform inspections was incorrect, it would not result in a flight safety issue because of the pilot's familiarity with the aircraft's systems.

3. Concern: The revised AAIP did not require an operational check or inspection of Cessna CE-525B CE-56XL aircraft radar systems.

FAA's Assessment: FAA Order 8900.1 allows for the inspection to be based upon the manufacturer's recommendations. The team found that the manufacturer recommended a Built-in Test (BIT) to satisfy the functional/operational check and the inspection of the electronic portion of the radar system. The team also found the mechanical aspect of the inspection was already covered in the existing AAIP. The team reviewed the information from the manufacturer's data concerning the BIT functions for the operator's aircraft and found it provided for a determination of functional capabilities for the subject components in the revised AAIP. The BIT procedures for the operator's particular aircraft were a more comprehensive test than the typical "go/no go" checks. The team determined, therefore, that the BIT was satisfactory and the manufacturer did not require a separate test based on time intervals. (Nonetheless, per the request of the whistleblower, this issue that has been sent to FAA headquarters for further review.)

4. Concern: The revised AAIP did not contain supporting data justifying the request to extend the avionics system inspections from one to up to five years.

FAA's Assessment: The revised AAIP did not comply with FAA Order 8900.1 because Holman did not justify its request to change the time interval for avionics system inspections. For example, it did not contain information related to past operating experience, environmental conditions, inspection program provisions, overhaul tear-down, and other data necessary to substantiate the requested change. However, the team found that the operator was able to validate the requested changes during the team's on-site review.

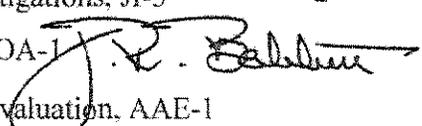


Federal Aviation Administration

Memorandum

Date: MAR 1 2011

To: Ronald Engler, Director, Special Investigations, JI-3

From: J. Randolph Babbitt, Administrator, AOA-1 

Prepared by: Clay Foushee, Director of Audit and Evaluation, AAE-1

Subject: OIG Investigation #IIE000091SINV, dated December 17, 2010, Re: Allegheny Flight Standards District Office, U.S. Office of Special Counsel (OSC) File No. DI-10-1397

This is in response to your December 17, 2010 memorandum regarding the above-referenced OIG investigation. You requested that the Federal Aviation Administration review the findings and respond to your office with any comments, statement of any corrective action taken, and the time frame for any planned corrective action.

The FAA concurs with the report. Also, corrective action (Attachment I) was taken regarding the substantiated allegation about the operator's Approved Aircraft Inspection Program (AAIP), as follows:

- October 21, 2010: As part of the principal maintenance inspector (PMI) Performance Management System review, the PMI was verbally counseled on the requirement to follow current guidance in the discharge of duties as required per FAA order 8900.1, Flight Standards Information Management System, as revised.
- August 30, 2010: The Frontline Manager (FLM) was placed on an Individual Development Plan (IDP) covering August 30, 2010 through September 30, 2011. The IDP includes mandatory training courses designed to improve management skills, proper communication with employees, and handling of workplace disagreements. In this regard, the FLM will participate in coaching sessions conducted at the regional office and various field offices designed to improve communication, coordination of approval processes, and the proper usage of regulatory guidance.

In addition, we offer further information regarding the whistleblower's remaining concern about an existing provision in the operator's AAIP that allows the use of a Built-in test (BIT) to satisfy certain inspection requirements (see OIG report, page 6). In this regard, while the whistleblower approved the AAIP (on September 23, 2010) with this provision, the whistleblower raised three concerns to the FSDO Manager. One of these concerns involved the use of a BIT.

On behalf of the whistleblower, the FSDO Manager forwarded these concerns (Attachment 2) for review and interpretation by the Aircraft Maintenance Division (AFS-300). As shown by the attached two AFS-300 memorandums (one dated January 7, 2011, and the other dated January 26, 2011), AFS-300 provided its interpretation regarding the BIT provision as well as the two remaining issues raised by the whistleblower (Attachment 3). In summary, the BIT was confirmed to be in compliance with the inspection requirements.

Attachments



Federal Aviation Administration

Memorandum

Date: JAN 19 2011

To: Michael McCafferty, Manager, Flight Standards Service, AFS-010

From: *For Michael J. B...*
Lawrence Fields, Manager, Flight Standards Division, AEA-200

Prepared by: Michael DiPaolo: 718-553-3240

Subject: Revised Response to OIG Memorandum Dated December 17, 2010
Re: OIG Investigation #I10E000091SINV

In response to the Office of Inspector General (OIG) Memorandum Dated December 17, 2010, referencing OIG Investigation #I10E000091SINV, the following serves as final response to said allegations and findings as noted in this report.

Allegation: In violation of FAA Order 8900.1, the Allegheny Flight Standards District Office (FSDO) approved a revised Approved Aircraft Inspection Program (AAIP) for Holman Leasing Systems, Inc., thereby jeopardizing the safety of the carrier's operation.

Response:

- OIG Report #I10E000091SINV FINDINGS, on page three, indicated that; "We Substantiated, by a preponderance of evidence, that the whistleblower allegations that the Allegheny FSDO's approval of the received Holman AAIP violated FAA Order 8900.1. However, we found that the violation did not result in specific danger to public safety."

In regards to the AAIP approval in violation of Order 8900.1;

- The Holman Leasing Systems, Inc., Principal Maintenance Inspector (PMI) has been verbally counseled by his Front Line Manager on his responsibilities to follow current guidance in the discharge of his duties, during his Performance Management System review which occurred on October 21, 2010.
- The Front Line Manager has been placed on an Individual Development Plan (IDP) that commenced on August 30, 2010 and will conclude on September 30, 2011. The IDP provides for training courses aimed at dealing with difficult employees, handling conflict, and dealing with problem performance. Additionally independent coaching sessions have been scheduled and attended at the regional office and various field offices targeted at effective communications and proper usage of guidance.

The following serves as additional information and follow-up assessments by the Allegheny FSDO since the approval of the AAIP, by the PMI, and the Principal Avionics Inspector (PAI), on September 23, 2010. This additional information addresses concerns as stated in the OIG Investigation #110E000091SINV Attachment 2.

- The revised AAIP revision did not require an operational check or inspection of Cessna CE-525 CE-525XL, aircraft radar systems.

On September 29, 2010, a memorandum from the Manager, Allegheny FSDO was sent to the Manager, Eastern Region Technical Branch, containing the whistleblower's "Request for Legal Interpretation Concerning Inspection Requirements" (which included a request regarding the use of Built-In Test). On October 8, 2010, the Eastern Region Technical Branch electronically forwarded a memorandum, with the Allegheny FSDO's memorandum as an attachment, from the Eastern Region Flight Standards Division to the Aircraft Maintenance Division, AFS-300, for interpretation. In a response dated January 7, 2011, from AFS-300, it stated this is a policy determination not requiring a legal interpretation. It states the operator should follow the instructions in the maintenance manual, fault isolation manual and other maintenance documentation to accomplish the specific task at hand. If the maintenance manual instructions specify that a Built-in-test (BIT) is sufficient to accomplish a task (including inspection of an avionics system for proper operation) then no additional test or inspection is required.

- The revised AAIP's antenna inspection requirements were insufficient and contrary to agency regulation because they allowed pilots to perform visual inspections of aircraft's antenna as part of its maintenance inspection program.

The December 17, 2010 Memorandum page eight states in part: "FAA Assessment: By allowing preflight checks conducted by the pilot to satisfy inspection requirements, the revised AAIP did not comply with Federal Aviation Regulation, 14 CFR 135.429."

In a response from the Aircraft Maintenance Division, AFS-300, dated January 13, 2011, they stated, "Title 14 CFR section 135.429 does not apply to Holman Leasing Systems, Inc., because their aircraft are maintained under 135.411(a)(1). Section 135.429 only applies to aircraft maintained under 135.411(a)(2)."

Holman Leasing Systems, Inc., is not required to comply with 14 CFR §135.429. Maintenance requirements for aircraft operated under Part 135 are addressed by 14 CFR §135.411, and are further defined by the number of passenger seats (excluding any pilot seat). The reference paragraphs are §§135.411 (a) (1) for nine or less passengers, and §§135.411 (a) (2) for ten or more passengers.

Paragraph (a) (1) says that nine or less passenger seat aircraft shall be maintained under Parts 91 and 43, as well as §§ 135.415, 135.417, 135.421 and 135.422. An Approved Aircraft Inspection Program may be used under §135.419.

Paragraph (a) (2) says that ten or more passenger aircraft shall be maintained under a maintenance program in §§ 135.415, 135.417, and 135.423 through 135.433, (including 135.429). Please note that 14 CFR §135.419, "Approved Aircraft Inspection Program" is not mentioned as a requirement under this paragraph.

14 CFR §135.429, "Required Inspection Personnel", refers to inspections conducted by an operator utilizing ten or more passenger aircraft and speaks to the requirements to address Required Inspection Items (RII). Although 14 CFR §135.411 (b) allows for a nine or less passenger operator to elect to operate under the more stringent provisions of paragraph §135.411 (a) (2), Holman Leasing Systems, Inc. has never elected to do so with its fleet of nine or less passenger aircraft.

Holman Leasing Systems, Inc. is a small nine or less passenger 14 CFR §135 operator, and is not required to meet the more rigorous requirements of a ten or more passenger operator.

Since 14 CFR §135.429 applies to ten or more operations, (Holman Leasing Systems, Inc. is nine or less), we feel it is inappropriate to cite this regulation in this case.

The regulation that would be better suited for this concern would be CFR Part 43.3 (g) (h).

- The revised AAIP did not include a list of tasks (inspection procedures) to be accomplished by Holman Leasing Systems, Inc., as required by FAA Order 8900.1.

The revised AAIP referred to established inspection procedures contained in inspection manuals but refer only to the title of the procedures and do not list the specific procedures themselves.

This office requested assistance from the Aircraft Maintenance Division, AFS-300. In their response dated January 13, 2011 it was stated "We call your attention to the statement contained in paragraph 3-3738 C 1 c, which states "Inspection methods, techniques, and standards, or other technical data may be included in the program *by reference*. (emphasis added). Although we did not have a copy of the AAIP revision to review, we conclude that the revision met the intent of FAA Order 8900.1 guidance by identifying the source documents that contained the information."

Attachments



Federal Aviation Administration

Memorandum

Date: September 29, 2010
To: Manager, Technical Branch, AEA-230
From: Manager, Allegheny Flight Standards District Office, AEA-FSDO-03
Prepared by: Robert S. Spahr, Aviation Safety Inspector
412-886-2580, ext. 330
Subject: Request for Legal Interpretation Concerning Inspection Requirements

I would like to obtain a legal interpretation concerning the aircraft inspection requirements as noted in 14 CFR 91.409 with focus on approved aircraft inspection programs (AAIP) as used by an air carrier operating under 14 CFR 135. With specific details as to whether avionic systems are required to be inspected and if built-in-test can be used in lieu of an inspection of an avionic systems. I have the following questions with my thoughts on this matter below the questions.

1. Is there a regulatory requirement for a 14 CFR 135 air carrier utilizing an AAIP to perform inspections of the avionic systems for improper installation and improper operation (via an operational test or functional test)?
2. If a 14 CFR 135 air carrier is operating a large airplane as defined under 14 CFR 91.409 (e) and chooses to use a current inspection program recommended by the manufacturer under 14 CFR 91.409 (f) or if an operator is using a AAIP based on the aircraft manufacturer's inspection program for a small aircraft, yet the manufacturer's inspection program does not include the inspection of the avionic systems for improper installation and or improper operation (via an operational test or functional test); can the FAA mandate the avionic systems be inspected via requiring the use of an AAIP under 14 CFR 135.419 (a)?
3. Can a built-in-test be used in lieu of an inspection of an avionic system for improper operation (via an operational test or functional test)?

The following are my thoughts on the subject of aircraft inspection requirements for 14 CFR 135 air carriers and the use of built-in-test in lieu of an operational test or functional test:

AAIP INSPECTION REQUIREMENTS

The AAIP should be a list of precise tasks needed to be accomplished. The instructions, procedures, and standards must be clear and easily understood. They must identify the scope of each task and provide a detailed outline of each step that must be accomplished to perform the inspection and ensure that established performance standards are met.

It is my understanding based on the reading of Advisory Circular (AC) 135-10A that the AAIP was developed to allow air taxi operators latitude in performing the 100 hour and annual inspection requirements as noted in 14 CFR 91.409 (b). I also gathered from this AC that though latitude was given as to when the inspection could be accomplished via the AAIP, there was still the requirement to meet the inspection requirements of 14 CFR 91 and 43 Appendix D. Finally, from this AC it states the AAIP must encompass the whole aircraft, which would include the avionics.

Appendix D of 14 CFR 43 requires the inspection of the avionic systems via sections (c) components of the cabin and cockpit group, (i) components of the radio group, and (j) each installed miscellaneous item not otherwise covered by this section.

As noted in 14 CFR 91.409 (a), (b), (c), and (d), a Part 135 operator utilizing small airplanes is required to perform 100 hour/annual inspections if they are not using an AAIP or a progressive inspection program. If a Part 135 air carrier chooses to use an AAIP, it must include the inspection of the avionic systems as noted in the following paragraphs of AC 135-10A:

- In paragraph 4, *"An AAIP must encompass the total aircraft; including all avionics equipment, emergency equipment, cargo provisions, etc."*
- In paragraph 5a2 it states, *"Many aircraft manufacturers' programs do not encompass avionics, emergency equipment, appliances, and related installations that must be incorporated into the AAIP."*
- In paragraph 7a it states, *"This evaluation should establish, at a minimum, that the program applies to the aircraft make, model, configuration and modification status, and that it encompasses the avionics installation and all aircraft equipment."*

Part 135 air carriers utilizing large airplanes as noted in 14 CFR 91.409 (e) and (f) can choose from one of following four inspection programs:

1. Continuous airworthiness inspection program
2. Approved aircraft inspection program
3. Current inspection program recommended by the manufacturer
4. Any other inspection program established by the owner and approved by the FAA

If a Part 135 operator operating an airplane elects to use a current inspection program recommended by the manufacturer and this program does not encompass the total aircraft (e.g. avionic systems), it would be considered inadequate; thus the FAA could require the use of an AAIP to include the avionic systems inspections via 14 CFR Part 135.419. If we can't mandate the inspection of the avionic systems, then it seems we are not holding the Part 135 operators to a higher standard. If we require aircraft under 14 CFR Part 91 to perform avionic systems inspection as part of the annual/100 inspection, then why wouldn't we expect the same of the aircraft utilized under 14 CFR Part 135? Aren't the CFRs written at the minimal standards, and aren't the air carriers expected to operate at the highest standards?

BUILT-IN-TEST IN LIEU OF INSPECTION FOR IMPROPER OPERATION

I believe most built-in-test are limited in scope and do not completely test the overall system, thus cannot replace an operational/functional test. If a built-in-test was acceptable to return a system to service, then the aircraft manufacturer would state so under the procedures associated with replacing a component, yet most don't rely on built-in-test.

What you will find in the aircraft manufacturer's maintenance manuals are references to procedures as to how to test the system to ensure it is functioning properly, and there are not procedures telling the technician to simply rely on a built-in-test. The only systems I am aware of that utilizes a built-in-test for returning the system to service after maintenance are some of the traffic collision avoidance systems (TCAS).

Built-in-test vary in what parameters they monitor. For example, some only monitor power supply voltage levels, while others are more complex and measure numerous aspects of the system. Even with the most complex built-in-test, most are not designed for returning the system to service. The built-in-test are there as indicators to the crew or technician as to a possible problem with the system.

Some built-in-test are automatic and initiate upon power up on the system. Others require the input of the technician or pilot to initiate the process. Some continually monitor various aspects of the system. For example, the built-in-test referred to as the self test mode in the Honeywell RM-855 maintenance manual, will only verify the memory, power supply, lamp circuits, system interfaces, and internal monitors of the RM-855 are functioning properly. Additionally, the diagnostics mode of the RM-855 test the input/output (I/O) and liquid crystal display (LCD) of the unit. This built-in-test does not perform an operational/functional test of the communication system, and it does not meet the requirements or intent of an avionics inspection to determine if the system is functioning improperly, this could only be done via a functional test or operational test.

If you have any questions or need additional information, please contact Inspector Robert Spahr at 412-886-2580, ext. 330.



Wendy L. Grimm



Federal Aviation Administration

Memorandum

Date: OCT 08 2010

To: Carol E. Giles, Manager, Aircraft Maintenance Division, AFS-300

From: *Lawrence Fields*
Lawrence Fields, Manager, Flight Standards Division, AEA-200

Prepared by: Michael Matero: 718-553-3247

Subject: Request for Legal Interpretation Concerning Inspection Requirements

The attached memo dated September 29, 2010, from the Manager of the Allegheny Flight Standards District Office (FSDO), regarding the subject request is forwarded for your review.

We ask that urgency be placed on your reply due to current circumstances surrounding this request.

Please forward your response to Michael DiPaolo, Manager, Technical Branch, AEA-230, at 718-553-3240.

Attachments



Federal Aviation Administration

Memorandum

Date: JAN 07 2011

To: Lawrence Fields, Manager, Flight Standards Division, AEA-200

From: *CE* Carol E. Giles, Manager, Aircraft Maintenance Division, AFS-300 *gwg*

Prepared by: Timothy W. Shaver, AFS-360, (202) 385-4292 *tlc*

Subject: Request for Legal Interpretation Concerning Inspection Requirements

In your letter dated September 29, 2010, you requested legal interpretation for aircraft inspection requirements as noted in Title 14 CFR 91.409 with focus on approved aircraft inspection programs (AAIP) as used by an air carrier operating under Title 14 CFR 135. In this letter, three specific questions are asked. This letter is in response to the third question (copied below). AFS-300 found this to be a policy determination not requiring a legal determination.

3. Can a built-in-test be used in lieu of an inspection of an avionic system for improper operation (via an operational test or functional test)?

Comments:

Built-in-test (BIT) is only one of many tools that are used to troubleshoot, test and inspect a system for proper operation. As you point out in your comments, the BIT function of a specific avionic system can vary depending on the system and the equipment manufacturer. BIT is developed during system design. Therefore, the designer determines how comprehensive the test is and for what the tests can be used.

Ultimately, the Instructions for Continued Airworthiness (ICA) determine what must be done to inspect an avionic system to verify proper operation. The ICAs are reviewed and accepted by the AEG during system certification. The operator should follow the instructions in the maintenance manual, fault isolation manual and other maintenance documentation to accomplish the specific task at hand. If ICA specifies that a BIT is sufficient to accomplish a task (including inspection of an avionics system for proper operation) then no additional test or inspection is required. If a specific system ICA calls out a BIT, and it is later determined that the BIT does not sufficiently test the system resulting in an airworthiness issue or non-compliance, that specific issue should be handled as an airworthiness concern or enforcement action, as appropriate.



Federal Aviation Administration

Memorandum

Date: JAN 26 2011

To: Lawrence Fields, Manager, Flight Standards Division, AEA-200

From: Carol E. Giles, Manager, Aircraft Maintenance Division, AFS-300/18

Prepared by: Frank J. Wiederman, AFS-330, (202) 385-6443

Subject: Request for assistance in reviewing and responding to Office of Inspector General (OIG) concerns 1, 2 and 3 of report #110E000091SINV

This memorandum responds to your request for assistance in reviewing and responding to OIG concerns 1 & 2 of report #110E000091SINV dated December 17, 2010. Item 3 was previously addressed in a Memo dated January 7, 2011.

The OIG's concerns, which are based upon FAA inspection team findings, pertaining to whistleblower allegations of improper approval of a revision to Holman Leasing Systems Inc., (Holman) Approved Aircraft Inspection Program (AAIP) by the Allegheny FSDO. The whistleblower, who is the Principal Avionics Inspector (PAI) on the Holman certificate, alleges that because he was not included in the approval process for the revision, irregularities resulted.

OIG Concern 1: The revised AAIP did not include a detailed list of tasks (inspection procedures) to be accomplished by Holman, as required by FAA Order 8900.1.

The FAA inspection team found that the AAIP did not comply with FAA Order 8900 because it:

- did not ensure that the instructions, procedures, and standards were clear and easily understood;
- did not identify the scope of each task and provide a detailed outline of each step that must be accomplished to perform the inspection; and
- did not ensure that established performance standards are met.

Note: These findings reflect the guidance contained in Order 8900.1, volume 3, chapter 38, section 1, paragraph 3-3738 C 1 f.

The inspection team explained that the revised AAIP referred to established inspection procedures contained in inspection manuals such as "Phase1," "Document 22" and "Document 18" but referred only to the titles of the procedures and did not list the specific procedures themselves. The

inspection team, however, considered the lack of specific procedural information as partially acceptable because the information was maintained by Holman and could easily be found by referring to the documents containing the procedures.

AFS-300 comment: We call your attention to the statement contained in paragraph 3-3738 C 1 c which states "Inspection methods, techniques, and standards, or other technical data may be included in the program *by reference*." (emphasis added). Based on our review of the OIG report, we conclude that the revision met the intent of the FAA Order 8900.1 guidance by identifying the source documents that contained the information.

OIG Concern 2: The revised AAIP's antenna inspection requirements were insufficient and contrary to agency regulation because they allowed pilots to perform visual inspections of the aircraft's antenna as part of its maintenance and inspection program.

The FAA inspection stated that the AAIP did not comply with Title 14, CFR section 135.429. However, the inspection team also found that this matter did not affect safety because of the pilot's familiarity with the aircraft's systems.

AFS-300 comment: Section 135.429 does not apply to Holman because their aircraft are maintained under 135.411(a)(1). Section 135.429 only applies to aircraft maintained under 135.411(a)(2).

We hope we have provided you with useful information to address the OIG's concerns. Please do not hesitate to call on us if you need any further assistance.